

# Study on Blue Growth, Maritime Policy and the EU Strategy for the Baltic Sea Region

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# 1. Introduction

## 1.1 The study

We are pleased to submit herewith our final report under DG MARE's service request for a "Study on Blue Growth, Maritime Policy and the EU Strategy for the Baltic Sea Region". This study has aimed at

- Identifying the potential for Blue Growth in the Baltic Member States and at sea-basin level and to provide recommendations for its development in the context of the EU Strategy for the Baltic Sea Region (EUSBSR) and the next programming period.
- Assessing the contribution and the effectiveness of maritime actions set in the EUSBSR in implementing the EU Integrated Maritime Policy in the region and to provide recommendations on how this could be strengthened, in particular taking into account the Blue Growth Potential.

In 2012 the European Commission set the way forward for unleashing the potential of Europe's oceans, seas and coasts to help the EU economy back on track, while at the same time safeguarding its biodiversity and protecting the marine environment. The Communication "Blue Growth opportunities for marine and maritime sustainable growth" was developed on the basis of a comprehensive overview of the blue economy in Europe, which showed that the potential within the blue economy is significant, provided that appropriate investments and research are made.

As the five focus areas emphasised in this EU Blue Growth Communication, i.e. blue energy, aquaculture, marine mineral resources, blue biotechnology and maritime, coastal and cruise tourism, may not be of equal importance neither across all coastal states nor across all sea-basins, DG MARE launched in 2013 a series of service requests under 2 Framework Contracts to specify the potential for Blue Growth in each Member State as well as for each sea basin.

Thus it is important to stress that this Baltic Sea Region study is part of an EU-wide exercise of DG MARE involving several Units of DG MARE assessing the state of play of the Blue Growth economy in all (coastal) EU MS across all European sea basins. While the overall approach and methodology that was applied to define and quantitatively analyse the 29 underlying maritime economic activities that form together the Blue Economy was uniform throughout all EU member states (MS) and sea-basins the results of the Baltic Sea Region study that are presented in this final report took note of some specific features of the Baltic Sea Region (BSR).

The BSR is not only special due to the unique environmental challenges of the Baltic Sea as such and the relatively higher wealth and education of the people living here, but also the long-standing tradition of transnational cooperation. HELCOM, the Council of the Baltic Sea states (CBSS), VASAB, BSSSC or the Nordic Council of Ministers are just a few of the numerous transnational bodies that have been operating in the region for a long time already.

This cooperation reached yet another level with the adoption of the EU Strategy for the Baltic Sea Region (EUSBSR) in 2009 as the first ever example of a macro-regional strategy. With its three overall objectives "Save the Sea, Connect the Region and Increase Prosperity" the EUSBSR aims to provide an integrated strategic framework for the large variety of actors, policies and funding mechanisms within the region and link them to European policies. Even though the EUSBSR goes much beyond a maritime strategy, the regional implementation of the EU's Integrated Maritime Policy is an important element.

## 1.2 Document contents

For arriving at the results presented in this final report three different perspectives have been combined:

- **Robust data gathered for each of the Baltic Sea Region EU Member States** (mostly based on Eurostat) was used to perform a quantitative analysis of the size and recent growth of the various MEAs and to present a comprehensive picture of the role of the Blue Economy in each MS and the whole sea-basin. Also, the systematic qualitative assessment undertaken in each country in order

to identify maritime economic activities with most future potential was aggregated to show similarities as well as differences between Baltic Sea Region countries and identify potential areas for sea basin cooperation.

- The systematic assessment undertaken on the maritime actions/flagship projects as they are currently presented in the **EU Strategy for the Baltic Sea Region** (or rather its Action Plan in its revised version from February 2013) formed the basis for analysing the contribution and the effectiveness of maritime actions set in the EUSBSR.
- Results from a **survey** undertaken among the EUSBSR action and national coordinators on their perception on how much the EUSBSR currently fosters or should foster Blue Growth in the future contributed to the elaboration on how to improve the governance of the EUSBSR with view to Blue Growth. Also numerous **interviews** were conducted with relevant stakeholders on the MS and sea-basin level across all MEAs

This final report is structured according to the tasks specified by DG MARE's service request:

- Chapter 2 is summarising the state of play and growth potential of the maritime economy at the level of each of the eight EU Member States of the Baltic Sea Region (BSR),
- Chapter 3 is identifying the potential for Blue Growth at sea-basin level and provides recommendations for joint actions at transnational level in order to exploit this potential.
- Chapter 4 is assessing the contribution and the effectiveness of maritime actions set in the EUSBSR in particular in implementing actions that support exploiting the Blue growth Potential of the BSR and provides recommendations on how this could be strengthened

In order to allow also a more selective reading of the final report a standardized, very analytical approach has been applied, which puts strong emphasis on supporting the presented conclusions with figures and examples.

In chapter 2 the summaries of the country fiches present in first place the identified priority MEAs of each MS and support these conclusions by facts and figures. For a full picture of the Blue Economy in each MS please refer to the full country fiches in the annex of this final report.

Chapter 3 displays two tables for each MEA, for whom potential has been identified on the sea-basin level: The blue table analyses the state of play and potential of the MEA on the sea-basin while the green table elaborates recommendations on how this potential could be exploited.

Chapter 4 displays again for each covered MEA two tables: The light blue table assesses the coverage of the MEA by the EUSBS while the orange table elaborates recommendations on how this potential could be better exploited within the EUSBR.

Please refer also to the numerous annexes of this final report, which form the basis for deriving the results presented in it.

### 1.3 Methodological context

In a carefully coordinated approach – based on the methodology developed for the study “Blue Growth: Scenarios and Drivers for Sustainable Growth from the Oceans, Seas and Coasts” (commissioned by DG MARE in 2012 and developed by Ecorys) - a uniform methodology was developed for all parallel studies (see above) assessing the state of play of the Blue Growth economy in all (coastal) EU MS across all European sea basins. This involved several Units of DG MARE and 2 consortia contracted under the 2 Framework Contracts (see above).

The methodology defines 7 maritime functions, each of which is again composed of several maritime economic activities (MEAs). The uniform methodology allows direct comparisons between MS and/or sea basins. At the same time, the exact methodological definitions are often a compromise between the various involved parties. In this context, for instance the MEA “Fish for human consumption” not only comprises the catching of fish but also the processing and sale (both wholesale and retail) of fishery products fit for human consumption (including fish from other sea-basins). Fish processing and sale is in the

BSR often economically more significant, while the MEA Marine aquaculture comprises the farming of marine aquatic organisms only (and not the processing, which is part of the former).

A short “Country Fiche Guide” which forms Annex 1.1 of this final report provides a brief introduction to the methodology that was applied. The Guide also allows to define the scope of each MEA.

It should also be noted that applying this EU-wide agreed methodology to maritime functions like coastal protection and maritime surveillance showed a relatively small direct economic significance, while the parallel analysis of the EUSBSR undertaken in this study revealed the tremendous importance of these maritime functions as drivers of other (economically highly significant) maritime functions like Maritime transport or Maritime, coastal and cruise tourism. They also scored high across the future indicator assessment.

These interlinkages and drivers were taken into account when assessing the future potential of the different MEAs in the Baltic Sea Region for the period 2014-2020, i.e. the near future. Thus, this work was not only based on mere quantitative data and past growth (for this EU-wide exercise the latest available reference period was 2008 -2010, which was characterized in almost all countries across the EU by a strong economic recession as a consequence of the financial crisis) but also on more recent trends and a qualitative assessment of the MEAs in each country. It is understood that this assessment was performed under the assumption that the planned political decisions, appropriate investments and research are made. Even though also the qualitative assessment has been expressed in numerical terms, it was, however, not the task of this study to quantify this future potential for each MEA in economic terms.

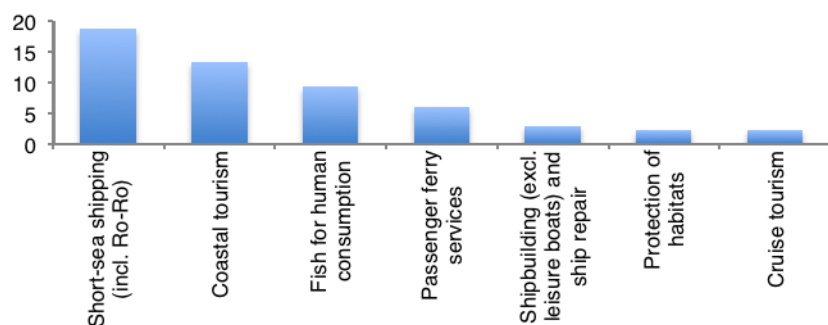
In line with the Blue Growth communication, the main aim is rather to highlight areas where based on cooperation among all or a selected number of Baltic Sea Region countries, good potential exists to induce a positive development across the economic, environmental as well as social dimensions of the EU 2020 strategy by working with and in the Baltic Sea.

## 2. Country Fiche Summaries

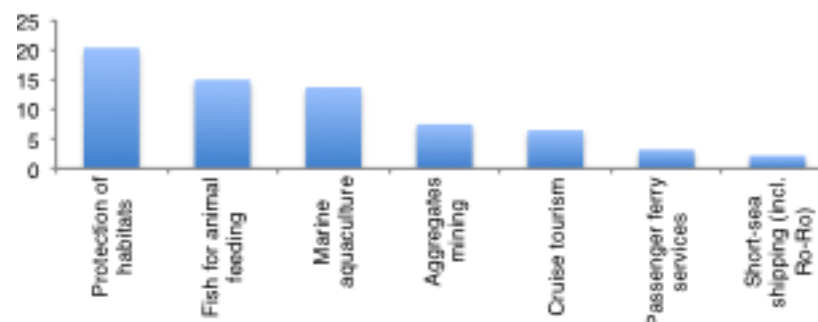
### 2.1 Denmark

No point in the country is further than 50 km from the sea, which means the entire country can be considered as maritime and 100% of its population can be said to live in maritime regions. Its coastline (7.259 km) represents 5,3% of the total coastline length of the EU-22 coastal MS.

#### 7 Largest and 7 Fastest Growing Maritime Economic Activities



7 Largest MEAs (GVA + Employment in 2010)\*



7 Fastest Growing MEAs (GVA + Employment 2008-2010)

\* It should be noted that Offshore oil and gas is in fact the largest MEA but is a North Sea based MEA

#### 6 Most Promising Maritime Economic Activities

The 6 most promising MEAs in Denmark are: **Short-sea shipping (incl. Ro-Ro)**, **Passenger ferry services**, **Fish for human consumption**, **Marine aquaculture**, **Offshore wind** and **Coastal tourism**.

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Short-sea shipping (incl. Ro-Ro)	+	+	0	+	+	+	+++++
Passenger ferry services	+	+	-	+	+	+	++++
Fish for human consumption	+	+	-	+	+	+	++++
Marine aquaculture	+	+	-	+	+	+	++++
Offshore wind	+	+	+	+	0	+	+++++
Coastal tourism	+	+	+	-	+	+	++++



## Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Short-sea shipping (SSS)</b>				
Denmark is one of the five largest shipping nations in the world based on owned and operated tonnage. Based on methodology applied in this study (gross weight of goods transported to/from main Danish ports) 91% of shipping is short-sea shipping (other methodologies lead to a different split between SSS and Deep-sea shipping (DSS) and highlight much more the importance of DSS). In any case, SSS plays an important role in the economy and daily life. Major destinations are SE, DE, NO, UK and NL. Internationally, the most transported are ferry goods, crude oil and mineral oil. Denmark has 391 inhabited islands; for the smaller ones supplies by sea are vital and are locally subsidised. Gross tonnage handled has been increasing since 2011. Short-sea shipping in Denmark has good potential for growth due to increasing trade with the Baltic States and Poland, growth of the offshore energy sector and the increase of agricultural products export.				
R&D (+), smart infrastructure (+), integrated local development (+), access to finance (-), maritime clusters (+)	Issue important at national level Environmental and safety issues very important for the EU	Important sector on both economic (22% of overall blue GVA) and social (18% of blue employment) levels	Many small ports and a lot of small companies Some major actors (e.g. DFDS)	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) common regulations
<b>Passenger ferry services</b>				
Despite decreases in passenger numbers during the global economic crisis, due to DK's geographic location, shape and islands, this MEA is a highly important one. The busiest routes are the short ones connecting smaller and bigger islands, bringing people to work and children to school. For small islands, services are subsidised by local communities. The main international destinations are SE, DE and NO. From 2008-2010: despite a drop in the number of passengers, GVA increased by 37% and this trend continued in 2011. At the end of 2012 – beginning of 2013 an increase in the number of passengers was observed and several growth drivers can be pointed to. First, the sector is investing into building new faster ferries for long distance routes as well as into environmentally friendly small ferries operating on short routes. Another factor is the strong price competition between ferry lines and bridges over the Great Belt and Oresund. In addition, the tourism sector is growing in DK, giving a good opportunity for growth in passenger ferry services.				
R&D (+), smart infrastructure (+), maritime clusters (+), access to finance (+), integrated local development (+)	Issue important at national level No EU pressure on this issue	Sector of strategic importance for connections across DK 6% of blue jobs	Many small companies but a handful of major actors	MS
<b>Fish for human consumption</b>				
This is one of the largest MEAs in DK. DK is the largest fisheries export nation in the region (annual exports can reach up to 90%) with DE, NO and IT among its largest customers. Production of fish for human consumption in 2010 was 53,9% of the total fish production. In terms of GVA generated by the fisheries sector (excluding aquaculture), in 2010 the split between fishing and fish processing/sales was 50:50 and employment in the fish processing/sales reached 71% of the total employment in the fisheries sector. Fish catch volumes and value have been rising since 2011. Preliminary statistics for 2012 show that this growth is maintained and that the sector continues to be a substantial contributor to the national value added. General trends in fish processing sector: innovative and highly efficient processing technologies (fewer but more skilled employees), high value-added products and some outsourcing of production (LT, PL, DE).				
R&D (-), access to finance (-), smart infrastructure (+), maritime spatial planning (-), integrated local development (+), public engagement (+)	Important role in Danish economy Not an important issue for EU	Important sector for economy (6% of overall blue GVA) and particularly jobs (19% of blue employment)	Mostly small fishing companies Some bigger actors at processing level	MS
<b>Marine aquaculture</b>				
This MEA is one of the fastest growing in DK. The main aquaculture species produced are rainbow trout (26% in sea cage production and 70% of that in the Baltic Sea) and blue mussels (mostly North Sea). Blue mussel production has good potential as it is deemed environmentally friendly. Danish aquaculture has seen a 7-fold increase in volumes since 2008. Development is supported by national strategies and substantially financed by both national and EU funds. Development of sea farming will also create very good circumstances for the aquaculture equipment sector.				
R&D (+), access to finance (+), maritime spatial planning (-), integrated local development (+), public engagement (+)	Development supported by national strategies	Economic and social importance limited (0,1 % of blue GVA, 0,3% of blue jobs) Focused on a limited number of species (trout, blue mussel)	Limited number of small-sized stakeholders	Mostly MS Development opportunities at sea-basin level in context of maritime spatial planning and regulatory framework
<b>Offshore wind (benchmark case for Europe)</b>				

DK is the country with the longest experience in the offshore wind energy sector, establishing the first farm in 1991 and a significant amount of installed capacity. In 2011, 9% of its turbines were located offshore and produced 36% of the national wind power production. Of 12 existing offshore wind parks, six are in the Baltic Sea. A new Energy Agreement states that by 2020 50 % of the electricity will come from wind power (compared to 28% today). 75% of this growth is expected in offshore wind farms. Growth in the sector also presents good employment opportunities in terms of installation and servicing of offshore wind turbines. Likewise, the production of installation ships and equipment for establishing offshore wind farms is a market with growth potential for DK. The fact that this MEA does not feature among the largest MEAs in Denmark is a result of the methodology used for calculating GVA and employment figures across this study. Figures for these socioeconomic indicators provided by the Danish Energy Agency are substantially higher than those calculated here.

R&D (+), smart infrastructure (+), maritime clusters (+), maritime spatial planning (-), integrated local development (+)	Issue very important for EU Issue very important for Denmark (limited onshore possibilities)	Yet small importance in terms of GVA and employment (respectively 0,7 and 0,6% of total Danish maritime economy)	Long experience Some dominant players at EU level	MS Sea-basin (development potential in cross-border smart grid solutions and maritime spatial planning)
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### Coastal tourism

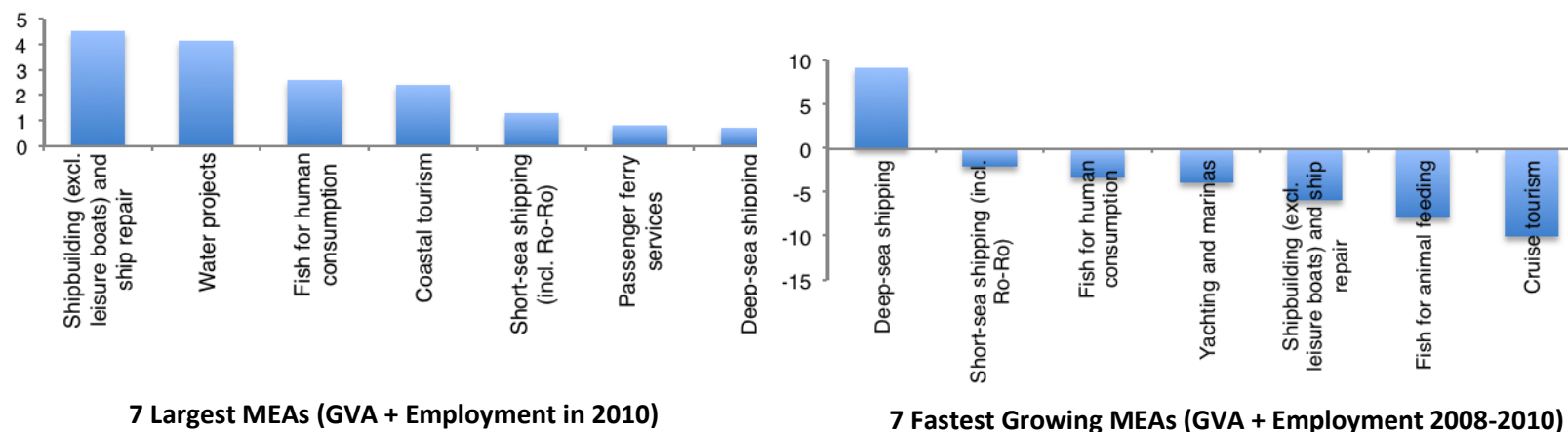
All tourism in Denmark is coastal. This is one of Denmark's largest MEAs in terms of GVA and employment. In 2011 overnight stays reached nearly 44 million (50:50 national vs. foreign tourists). 21.000 employees are involved in the accommodation sector alone. The MEA declined during the financial crisis but has since been recovering (10% increase in employment, 9% in overnight stays and 8% in hotel numbers since 2010). A strategic plan for the development of the coastal tourism is in place. The potential for growth is seen through development of new tourist themes based on national and regional strongholds, innovation in tourism, increase of transport capacity, new branding architecture, development of competences and skills among others.

R&D (-), maritime clusters (-), public engagement (+), access to finance (+), smart infrastructure (+)	National programmes to develop the sector	First sector of the blue economy in terms of jobs (34% of the total)	Many small companies	MS Sea-basin: development of a "Baltic Brand"
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## 2.2 Estonia

Estonia has a coastline of 3.197 km (1.242 km mainland, 2.540 km islands). It has numerous peninsulas and bays as well as 1.500 islands. 74% of the population lives in coastal regions. Coastal regions account for 82,5 % of the nation's GVA (2010).

### 7 Largest and 7 Fastest Growing Maritime Economic Activities



### 6 Most Promising Maritime Economic Activities

The 6 most promising MEAs in Estonia are: **Shipbuilding (excl. leisure boats) and ship repair, Water projects, Short-sea shipping (incl. Ro-Ro), Deep-sea shipping, Fish for human consumption and Yachting and marinas**

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Shipbuilding (excl. leisure boats) and ship repair	+	+	-	-	+	+	++
Water projects	+	+	-	-	+	+	++
Short-sea shipping (incl. Ro-Ro)	+	+	+	0	+	0	++++
Deep-sea shipping	+	+	+	-	+	0	+++
Fish for human consumption	0	+	+	-	+	+	+++
Yachting and marinas	+	+	+	0	+	0	++++

### Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Shipbuilding (excl. leisure boats) and ship repair</b>				
This one of the most relevant and promising maritime economic activities in Estonia as there are internationalised Estonian shipbuilding companies whose success has been remarkable and the development of small crafts building has also been noteworthy. This MEA is one of the largest and one of the fastest growing MEAs in Estonia. It has a good perspective for sustainability as the shipyards are specialised and they fill an empty lot in the shipbuilding market. This is the largest MEA in Estonia. One large company (1.843 employees in Estonia), Baltic Ship Repair Company (BLRT), is responsible for around 75% of the total turnover of the sector, with activities including shipbuilding, ship-repair, production of large-scale metal constructions, metal processing, machine building, medical and technical gases. They have also been producing floating structures for Norway's fisheries and for offshore wind farms. There is a small cluster of producers on Estonian islands where cost is lower and local tradition plays an important role.				
R&D (-), access to finance (+), smart infrastructure (+), maritime clusters (+), integrated local development (+), public engagement (-)	Supported by the Estonian Maritime Policy 2012-2020	First sector of the blue economy in terms of jobs (29% of total)	One major stakeholder (BLRT) and many small ones	MS Sea basin (EU / common finance and R&D programmes for supporting the shipbuilding industry as a provider of new or retrofitting for efficient, green (BallastWater), LNG (bunker) ships
<b>Water projects</b>				
This MEA ranks as the 2 <sup>nd</sup> largest in size. The three largest companies are internationally competitive though their specialist knowledge is mainly used in Latvia and Russia (port construction, piling, excavation and concrete works, construction equipment rental and consulting services in port planning and design, marine structures and coastal engineering). The size of this MEA is tightly related to the expansion projects of Estonian ports and marinas. The sector is expected to grow with recovery from the crisis.				
Access to finance (+), smart infrastructure (+), maritime spatial planning (-), integrated local development (-)	Supported by the Estonian Maritime Policy 2012-2020	First sector of the blue economy in terms of GVA (44% of total)	One major actor and a few smaller ones	MS Sea basin (EU finance programmes for LNG bunker ships / terminals – and common regulations)
<b>Short-sea shipping (SSS)</b>				
SSS is one of Estonia's largest MEAs and it is highly linked to ground transport and logistic. It relates to the transport of goods from North to South using Estonia as a transit port/distribution center for goods going e.g. from Finland through Estonia and onwards to the Balkans, Ukraine and Turkey or from the rest of Europe to Russia through Estonia. The development of the Arctic sea route will also bring extra volumes to North-South transportation in the far future. Total cargo volumes increased by 5,4% from 2010 to 2011. Services related to sea container transportation and distribution have been				

permanently growing. The list of available services has diversified and a new set of companies connected to transportation of containers and logistics has been created.

R&D (-), access to finance (+), smart infrastructure (+), integrated local development (-)	Issue important at national level: development of exchange with Finland and Russia Supported by various Estonian maritime-related strategies Environmental and safety issues very important for the EU	Important economic sector (12% of blue GVA) More limited social role (less than 2% of total blue jobs)	More than 100 companies involved Absence of large stakeholders	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) – common regulations
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#### Deep-sea shipping (DSS)

DSS is the only sector that saw a growth between 2008-2010. As the international economy is beginning to recover from the economic crises the maritime shipment business, especially container-goods shipping, is experiencing surplus conditions. DSS is largely related to transit trade, specifically Russian energy goods and the export of raw products. There is also the future possibility that large container ships from East Asia will come to Estonian ports, as the ports are deep enough and they strive for that goal.

R&D (-), access to finance (+), smart infrastructure (+), maritime clusters (+), integrated local development (-)	Regional relevance limited to Tallinn Supported by various Estonian maritime-related strategies Environmental and safety issues very important for the EU	About half of economic and social importance of short-sea shipping	More than 50 companies involved Absence of large stakeholders	Sea-basin
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#### Fish for human consumption

This is the 3<sup>rd</sup> largest MEA in Estonia and provides employment for many coastal residents. In 2010 there were 52 companies involved in the processing and canning. Focus is on catching (mainly sprat and herring), freezing them and selling them largely to Russian and Ukrainian markets. The demand from these markets is expected to grow. While catch quotas will not increase, Estonian fisheries plan to become a logistical purchasing agent for the region for freezing and re-sale to eastern markets.

R&D (+), access to financing (+), education, training and skills (-), integrated local development (-), public engagement (+)	Supported by the Estonian Maritime Policy 2012-2020 and the Estonian Fisheries Strategy 2007-2013 EU regulations on fishing quotas	First sector of the blue economy in terms of employment (28% of total) providing jobs for many coastal residents but less significant in terms of GVA (3% of total blue economy)	Many small fishing companies Export-oriented processing companies	MS
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#### Yachting and marinas

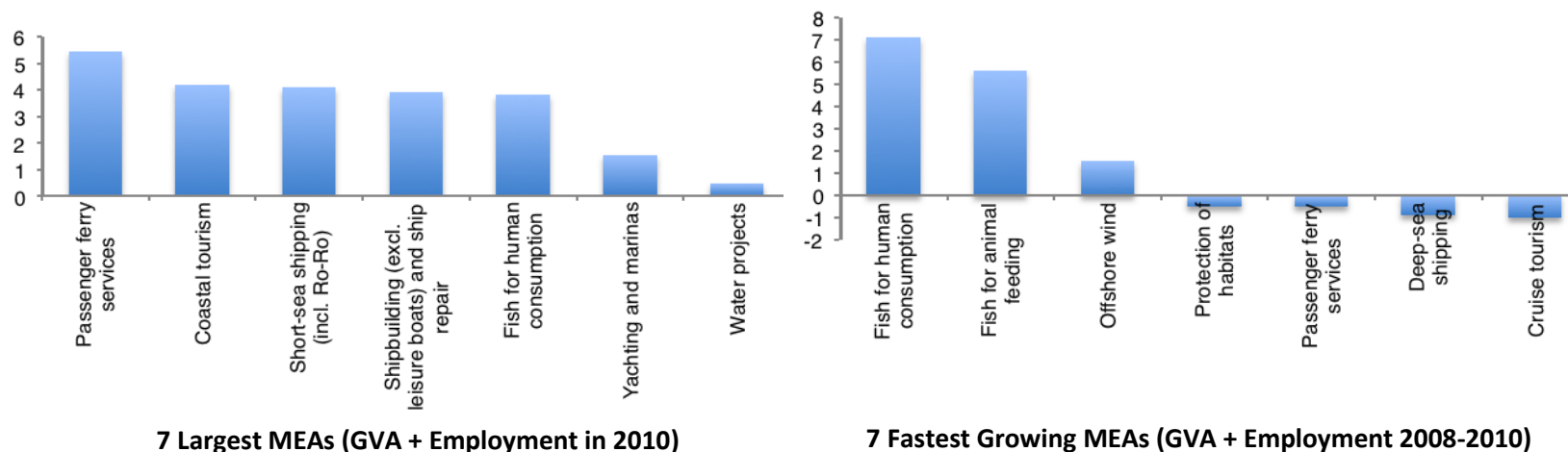
While this MEA shrank in size between 2008-2010 it is considered to have future potential. The development of a network of small marinas along the Estonian coast has occurred over the last ten years and this work will be continued, especially in the development of related services. There are at least 53 small marinas that meet EU standards and even more that strive in that direction. These small marinas with related services are very important employers and spill-over agents into the local communities and economies.

R&D (+), access to finance (-), education, training and skills (+), integrated local development (+), public engagement (-)	Important issue at regional government level Supported by the Estonian Maritime Policy 2012-2020	Sector of limited importance (4% of blue GVA, 1,5% of blue employment)	Limited number of small companies Growing network of EU standard marinas	MS
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## 2.3 Finland

Finland has a coastline length of 19.463 km, the third largest among the EU-22 coastal MS (14,3 % of the total coastline length of the EU 22 coastal regions). About 61% of the population lives in coastal regions.

## 7 Largest and 7 Fastest Growing Maritime Economic Activities



### 5 Most Promising Maritime Economic Activities

The 5 most promising MEAs in Finland are: **Shipbuilding (excl. leisure boats) and ship repair**, **Short-sea shipping (incl. Ro-Ro)**, **Passenger ferry services**, **Coastal tourism** and **Yachting and marinas**

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Shipbuilding (excl. leisure boats) and ship repair	+	0	+	+	+	0	++++
Short-sea shipping (incl. Ro-Ro)	+	0	+	+	0	+	++++
Passenger ferry services	+	+	+	0	+	+	+++++
Coastal tourism	0	+	+	+	+	+	+++++
Yachting and marinas	+	0	+	0	+	?	+++

### Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Shipbuilding (excl. leisure boats) and ship repair</b>				
Finnish shipyards are specialised in technically demanding vessels: luxury cruise liners and car/passenger vessels. In 2008-2011, Finland produced 12% of the global supply of cruise ships (measured by 2008-2011 orders). The industry is a large employer (5.874 employees in 2010) but faces difficulties due to competition (-23% of GVA CAGR in 2008-2010). However, Finland has developed specific skills for arctic shipbuilding and maintenance.				
R&D (+), access to finance (-), smart	Important issue at MS level: high	Limited economic importance (11%)	One major actor (STX), currently	MS

## Study on Blue Growth, Maritime Policy and the EU Strategy for the Baltic Sea Region

infrastructure (+), maritime clusters (+), education, training and skills (+), integrated local development (+)	expertise, great number of jobs	of blue GVA) but labour-intensive sector (18% of blue jobs) and social limited Important challenges	facing difficulties 400 small and medium-sized companies	Sea basin (EU / common finance and R&D programmes for supporting the shipbuilding industry as a provider of new or retrofitting for efficient, green (BallastWater), LNG (bunker) ships
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**Short-sea shipping (SSS)**

This MEA is 3<sup>rd</sup> largest in terms of GVA and employment size. SSS has great importance despite a decline between 2008 and 2010. This activity is highly related to the economic growth of the Finnish industry, as most imports and exports are transported via short-sea shipping (90% of Finnish exports and 70% of imports).

R&D (+), access to finance (-), smart infrastructure (+), maritime clusters (+), education, training and research (+), integrated local development (-)	Sector of vital importance for the whole economy National strategy on maritime progress in preparation EU pressure on environmental and safety issues	Third largest sector of the blue economy (24% of total blue GVA, 13% of blue jobs)	50 harbours concerned More than 100 medium-sized companies	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) – common regulations
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**Passenger ferry services**

This MEA is the largest in terms of GVA + employment size. There were 21 million ferry passengers in 2010, about 80% of which come from abroad, the rest were coastal ferry passengers. Over half of the international travellers to Finland come by sea. The turnover of coastal and maritime passenger transport grew by 8% between 2007 and 2011.

R&D (+), access to finance (-), smart infrastructure (+), education, training and skills (+), integrated local development (+)	Issue of great importance at basin level	Largest sector of the blue economy (25% of total blue GVA, 21% of blue jobs)	About 100 medium-sized companies and 3 major actors	MS
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**Coastal tourism**

This sector is of great importance but is declining. It is highly related to spill-over effects from ferry passenger services and cruise tourism because port cities such as Helsinki and Turku have great touristic value. In 2012 there were 7,6 million visitors, 55% of which came for leisure trips. Russians account for 47% of total foreign visitors. Growth could be strengthened by cooperation, notably in the framework of the "Baltic Brand".

R&D (-), access to finance (-), smart infrastructure (+), maritime spatial planning (+), public engagement (+)	Issue important at MS level: Finnish Strategy for Tourism (objective 2020) set ambitious targets	Second largest sector of the blue economy (12% of total blue GVA, 20% of blue jobs) Strong spill-over effects	A lot of small companies (more than 900)	MS Sea-basin: development of a "Baltic Brand"
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**Yachting and marina**

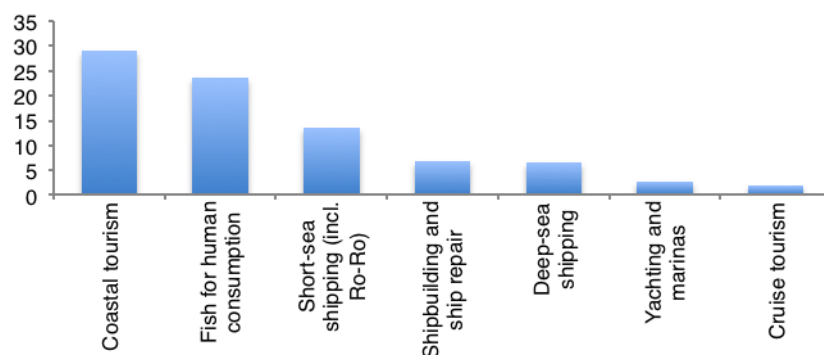
After decades of growth, this MEA met with five years of decrease during the economic crisis. This MEA is now recovering, imports are increasing, notably from countries such as Poland, one of Finland's main competitors. In the field of building of sports and leisure boats 80% of sales are export oriented (Norway, Sweden, British Virgin Islands, Russia and Switzerland). 272 companies are involved in the MEA, though the 12 largest accounted for 90% of the sector's turnover in 2008.

R&D (+), access to finance (-), education, training and skills (+), integrated local development (+)	Limited importance of the issue at MS and EU level	Importance bigger at social level (7% of blue jobs) than at economic level (4,7% of blue GVA)	250 medium-sized companies Export-oriented activity	MS
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**2.4 Germany**

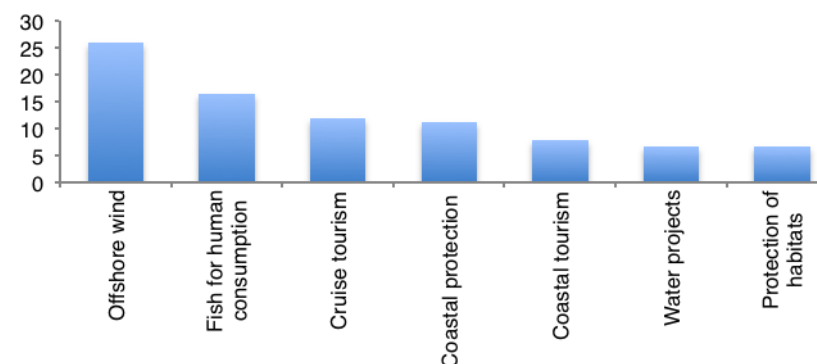
The German Baltic Sea coastal area is small in proportion to the country size, and so is its relative economic importance (2.200 km of coastline or 1,6% of the total coastline length of the EU-22 coastal MS and 2,2% of the national GVA). Approximately 2,8% of the German population lives in the Baltic Sea coastal region.

**7 Largest and 7 Fastest Growing Maritime Economic Activities**



**7 Largest MEAs (GVA + Employment in 2010)\***

\*For the Baltic Sea Region of Germany



**7 Fastest Growing MEAs (GVA + Employment 2008-2010)**

## 6 Most Promising Maritime Economic Activities

The 6 most promising MEAs in Germany are: **Shipbuilding (excl. leisure boats) and ship repair**, **Short-sea shipping (incl. Ro-Ro)**, **Blue biotechnology**, **Offshore wind**, **Coastal tourism & Yachting and marinas**, and **Cruise tourism**

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Shipbuilding (excl. leisure boats) and ship repair	+	?	-	+	+	+	+++
Short-sea shipping (incl. Ro-Ro)	+	+	+	+	0	+	+++++
Blue biotechnology	+	?	0	+	+	+	++++
Offshore wind	+	+	+	+	+	+	++++++
Coastal tourism / Yachting and marinas	0 / +	+	+	+ / 0	+	+ / ?	+++++ / ++++
Cruise tourism	+	+	+	0	+	+	+++++

## Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Shipbuilding (excl. leisure boats) and ship repair (benchmark case for Europe)</b>				
As the European shipbuilding industry has been in decline due to competition from Asia as well as the global economic crisis, the German shipbuilding industry started to focus on technologically sophisticated niche markets to survive. From 2008 to 2010 employment decreased by about -10% annually (GVA -15% annually) due to the global economic crisis. But meanwhile many shipyards realised their specialisation strategy and now focus on building technologically sophisticated ships and vessels, mainly yachts, passenger ships, Ro-Ro ships, and offshore installation ships.				



R&D (+), smart infrastructure (+), maritime clusters (+), maritime spatial planning (+), integrated local development (+)	Supported by the Federal Ministry of Economics and Technology (LeaderSHIP Germany, Funding programme "Innovative shipbuilding protects competitive jobs")	Fourth largest sector of the blue economy (8% of total blue GVA, 8% of blue jobs)	Small and medium-sized companies Focus on high tech niche markets	MS Sea basin (EU / common finance and R&D programmes for supporting the shipbuilding industry as a provider of new or retrofitting for efficient, green (BallastWater), LNG (bunker) ships
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**Short-sea shipping (SSS)**

SSS is the largest MEA in GVA size and 3<sup>rd</sup> largest in employment size. SSS amounted to 169 million t of cargo or 10% of total SSS in the EU-27 countries. 54% of the German SSS cargo came from or went to ports in the Baltic Sea. In 2010 SSS in Germany employed almost 36.000 people in nearly 2.000 companies (whole country) and generated a GVA of about EUR 5,7 billion. Although due to the crisis there was a decline of about 18% in 2008-2009, freight volumes started rising again and are expected to continue due to increasing trade relationships with new eastern EU Member States and other eastern European states (especially Russia).

R&D (+), access to finance (-), smart infrastructure (+), maritime clusters (+), maritime spatial planning (+)	Significant issue at MS level: growth expected in traffic with Russia Environmental and safety issues very important for the EU	Third largest sector of the blue economy (28% of total blue GVA, 9% of blue jobs)	More than 500 small and medium-sized companies (Baltic Sea only) A few major actors	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) – common regulations
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**Blue biotechnology (benchmark case for Europe)**

The German Blue Biotechnology industry is still nascent and very much focused on research and development. Some important research centres with special expertise in different fields of blue biotechnology were identified in Germany. Most technologies are still characterized by R&D activities in research institutions rather than commercial exploitation. But studies project major growth, large demand and correspondingly large markets for marine biotech products.

R&D (+), access to finance (-), maritime clusters (+) integrated local development (+)	Promising and innovative activity, still at research stage	Social/economic importance unknown yet Very beginning of the activity	Research and development stage of the activity Low private sector activities so far	MS Sea basin (integrated regional development strategy)
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**Offshore wind**

Due to Germany's nuclear power phase-out and climate protection targets, extension of offshore wind energy is a main concern of the Federal Government. The growing industry is important for the Baltic Sea region, where currently 50 MW are installed, 1.200 are approved and another 11 wind farms with up to 450 turbines are in approval procedures. 2012 figures by the German Federal Ministry of the Environment, Nature Conservation and Reactor Safety attribute the industry a total employment of about 18.000 people and a turnover of EUR 1,7 billion (including exports). For the Baltic Sea region this would mean an estimated employment of about 3.000 people and a turnover of EUR 300 million. (As in Denmark, the size of this MEA is under-represented by the methodology used for calculating GVA and employment.)

R&D (+), access to finance (-), smart infrastructure (+), maritime clusters (+), education, training and skills (+), maritime spatial planning (+), integrated local development (+)	Important issue for MS (nuclear power phase-out) Issue very important for EU	Social/economic importance limited compared to North Sea region, but already significant (2% of blue GVA, 1,2% of blue jobs)	Some big actors at EU level	MS Sea-basin (development potential in cross-border smart grid solutions and maritime spatial planning)
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**Coastal tourism / Yachting and marinas**

Tourism is one of the economic pillars of the Baltic Sea region. With about 31 million overnights (9,5% of the country) the Baltic Sea region is the most popular maritime travel destination in Germany. Coastal tourism (incl. yachting and marinas) is the largest employer of all MEAs. Almost 51.000 employees worked in 4.500 mostly small and medium-sized enterprises in the Baltic Sea region in 2010, where coastal tourism accounted for EUR 1,3 billion GVA. Despite – or perhaps due to – the economic crisis, overnights, employment and GVA in coastal tourism increased continually. From 2008 to 2010, employment increased by 11,5% per year while GVA rose by an annual 4%.

Access to finance (+), smart infrastructure (+), maritime clusters (-), education training and skills (+), maritime spatial planning (+), integrated local development (+)	Important issue at MS level in connection with the importance of the ME in terms of employment	Largest sector of the blue economy (17% of total blue GVA, 41% of blue jobs)	Many small companies (> 4300)	MS Sea-basin: development of a "Baltic Brand"
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**Cruise tourism**

Cruise tourism is a small but fast growing sector of the tourism industry. Although Germany as country of embarkation is of minor importance, the cruise industry is of growing importance for the economy due to some big cruise lines and job creation in travel agencies and other related industries. Weighted by passenger (dis-) embarking and the location of the cruise lines, Germany's Baltic Sea



region accounts for an employment of 2.220 people and EUR 167 million of GVA. Numbers of passengers, employment and GVA in cruise tourism have steadily increased for years. All projections are showing strong growth in the future.

Smart infrastructure (+), maritime clusters (-)

Significant issue at basin level

Small economic/social importance (2,8% of the blue GVA and 1,9% of blue jobs)

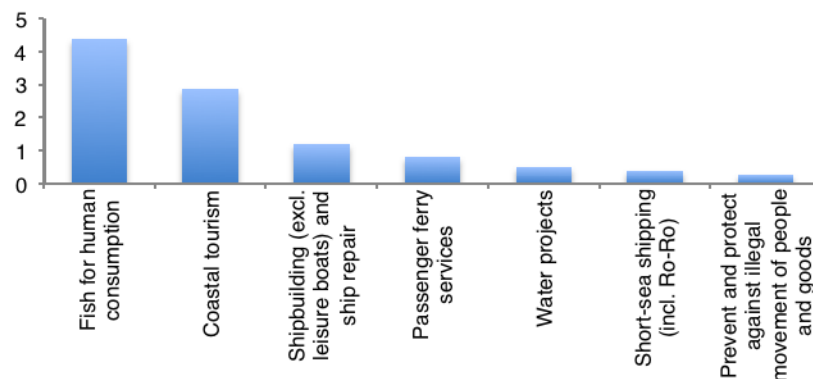
23 companies, mostly medium-sized with a handful of big stakeholders

Sea basin

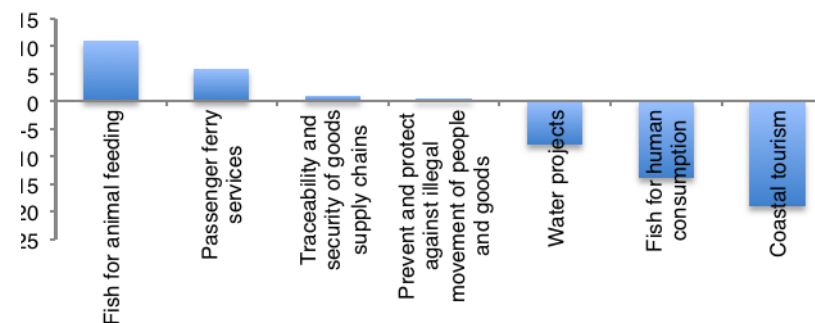
## 2.5 Latvia

Latvia has a coastline of 498 km (0,4% of the total coastline of the EU-22 coastal MS). About 63% of the country's population lives in coastal areas. These areas in turn produce about 77% of the nation's total GVA.

### 7 Largest and 7 Fastest Growing Maritime Economic Activities



7 Largest MEAs (GVA + Employment in 2010)



7 Fastest Growing MEAs (GVA + Employment 2008-2010)

### 5 Most Promising Maritime Economic Activities

The 5 most promising MEAs in Latvia are: **Short-sea shipping (incl. Ro-Ro)**, **Deep-sea shipping**, **Passenger ferry services**, **Fish for human consumption** and **Coastal tourism**.

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Short-sea shipping (incl. Ro-Ro)	+	+	0/-	+	+	+	++++

Deep-sea shipping	+	+	0/-	+	+	+	++++
Passenger ferry services	0	+	+	0	+	+	++++
Fish for human consumption	+	0	0	+	+	+	++++
Coastal tourism	0	+	+	+	+	+	+++++

### Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Short-sea shipping (SSS)</b>				
The SSS sector plays an important role in the national economy. Although the volume of handled SSS goods at Latvian ports fell between 2009-2010 due to the global economic crisis, the trend was reversed again and volumes increased by 14% in 2011 and this trend is expected to continue (due to growing availability of needed infrastructure and links with the TEN-T network). The bulk of the cargo entering Latvia comes from Russia (mostly oil products, fuel and coal) and is transported to other ports in Europe (UK, Sweden and the Netherlands), while timber and timber products, woodchips and peat also to other countries in Europe.				
R&D (-), access to finance (-), smart infrastructure (+), education, training and skills (+), integrated local development (+), public engagement (+)	Environmental and safety issues very important for the EU Active EU policy to promote short-sea shipping	Relatively small sector (7% of blue GVA, 3% of blue jobs)	Geographic location of ports linking East and West markets Three large ports (Riga, Ventspils and Liepāja) and 7 small ports of local importance Ice-free ports Strong competition among top 3 ports 82 companies involved	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) – common regulations
<b>Deep-sea shipping (DSS)</b>				
About 20% of the gross weight of goods transported to/from Latvian ports corresponds to DSS goods. Latvia has since long established itself as a transit country for goods shipped from/to Russia, Belarus and Central Asia. Intensive efforts are under way to attract large container ships from Asia/Far East to use Latvian ports as a distribution centre and link with Western Europe.				
R&D (-), access to finance (-), smart infrastructure (+), education, training and skills (+)	Environmental and safety issues very important for the EU	Rather small sector (1,4% of blue GVA, 0,6% of blue jobs)	Long-established transit country (Russia, Belarus, Central Asia) Latvian shipping companies cover a wide geographical area	Sea-basin
<b>Passenger ferry services</b>				
This is the fastest growing MEA in Latvia. In 2011 0,7 million passengers were transported to/from Latvian ports. This sector has important spill-over effects, with linkages to sea and coastal cargo services, towage services, ship repairs, accommodation, retail sales and other tourism related services. The development programme of Riga Freeport 2009-2018, one of the leading ports for passenger traffic in Latvia, emphasises the great potential of the port with regard to passenger traffic development.				
R&D (-), access to funding (-), smart infrastructure (+), maritime clusters (-), education, training and skills (+)	Development programme Riga Freeport 2009-2018	Sector economically important (14% of blue GVA), less in terms of employment (6% of blue jobs)	All major ports have connections with ports in other Baltic MS Spill-over effects	MS
<b>Fish for human consumption</b>				
This is the largest MEA in Latvia in terms of GVA and employment. About 77% of the GVA generated by the fisheries sector and 76% of employed persons are tied to the fish processing and sale sector. Due to the number of engaged producers, acquired production experience and territorial expansion, the fisheries sector has development potential. This MEA historically plays an important role in regional development and employment provision in the regions. The Latvian fishing fleet fishes only for human consumption (mainly sprat, herring and cod). While catches have decreased since 2007 due to lower fishing quotas, fish prices have increased, as has the total income of the sector.				
R&D (+), smart infrastructure (-), education, training and skills (+), integrated local development (+),	EU regulations on fishing quotas Environmental and biodiversity issues	Largest sector of the blue economy (25% of total blue GVA, 42% of blue jobs)	Many small fishing companies Majority of fish processing companies is SMEs	MS

public engagement (+)

Considerably positive trade balance

**Coastal tourism**

This is the 2<sup>nd</sup> largest MEA in Latvia. Riga in particular is becoming an important tourism attraction in the Baltic Sea region, with the number of hotels and other tourism infrastructure on the increase in recent years. New active sports holidays as well as spas and health holidays are becoming increasingly popular. Coastal villages during the high season are quite overloaded and further public infrastructure is needed to accommodate the growth in tourist numbers.

Smart infrastructure (-), Maritime clusters (-), education, training and skills (+), integrated local development (+), public engagement (+)

Tourism Marketing Strategy 2010-2015

Second largest sector of the blue economy (18% of total blue GVA, 27% of blue jobs)

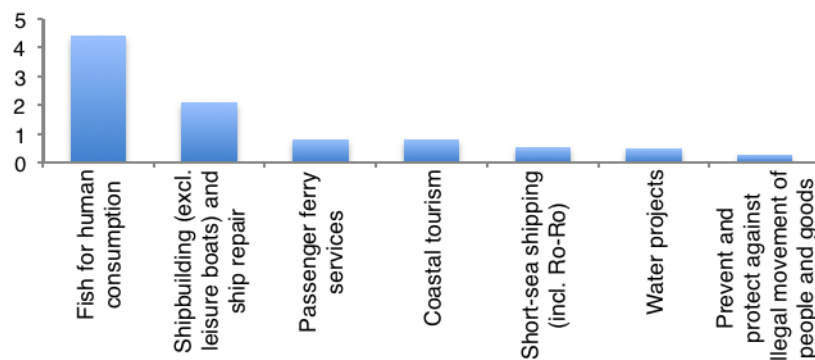
High number of small companies with local significance

MS Sea-basin: development of a "Baltic Brand"

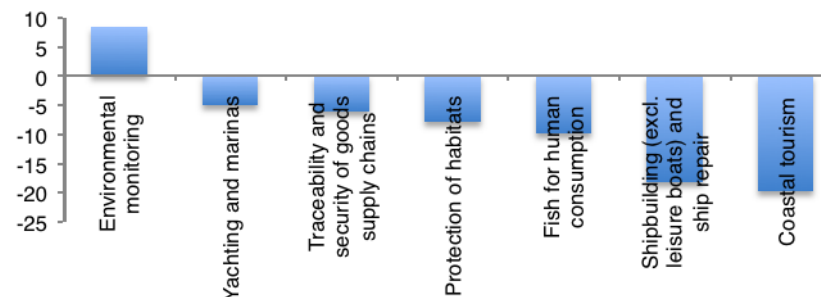
## 2.6 Lithuania

Lithuania has one of the shortest coastlines among coastal countries, measuring only 90 km (0,07% of the total coastline of the EU-22 coastal MS). The sea coast contains two segments: a sand peninsula (the Curonian Spit) and the continental coast. No islands belong to Lithuania. Only 11% of Lithuania's population lives in coastal areas.

### 7 Largest and 7 Fastest Growing Maritime Economic Activities



7 Largest MEAs (GVA + Employment in 2010)



7 Fastest Growing MEAs (GVA + Employment 2008-2010)

### 5 Most Promising Maritime Economic Activities

The 5 most promising MEAs in Lithuania are: **Shipbuilding (excl. leisure boats) and ship repair**, **Water projects**, **Short-sea shipping (incl. Ro-Ro)**, **Fish for human consumption** and **Coastal tourism**.

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Shipbuilding (excl. leisure boats) and ship repair	+	+	+	0	+	+	+++++
Water projects	+	?	?	+	?	+	+++
Short-sea shipping (incl. Ro-Ro)	+	+	+	0	+	+	+++++
Fish for human consumption	+	+	0	+	0	+	++++
Coastal tourism	0	+	+	+	+	+	+++++

### Analysis of Blue Growth potential at member state level

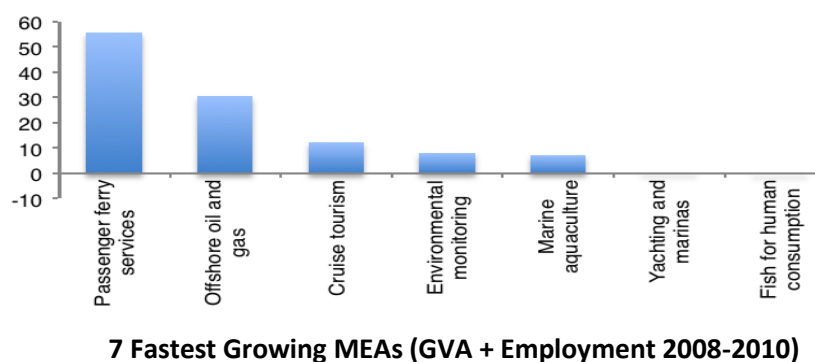
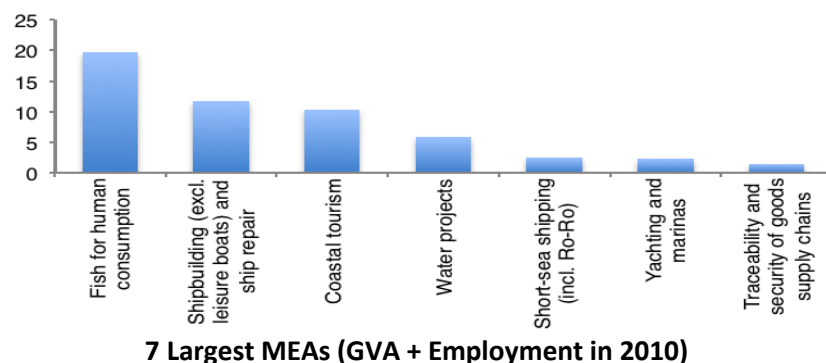
Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Shipbuilding (excl. leisure boats) and ship repair</b>				
A portion of companies is highly specialised and provides isolation services as well as welding and assembly works. The shipbuilding sector has also shifted towards building more complex ships of higher value added. Regular trade relations are maintained with Denmark, Germany and Norway, mostly in the export of ferries, but also rescue ships, rafts, tanks, docks, buoys and floating or submersible drilling and commercial fishing platforms. The Western Shipyard Group is one of the largest corporations in Lithuania (1900 employees), incorporating 23 companies.				
Access to finance (-), smart infrastructure (+), education, training and skills (+), public engagement (-)	Strategic sector for MS: Lithuanian Shipbuilding and Repair Development Strategy in preparation	Second largest sector of the blue economy (18% of total blue GVA, 21% of blue jobs)	114 mostly small and medium-sized companies 1 large player (Western Shipyard Group, 1900 employees)	MS Sea basin (EU / common finance and R&D programmes for supporting the shipbuilding industry as a provider of new or retrofitting for efficient, green (BallastWater), LNG (bunker) ships)
<b>Water projects</b>				
The main companies operate in construction, harbour dredging, hydraulic structures, water supply, and reconstruction and repair. In 2013, capital dredging of the entire Klaipeda port fairway up to -14,5 m is to be carried out at a cost of EUR 37,5 million. The plan for the Klaipeda Port for 2013-2015 to develop port infrastructure calls for EUR 103 million in water projects investments.				
R&D (-), access to finance (+), smart infrastructure (+)	Strategic issue for MS: Klaipeda port essential for the country's economy EU support for port infrastructure development	Relatively small sector (3% of blue GVA, 5% of blue jobs)	Small and medium-sized companies in Klaipeda	MS
<b>Short-sea shipping (SSS)</b>				
The main ports are Klaipeda and the Butinge oil terminal and the main transport partners are Russia and Belarus. As far as competition goes, many Baltic seaports are similar in terms of operations. One potential area for growth is stevedoring operations and specifically technological development (some of which originates locally). Companies have benefited from the creation of the Klaipeda Free Economic Zone.				
R&D (-), access to finance (+), integrated local development (-), maritime spatial planning (-)	Long-term Development Strategy of the Lithuanian Transport System until 2025 Environmental and safety issues very important for the EU Active EU policy to promote short-sea shipping	Relatively small sector (10% of blue GVA, 4% of blue jobs) Positive trade balance Spill-over effects	89 mostly small-sized companies 3 major companies with more than 10 vessels	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) – common regulations
<b>Fish for human consumption</b>				
The number of companies in the sector has kept on growing. Fishery products are mainly exported to the UK, DE and DK. Lithuania has the only auction of fish and fishery products in the Baltic States, which aims to facilitate and speed up the sale of fish to processors (including international ones). Further development of auction operations and attraction of new participants could create new opportunities for the local fish processors and contribute to the image of Klaipeda as a fisheries center that offers innovative and high quality services.				

Access to finance (-), public engagement (-), maritime spatial planning (-)	Important issue at national level EU regulations on fishing quotas	Largest sector of the blue economy (26% of total blue GVA, 47% of blue jobs) Processing companies generate 92% of the GVA of the sector	400 mostly small and medium-sized companies 1 major actor in the fishing segment (Baltlanta, 10 fishing vessels) 1 major actor in the processing (Viciunai, 3 500 employees)	MS
<b>Coastal tourism</b>				
Coastal tourism is seen as a new emerging opportunity for a sustainable development of the Klaipeda region based on the key strengths of the Curonian lagoon as an area with outstanding natural beauty where coastal regions carry important cultural significance. Another area for future development is medical tourism services. Modern SPA centres provide high quality beauty and medical treatments. The number of bed-places in different accommodation establishments in Klaipeda region has increased in 2011, thus reflecting the beginning of the recovery of the coastal industry in Lithuania after the crisis.				
Access to finance (-), education, training and skills (+), public engagement (-)	Lack of investments in infrastructure and marketing National Tourism Development Program 2007-2013	Rather socially important sector (9% of blue jobs, 3% of total blue GVA)	More than 300 small-sized companies	MS Sea-basin: development of a "Baltic Brand"

## 2.7 Poland

Poland has a coastline of 698 km or 0,5% of the EU-22 coastal MS coastline. Only 10% of the country's population lives in coastal regions. These regions are responsible for about 9% of the country's national GVA.

### 7 Largest and 7 Fastest Growing Maritime Economic Activities



### 6 Most Promising Maritime Economic Activities

The 6 most promising MEAs in Poland are: **Shipbuilding (excl. leisure boats) and ship repair**, **Offshore oil and gas**, **Offshore wind**, **Coastal tourism**, **Yachting and marinas** and a combination of **Protection of habitats/Marine aquaculture/Environmental monitoring**.

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Shipbuilding (excl. leisure boats) and ship repair	+	+	+	+	+	0	+++++
Offshore oil and gas	+	+	+	+	+	?	+++++
Offshore wind	+	+	+	+	+	+	+++++
Coastal tourism	0	+	+	+	+	+	+++++
Yachting and marinas	+	+	+	+	+	+	+++++
Protection of habitats/ Marine aquaculture/ Environmental monitoring	+ / + / +	0 / + / +	+ / ? / +	+ / + / +	+ / + / ?	+ / + / +	+++++ / +++++ / ++++++

### Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Shipbuilding (excl. leisure boats) and ship repair</b>				
This is the 2 <sup>nd</sup> most important MEA in Poland in terms of GVA and the most important in terms of employment. The industry came through a process of structural change after the accession of Poland to the EU. Some flagship Polish shipyards bankrupted while others were sold for symbolic amounts to private investors. The number and gross tonnage of ships produced in Polish shipyards decreased dramatically in recent years. Contrary to construction yards, the Polish ship repair yards have maintained rather favourable competitive positions enjoying an excess of the orders in relation to their capacities. Their global position remains firm and stable.				
R&D (+), access to finance (-), smart infrastructure (-), education, training and skills (-), integrated local development (+), public engagement (-)	Important issue at MS level in relation with the social/economic importance of the sector	Second largest sector of the blue economy (22% of total blue GVA, 19% of blue jobs)	More than 3 000 mostly small-sized companies One major player (the shiprepair yard Remontowa)	MS Sea basin (EU / common finance and R&D programmes for supporting the shipbuilding industry as a provider of new or retrofitting for efficient, green (BallastWater), LNG (bunker) ships)
<b>Offshore oil and gas</b>				
Extraction of traditional gas and oil at sea plays a marginal role in the Polish economy as well as for ensuring security of the energy supply at country level. The new issue is the discovery of shale gas reserves in Poland, which are estimated to be among the largest in Europe. Commercial extraction would change the economic situation of the country substantially. The availability and extraction of energy offshore or on the territory of the maritime regions would attract energy intensive industries, contributing to development of the regions, creation of new job places and strengthening agglomeration effects. However, it can also put forward some new environmental risks that need to be evaluated.				
R&D (-), access to finance (-), smart infrastructure (-), maritime spatial planning (+), integrated local development (-), public engagement (+)	Uncertainty on Polish regulatory environment	Limited economic and social importance (3,7% of the blue GVA and 2,1% of blue jobs)	Only one offshore extracting company (Petrobaltic) Main players are public authorities	MS
<b>Offshore wind</b>				
There are still no offshore wind farms in Poland but the licensing process that was started in 2012 has so far resulted in 22 permits for use of the sea space for offshore energy production. Furthermore, some of the Polish shipyards have already engaged themselves in supplying this industry with necessary installations and equipment. Important spill-over effects are foreseen.				
R&D (-), access to finance (+), smart infrastructure (+/-), education, training and skills (+/-), maritime spatial planning (+), integrated local development (+), public engagement (-)	Important issue for MS : National strategy of diversification of energy supply Issue very important for EU	Sector non-existent	Licensing process just starting	MS Sea-basin (development potential in cross-border smart grid solutions and maritime spatial planning)

**Coastal tourism**

Coastal tourism in Poland plays a significant economic role. The main players come from the private sector (small and medium size enterprises) and from the public sector (coastal municipalities). In 2011 in the coastal NUTS-3 regions of Poland, excluding the Trójmiejskie and Szczecin city NUTS-3 regions (where business tourism tends to dominate), there existed around 1,5 thousand tourist facilities, i.e. more than 20% of those available in all of Poland. In terms of overnights, those regions accounted for over 13 million in 2011, 23% of the national total. Coastal tourism is a sector of top importance for many peripheral areas of Poland as the only tangible alternative to fishery. The main driving forces for the development of this MEA are geographic characteristics of the Polish coast (nice sandy beaches) coupled with the entrepreneurship of Polish businessmen and local governments.

R&D (-), smart infrastructure (+/-), maritime spatial planning (+), public engagement (+)	Supported at local level by regional governments No EU pressure on this issue	Important social/economic sector (11% of total blue GVA, 19% of blue jobs)	More than 3 500 small-sized companies	MS Sea-basin: development of a "Baltic Brand"
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**Yachting and marinas**

Poland is one of the global leaders in the production of motor yachts, ranked 2<sup>nd</sup> globally in construction of boats up to 10 m long. Production capacity is 22.500 boats annually. About 95% of Polish yachts are sold to customers abroad (France, Spain, Scandinavian countries). Although the number of large yards is below ten, about 900 companies are associated with the industry – small manufacturers, component suppliers, owners, marinas, etc. The industry recovered quickly after the economic crisis. Although deep job reductions were necessary there was no bankruptcy in the sector, which is evidence of its robustness and stability. In 2011 the industry regained the 2008 production level and current projections assume that the increase in the number of contracts that took place in 2010 and 2011 is to be continued in coming years.

R&D (-), access to finance (+), education, training and skills (+), maritime spatial planning (+), public engagement (+)	Importance of the issue at MS level limited by the low economic and social relevance of the sector	Small sector importance (3,6% of the blue GVA and 4,2% of blue jobs)	Almost 400 small companies involved	MS
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**Protection of habitats/ Marine aquaculture/ Environmental monitoring**

Eutrophication is among the most important threats for the Baltic Sea environment and Poland contributes 30% of total phosphorus and 24% of total nitrogen loads of the region. Within HELCOM's Baltic Sea Action Plan Poland declared reduction targets of 69% of phosphorus loads and 33% of nitrogen loads by 2021. This would be impossible through conventional approaches only. New innovative technologies for removal of nutrients related to marine aquatic production (e.g. mussel or reed farming) can help in meeting the policy targets. A pilot mussel farm is under way in Puck Bay. Furthermore, this type of activity could eventually be combined with offshore wind farms for efficient use of space.

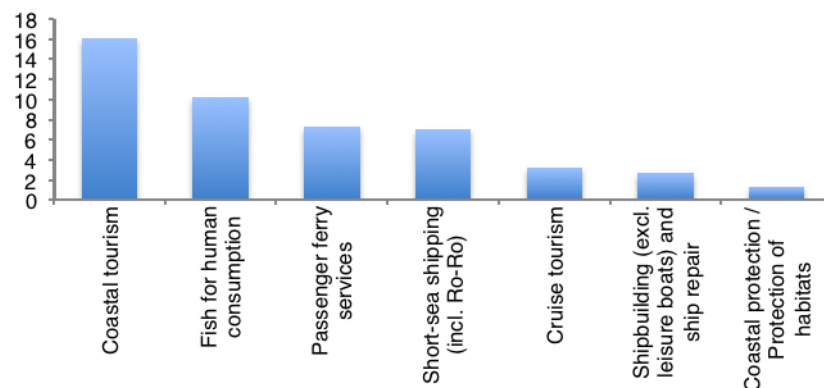
R&D (-), access to finance (+), maritime spatial planning (+), integrated local development (-), public engagement (-)	Significant issue at MS level Marine aquaculture aiming at protection of habitat is also a significant issue at EU level (e.g. Submariner)	Almost non-existent (less than 0,1% of blue GVA and blue jobs)	Some pilot projects	Sea basin
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**2.8 Sweden**

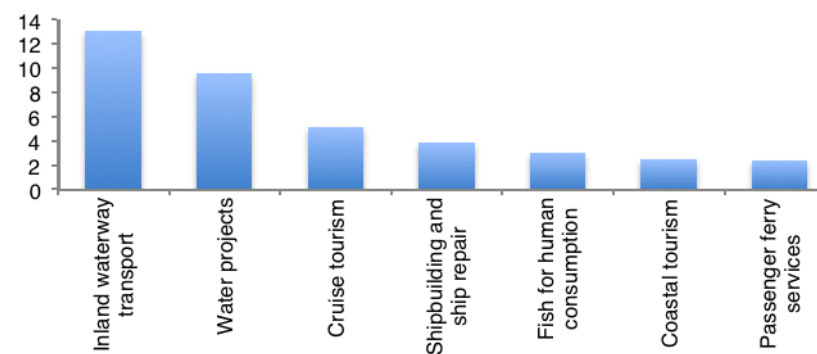
Sweden has the largest coastline of all the EU-22 coastal MS, with a total length of 21.591 km, i.e. 16% of the total coastline length of the 22 EU coastal countries. Sweden has 98.400 marine islands. About 62% of the country's population lives in coastal areas.

**7 Largest and 7 Fastest Growing Maritime Economic Activities**





7 Largest MEAs (GVA + Employment in 2010)



7 Fastest Growing MEAs (GVA + Employment 2008-2010)

### 6 Most Promising Maritime Economic Activities

The 6 most promising MEAs in Sweden are: **Short-sea shipping (incl. Ro-Ro)**, **Passenger ferry services**, **Marine aquaculture**, **Offshore wind**, **Coastal tourism**, and **Cruise tourism**.

Scores assigned for Blue Growth indicators for future potential:

Maritime Economic Activity	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
Short-sea shipping (incl. Ro-Ro)	+	0	0	+	0	+	+++
Passenger ferry services	0	0	+	+	0	+	+++
Marine aquaculture	+	0	0	+	+	+	++++
Offshore wind	0	+	+	+	+	+	+++++
Coastal tourism	0	+	+	0	+	+	++++
Cruise tourism	+	+	+	0	+	0	++++

### Analysis of Blue Growth potential at member state level

Drivers/Strengths (+) and Barriers/Weaknesses (-)	Importance of the issue at political level (local/national/EU political pressure)	Social/economic importance of the sector	Number, geographic coverage and economic importance of stakeholders	LEVEL likely to be better addressed MS or sea-basin
<b>Short-sea shipping (SSS)</b>				
The number of merchant vessels has decreased in recent years and Swedish shipping currently faces considerable challenges regarding competitiveness and environmental and safety requirements. The government has launched an action plan for improved competitiveness involving a variety of policy, job and education, environmental, R&D and maritime safety measures. New shipping lines are				



also planned, e.g. Karlskrona-Klaipeda. Potential exists for more shipping as soon as environmental ways to do it are found.				
R&D (+), access to finance (+), smart infrastructure (+), education, training and skills (+), integrated local development (+)	Issue important at national level: governmental action plan for improved competitiveness of the sector Environmental and safety issues very important for the EU	Important economic (15% of blue GVA) and social role (13% of total blue jobs - both direct and indirect)	Many stakeholders (>3000 companies)	Sea-basin (development possibilities at Baltic basin level, e.g. LNG in light of new environmental standards) – common regulations
<b>Passenger ferry services</b>				
26 million ferry passengers were transported in 2012 (11% domestic traffic, with 2 main lines serving Gotland island). Foreign traffic concerns mainly Denmark (39%) and Finland (35%). The two main ports, Stockholm and Helsingborg represent 58% of the total passenger traffic. The Swedish Agency for Economic and Regional Growth is expecting growth in this sector for the coming years.				
R&D (-), access to finance (-), smart infrastructure (+), education, training and skills (+), public engagement (+)	No EU pressure on this issue Important sector at MS level	Economically (13% of GVA) and socially (15% of jobs) important sector	Many small companies and a few large actors	MS
<b>Marine aquaculture</b>				
Marine aquaculture focuses mainly on blue mussel production on long lines farmed in the western region of Västra Götaland and rainbow trout. The sector has grown significantly in the last years (e.g. 43% growth in trout production in 2011) and appears to have a large potential for further development, with a clear political goal to expand in line with the increasing demand for locally produced, environmentally sustainable food. Effluent load from marine finfish aquaculture is lower than EU average.				
R&D (+), access to finance (+), smart infrastructure (+), education, training and skills (+), maritime spatial planning (-), public engagement (+)	Issue important for EU Issue important for Sweden: national strategy 2014-2010	Economic and social importance limited Focused on a limited number of species (trout, blue mussel)	Mostly small-sized stakeholders in limited number (64)	MS
<b>Offshore wind</b>				
Sweden has 75 turbines installed in 5 offshore wind farms and 1 lake wind farm, and total a capacity of 164 MW, which is 3,3% of the total installed offshore wind capacity in Europe. Offshore wind will be one of the leading axes in the maritime strategy to be presented by the government in spring 2014. Several offshore wind farms are planned and have already been authorised, including a farm in south Sweden with 700 offshore wind turbines with a capacity of 2.500 MW, more than 15 times the total capacity currently installed in Swedish waters.				
R&D (+), access to finance (+), education, training and skills (+), maritime spatial planning (-)	Issue very important for EU Issue important for Sweden (but less than onshore wind)	Economic importance still limited but growing Social importance also, but to a lesser extent	Limited number of stakeholders	MS Sea-basin (development potential in cross-border smart grid solutions and maritime spatial planning)
<b>Coastal tourism</b>				
The length of the Swedish coastline and its great amount of islands make the country perfect for coastal tourism. The GVA generated by coastal tourism increased by 15% in 2008-2011 and the number of employees rose from 49.764 to 53.559 in the same period. This is the largest MEA in Sweden. The sector shows good prospects for future growth. Sweden has in the last two decades experienced a greater increase in the number of international arrivals in comparison to the European average. The most important driving force is general economic development. The development of attractions at or close to the ports also plays a significant role.				
R&D (-), access to finance (-), education, training and skills (+), integrated local development (+),	Some development efforts in some regions Coastal tourism involved in several clusters Absence of an effective national strategy	Important economic sector (24% of the total GVA of the blue economy) providing a lot of jobs (36% of all blue jobs)	Lots of (mostly small-sized) stakeholders all along the seashore and in the islands	MS Sea-basin: development of a "Baltic Brand"
<b>Cruise tourism</b>				
Cruise tourism remains a small sector compared to coastal tourism but is growing much faster. Cruise vessel calls in Swedish ports increased 88% in the last decade. In 2010 calls made by cruise-ships were reported at ten Swedish ports; Stockholm accounted for almost 80% of the total number of passengers. With 467.000 passengers in 2012, Stockholm is ranked 1st in the Baltic Sea. The number of calls at this port increases by around 10% every year. In Gothenburg the development has also been fast, rising from 5 calls and 2.400 passengers in 2002 to 70 calls and 84.000 passengers in 2012. Cruise tourism has a strong impact on the economy: direct expenditures amounted to EUR 195 million in 2012 and generated 2.618 jobs.				
Access to finance (-), smart infrastructure (+), education, training and skills (-)	Issue not important at national level Regional relevance limited to Stockholm and Gothenburg	Important economic sector (15.4% of the total GVA of the blue economy) with only small direct impact on job	Limited number of directly involved stakeholders	Sea basin

market (1.6% of all blue jobs) but spill  
over on indirect and induced jobs

### 3. Analysis of blue growth potential at sea basin level

#### 3.1 Aggregated data derived from country reports

##### 3.1.1 Current size and recent growth of maritime economic activities across sea basin

An analysis of the size and recent growth of MEAs aggregated over the sea basin was carried out using data from each Member State. The analysis highlights the following interesting aspects:

- In terms of size the same 6 MEAs account for the highest employment and the largest GVA in the Baltic Sea. While Coastal tourism and Fish for human consumption stand out in terms of their importance for the job market, Short-sea shipping has by far generated the highest GVA:
  - Coastal tourism: 127.000 jobs
  - Fish for human consumption: 117.000 jobs (more than 70% in fish processing and retail)
  - Shipbuilding: 51.000 jobs
  - Short-sea shipping: 39.000 jobs
  - Passenger ferry services: 26.000 jobs
- Short-sea shipping: € 5,7 billion
- Fish for human consumption: € 3,8 billion (more than 70% in fish processing and retail)
- Coastal tourism: € 3,1 billion
- Shipbuilding: € 2,0 billion
- Passenger ferry services: € 2,0 billion

Figure 1 displays the absolute size of each MEA for the whole BSR presented as a score based on GVA and employment as well as – in each bar – the shares of each MS in the sea basin wide size. It shows that:

- The **largest MEAs** are by far **Coastal tourism** and **Fish for human consumption** followed (by a wide margin) by **Short-sea shipping** and **Shipbuilding and ship repair**

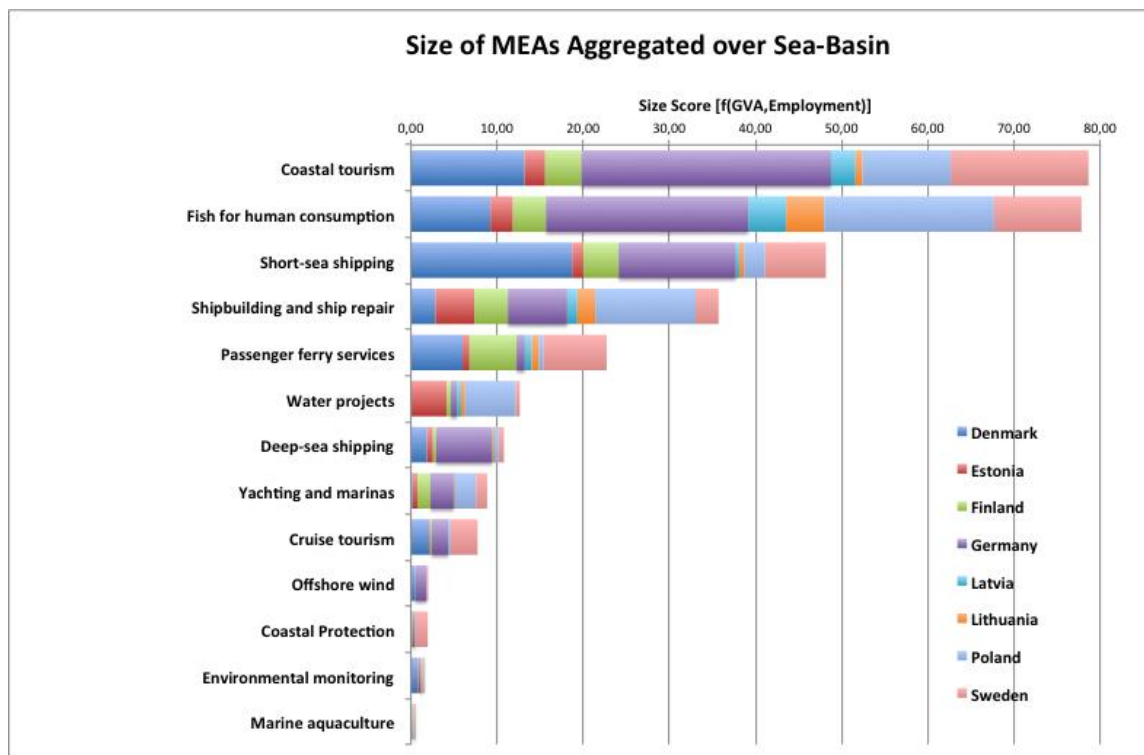


Figure 1: Size of maritime economic activities aggregated over sea basin

The analysis of recent growth of the blue economy was based on EUROSTAT data (wherever available) for the latest available reference period, which corresponds to 2008-2010. As in almost all countries across the EU, in the Baltic Sea Region this period was also characterised by a strong economic recession as a consequence of the financial crisis. But despite the economically difficult times, a number of maritime economic activities achieved, on the sea-basin level, quite substantial compound annual growth rates (CAGR):

- The GVA of Offshore wind increased by a CAGR of 20,2% while employment in this MEA increased by a CAGR of 18,3% (it should be noted that this increase is mainly based on the very positive development of the MEA in Germany and Denmark).
- The GVA of Cruise tourism increased by a CAGR of 10,9% while employment in this MEA increased by a CAGR of 3,8%.
- The GVA of Fish for human consumption (of which the largest part belongs to fish processing and sales) increased by a CAGR of 6,6% while employment in this MEA increased by a CAGR of 2,7%.
- The GVA of Passenger ferry service increased by a CAGR of 7,7% while the employment in this MEA decreased by a CAGR of -0,7%.
- The GVA of Marine aquaculture increased by a CAGR of 13,3% while the employment in this MEA decreased by a CAGR of -6,2%.

Figure 2 displays the recent growth of each MEA putting these CAGR growth scores in relation to the actual size of the MEA.

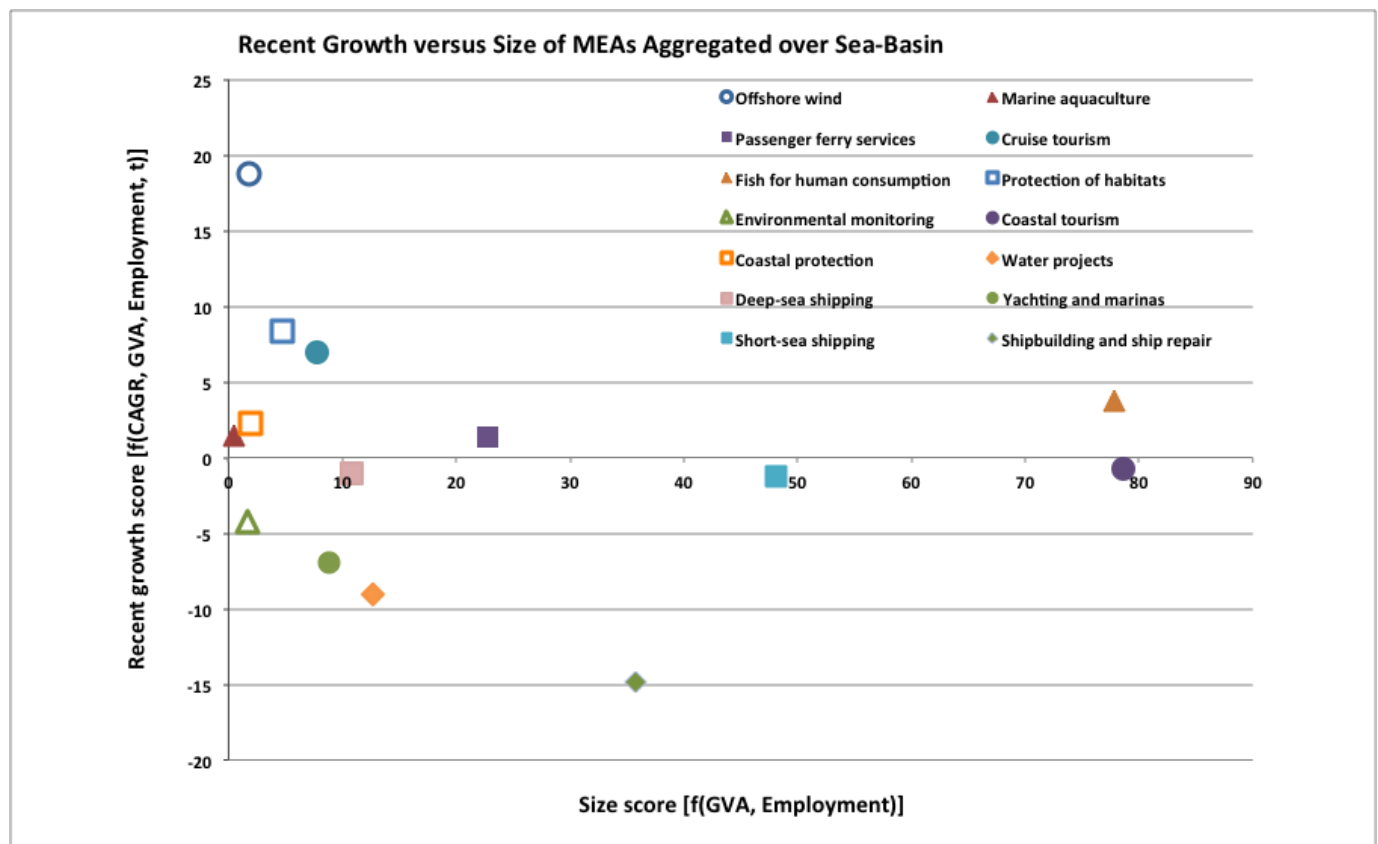


Figure 2: Recent growth versus size of maritime economic activities aggregated over sea basin

### 3.1.2 Maritime economic activities with most future potential across sea basin

Each of the MEAs was evaluated in terms of their future potential in each MS using six indicators as criteria (Table 1) and awarding positive, negative or neutral scores for each indicator.

Table 1. Indicators of future potential for maritime economic activities

INDICATOR	DEFINITION / GUIDING QUESTIONS
<b>Innovativeness</b>	To what extent is the given MEA driven by constant improvements and innovation? Are there significant investments currently or foreseen in the near future in R&D for this MEA in the MS?
<b>Competitiveness</b>	This indicator assesses the position of a given MEA of a MS in the EU/international market. Furthermore, competitiveness is assessed also by comparing the activity of a given country to the same activities of other countries in the same area/sea basin.
<b>Employment</b>	Will the given MEA generate new jobs in the near future? Is the given MEA labour or technology intensive? Does it generate qualified jobs and/or attractive, long-term employment for the given regional labour force?
<b>Policy relevance</b>	Is the given MEA addressed by current or upcoming policy initiatives or regulatory activities in the given MS, especially taking into account EU 2020 ambitions? To what extent is the given MEA influenced by these developments?
<b>Spill-over effects</b>	What impact does the given MEA have on other (including non-maritime) economic activities within the MS?
<b>(Environmental) Sustainability</b>	To what extent is the given MEA in the respective MS influenced by current or upcoming environmental regulation or depends on a good status of the environment? Does the sector have the necessary adaptive capacity?

The scores were then tabulated, converted into numerical scores and aggregated over the sea basin. A short list of MEAs with the most future potential across the sea basin was derived and ranked according to the scope of their potential as follows:

**The high potential MEAs** (the red bars in Figure 3) have an aggregated indicator score between 24-36 (from a potential range of -48 to 48).

**The medium potential MEAs** (the turquoise bars in Figure 3) have an aggregated indicator score between 12-24 (from a potential range of -48 to 48).

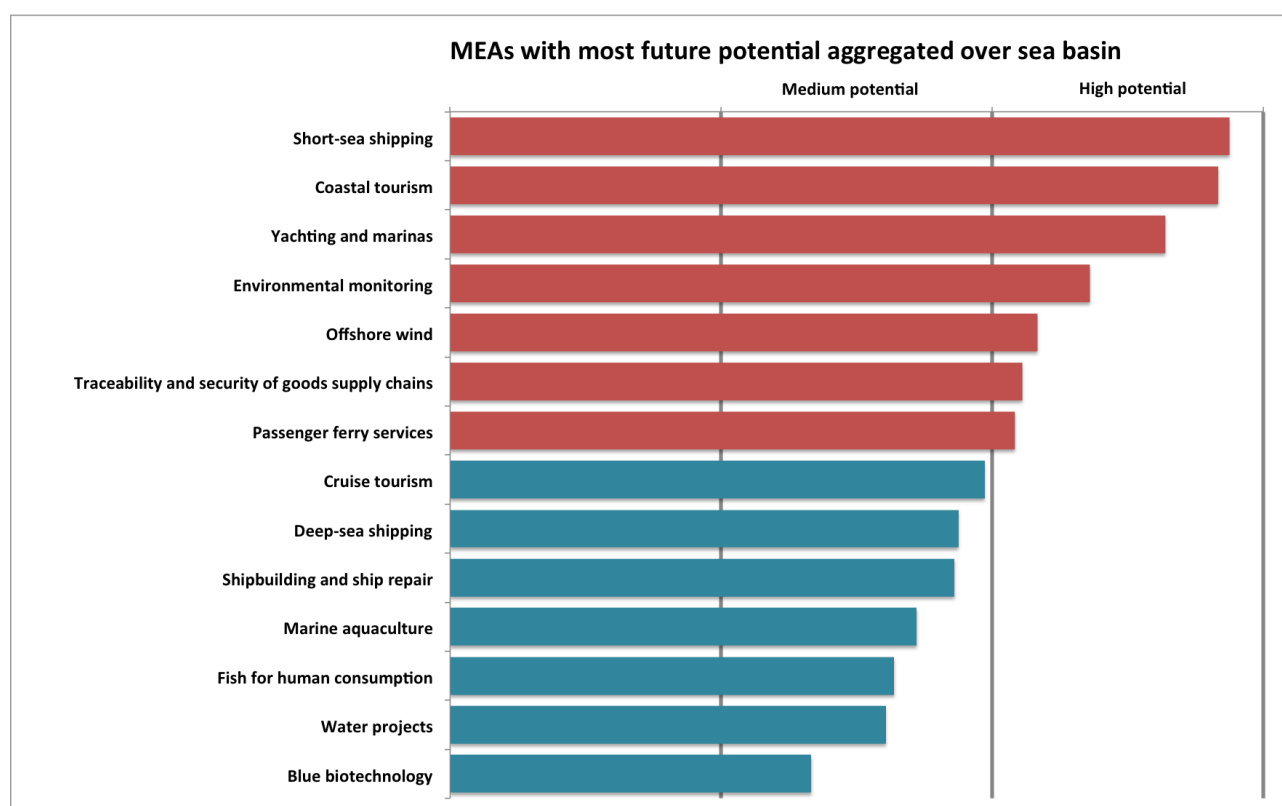


Figure 3: Maritime economic activities with most future potential aggregated over sea basin

### 3.1.3 Most promising maritime economic activities across sea basin

On the basis of the quantitative and qualitative analysis introduced above (i.e., MEA size, growth and future potential), each Member State selected up to six MEAs deemed to be the “most promising MEAs” for blue growth in the country. For this selection, external factors were taken into account, such as for example the time frame of the perspective (in the study the period until 2020 was analysed). The lists of MEAs selected as most promising were aggregated over the whole sea basin, resulting in a shortlist of 11 MEAs selected by two or more Member States (Table 2).

Table 2. Selection of MEAs as most promising by Member States

Maritime economic activity	Number of MS	Member States selecting MEA as most promising							
		DK	EE	FI	DE	LV	LT	PL	SE
Coastal tourism	7								
Short-sea shipping	7								
Shipbuilding and repair	5								
Offshore wind	4								
Yachting and marinas	4								
Passenger ferry services	4								
Fish human consumption	4								
Marine aquaculture	3								
Cruise tourism	2								
Deep-sea shipping	2								
Water projects	2								

### 3.2 Analysis of maritime economic activities at sea basin level

This chapter analyses the potential of the identified MEAs at sea-basin level and provides recommendations for its development in the context of the next programming period.

#### 3.2.1 Shipbuilding (excluding leisure boats) and ship repair

Definition of the MEA and value chain	<p>The MEA Shipbuilding and ship repair relates to the development, building and repair of merchant vessels and leisure boats as well as building, repair and maintenance of floating structures.</p> <p>Players in the value chain of this MEA cover:</p> <ul style="list-style-type: none"><li>• Research, development and demonstration/testing</li><li>• Component supplying industries</li><li>• Shipyards (building and repair)</li><li>• Service providers (e.g. classification societies, engineering office)</li></ul> <p>The sector plays (from a generic point of view) an important part within the value chain of the shipping industry, but is not always necessarily linked to the BSR shipping value chain as it is also substantially driven by exports to countries outside the BSR if not even Europe.</p>																
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>	DK	SE	FI	EE	LV	LT	PL	DE			<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DK	SE	FI	EE	LV	LT	PL	DE										
		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
Quantitative assessment  (based on data from country fiches)	<p>Even though Denmark and Sweden have almost left the sector, the size and employment within the sector remains substantial in the BSR countries.</p> <p><b>Total GVA on the sea basin (2010): € 2,03 billion</b> <b>Total <i>Employment</i> on the sea basin (2010): 51.100 jobs</b></p> <p>The Baltic Sea region shipbuilding industry has seen a decline for decades due to growing competition from the Far East, especially in the production of labour-intensive container ships. This long-term trend was exacerbated during the recent economic crisis – not only due to drastic decline in new order of ships but also the non-availability of financial credits.</p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): -14,2 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): -14,3 %</b></p> <p>Specialised segments have been less affected by the crisis. Repair yards for instance have kept their position with Poland being a leader throughout Europe. In Germany and Finland the cruise</p>																

	building sector is very important. Furthermore developments in the offshore wind energy sector have increased demand for specialised ships and platform construction, which was picked up by German, Polish and Estonian shipyards. In most countries the sector is dominated by large companies, but also SMEs play an important role and are increasingly organised around clusters.					
Special characteristics and further trends	<p>As a reaction to the long-term negative trend, more and more BSR shipyards have followed a specialisation strategy, which increasingly shows its positive results. Throughout most BSR countries focus is by now on technologically sophisticated niche markets i.e. yachts, passenger ships, Ro-Ro ships and offshore installation ships or platforms.</p> <p>The cruise market is especially relevant in Germany and Finland (which was responsible for 12% of the global supply in cruise ships measured by 2008-2011 orders). In Poland the repair market has kept its competitive edge with good prospects for the future. Between 2009 and 2011 the number of repairs increased from 347 to 624 with an even higher increase in the value of orders (77% increase from € 161.875 million to € 286.062 million). Other BSR countries are also successful within the ship repair segment, a segment that is increasingly related to ship conversion.</p> <p>In addition to the big shipyards SMEs are especially active in the ship equipment / component supply segment, with high export figures and competences in offering high-tech solutions to achieve new safety or environmental standards (e.g. solutions for managing ballast water or increasing energy efficiency) or other special requirements (e.g. competences in Arctic equipment). These new solutions are not only relevant for new shipbuilding but also for ship conversion and retrofitting.</p> <p>Whereas in Germany the shipyards stood for an employment of 17.900 people, the approximately 400 companies in the component industry employ about 70.000 people (a substantial share are located in coastal regions but considerable parts are also based in Bavaria and Baden-Württemberg, South Germany). In other BSR countries, even though the sector is often still dominated by a few big companies, SMEs and related clusters also play an increasing role.</p>					
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	7,00	5,30	0,00	2,00	5,00	3,00
	<p>Despite the challenges faced by the sector, the future potential of shipbuilding and repair has been assessed relatively well in all countries except Denmark and Sweden. This is due to the fact that the specialisation strategies pursued may increasingly bear fruit when the environmental regulations known or expected to come into force in coming years (SECA / NECA /Ballast Water) throughout the BSR will lead to an increasing demand of services and products offered by companies based in the BSR. Furthermore, there is an increasing correlation between growth in the offshore wind energy sector in Northern Europe and the BSR shipbuilding sector as it offers specialised ships and platforms.</p> <p>These factors are matched by good sector scores in innovativeness, given the high level of continuous research, development and innovation activities and projects by shipyards and the component industry. Spill-over effects onto other MEAs have been rated high in view of the correlation with shipping as well as the offshore industry. Within these specialised markets the sector is also seen to be competitive. Nevertheless employment is set at a neutral score high, as developments should mainly be understood as a way of stopping a further downsizing of the sector, since certain markets such as that of container ship building will not move back to the BSR.</p>					
Drivers and barriers (for growth at sea-basin level)	<b><u>Drivers</u></b> <ul style="list-style-type: none"> <li>The coming into force of the sulphur emission control area (SECA) in January 2015, the expected Ballast Water Convention as well as other environmental and safety regulations are important external drivers leading to increased demand for green, high-tech solutions offered by BSR companies. These are not</li> </ul>			<b><u>Barriers</u></b> <ul style="list-style-type: none"> <li>Current caution of banks in financing ships (in the BSR even over-proportional compared to other regions) due to the economic crisis and over-capacity of global ship tonnage leads to less orders for new ships.</li> <li>Overall long-term decline has led to less demand of young people to go into the sector (danger of over-aging).</li> </ul>		



	<p>only related to new ship orders, but also retrofitting as well as technical solutions related to compliance checks.</p> <ul style="list-style-type: none"> <li>• The opening up of the Arctic route, growth in offshore wind energy as well as cruise tourism and yachting and the general drive for efficiency not only call for new or specialised ships but also related equipment and components.</li> <li>• Companies have adapted to changing environment with focus on technologically sophisticated niche markets.</li> <li>• High level of continuous research, development and innovation especially by the shipbuilding industry in Germany, matched by good availability of national R&amp;D funding programmes and national maritime strategies supporting innovative developments.</li> <li>• Maritime clusters for shipbuilding can be found in almost all BSR countries.</li> <li>• Good availability of high-skilled workers and related university and company training programmes</li> <li>• Difficulties in accessing relevant EU funding programmes (complicated, lengthy, competitive application processes often with restrictions for private actors), i.e. TEN-T, currently lead to relative low real investment support.</li> </ul>
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Synergies at sea basin level	<p>Shipbuilding in itself is a competitive sector with little scope for direct inter-company cooperation across the sea-basin. Furthermore, it is a global sector with linkages more directed towards other global markets (i.e. Asia) than cooperation at sea-basin level.</p> <p>Nevertheless there is a broad scope of added value to be generated at sea-basin level, stemming from development of joint solutions to sea-basin specific issues related to environmental challenges while safeguarding the competitive edge of shipping in relation to other transport modes (such as developing a joint LNG shipping infrastructure, other port reception facilities, reduced shipping noise, compliance checking systems or e-navigation solutions); all of which lead to increased demands for products/services on offer by BSR based companies.</p> <p>Synergies with other MEAs are very high with all sectors related to shipping itself, i.e. Water projects (port development); Short-sea shipping, Deep-sea shipping and Passenger ferry service as well as Cruise tourism and Yachting and marinas – but also the development of offshore wind energy. Even fishery and marine aquaculture (specialised ships) are affected as well as blue biotechnology (anti-fouling coating solutions). Maritime surveillance is also highly interlinked as innovative technology solutions are required to improve compliance checks to environmental and safety regulations in order to ensure a level playing field.</p> <p>Intervention areas directly related to the shipbuilding industry should focus on creating common R&amp;D programmes for supporting the shipbuilding industry as a provider of efficient ships, green propulsion technologies, new ships or retrofitting solutions (LNG, Ballast Water) as well as high-tech solutions for compliance checks and e-navigation, as in many cases technology has not yet reached the implementation stage.</p> <p>Apart from R&amp;D, it is of key importance to develop the necessary financial incentives and investment programmes that will allow the BSR maritime transport sector to move from feasibility studies to realisation of sea-basin infrastructure solutions and solve the “chicken and egg” problem.</p> <p>Agreement on sea-basin wide solutions for joint approaches to enforced compliance checks, clean shipping indexes and environmental port dues as well as financial incentives provided for “first mover shipping companies” will indirectly lead to increased demand to more sustainable solutions on offer by BSR companies.</p>
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Level at which to address priorities for Partnership Agreements	MS level		Sea basin level
Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b>  1. Strengthening research, technological development and innovation  7. Promoting sustainable transport and removing bottlenecks in key network infrastructures	<b>Investment priorities</b>  Promoting business R&I investment, product & service development, technology transfer, ...clusters and open innovation through smart specialisation ( <i>EU Regulation proposal 2011/0275, Art.5, 1 b</i> )  Supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production for Key Enabling Technologies and diffusion of general purpose technologies ( <i>EU Regulation proposal 2011/0275, Art.5, 1 c</i> )  Supporting a multi-modal Single European Transport Area by investing in the Trans-European Transport Network (TEN-T) network ( <i>EU Regulation proposal 2011/0275, Art.5, 7 a</i> )  Developing environment-friendly and low-carbon transport systems ( <i>EU Regulation proposal 2011/0275, Art.5, 7 c</i> )

### 3.2.2 Short-sea shipping (incl. Ro-Ro)

Definition of the MEA and value chain	<p>Short-sea shipping is defined as intra-European maritime shipping. The value chain as captured by the methodology of this study consists of:</p> <ul style="list-style-type: none"><li>• Operation of ships (shipping freight)</li><li>• Port services and logistics (operating terminals, handling cargos, storage, VAL, port management)</li><li>• Other maritime services (bunkering, ship repair, pilotage, etc.)</li></ul>																
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td></tr></table>	DK	SE	FI	EE	LV	LT	PL	DE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
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Quantitative assessment  (based on data from country fiches)	<p>The Baltic Sea is one of the busiest places in the world in terms of shipping showing a high number of vessels crossing the sea every day and a dense network of ports. More than 40% of the ships in the Baltic Sea are general cargo ships that for the most part stay inside the Baltic Sea or in Northern Europe. Thus, not surprisingly short-sea shipping is the most prominent MEA within the maritime function Maritime transport and shipbuilding. With the exception of Poland, it was rated by all MS as one of the sectors with most future potential. It is a mature, large sector in all BSR Member States, with harbours serving as a significant economic engine to many of them.</p> <p><b>Total GVA on the sea basin (2010): € 5,73 billion</b> <b>Total <i>Employment</i> on the sea basin (2010): 39.100 jobs</b></p>																

	<p>Even though shipping in the Baltic Sea increased both in number and size of ships during the last decade, the MEA actually declined slightly during the analysed time due to the economic crisis as development of maritime trade is highly interdependent with economic development.</p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): -0,5 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): -0,4 %</b></p> <p>Overall shipping companies are still suffering from an over-capacity of tonnage offer and resulting decreased freight rates while at the same having to deal with increasing fuel costs, an issue which will become even more dramatic once the SECA agreement comes into force by 2015. However, recently some recovery has been observed, especially for short-sea shipping in most MS. Due to increased intra BSR trade between west and east, numerous forecasts foresee an increase in freight transported in this mode (i.e. 30% growth from 2010-2030 in BTO2030 Forecast). Nevertheless it remains to be seen how much of freight will shift to land transport if shipping costs increase in the future due to higher fuel costs.</p>												
Special characteristics and further trends	<p>Short sea shipping is highly important in all BSR countries, with a close interdependence to their general economic development. A very large number of mainly small and medium sized companies as well as more than 250 ports services are involved in this sector (of which the 30 biggest ports have a share of 76%). Russia plays an important overall role in the sector within the BSR.</p> <ul style="list-style-type: none"><li>• Short sea shipping in the main ports of Germany amounted to 169 million tonnes of cargo in 2011 (up from 156 million tonnes in 2009 but after a steep decline between 2008 and 2009), accounting for almost 10% of the total SSS in the EU-27 countries. 91 million tonnes or 54% of the German SSS cargo (whole country not only BSR) came from or went to ports in the Baltic Sea</li><li>• In January 2013, the Swedish government presented an action plan containing measures to improve the competitiveness of the Swedish shipping industry. This plan is the first step of the maritime strategy that the Swedish government intends to present by spring 2014.</li><li>• In Denmark the total gross weight in 2011 grew by 4% compared to 2009 after a steep 15% drop in gross weight of transported goods in 2009, caused by the financial crisis.</li><li>• Estonia reported growth rates of more than 20% in the short-sea shipping of TEUs compared to 2010.</li><li>• In Latvia since 2006 (except for the year 2010 when a slight decrease was observed), there has been a constant increase in the volume of goods handled in SSS (in 2008 by 10,6%, in 2011 by 11%).</li></ul> <p>The competitiveness of the BSR short-sea shipping sector will in the coming future be highly influenced by the upcoming enforcement of stricter environmental regulations, which means for instance in the case of the SECA regulation that from 2015 onwards ships will be forced to run on fuel with maximum emissions of 0.1% sulphur instead of the 1% today. All three compliance strategies lead in the short run to higher costs and thus influence the competitive edge of the sector in relation to the other available transport modes (i.e. road and railway), but especially the potential move to LNG as one of the three compliance solutions is at the same time expected to drive blue investments and growth not only in shipping but also in related sectors. Also more shore-side electricity systems are expected to be installed throughout the BSR in the coming future, however, with benefits being generated more at societal level rather than being directly associated to blue growth.</p>												
Assessment of Blue Growth potential	<table><tr><td>Innovativeness</td><td>Competitiveness</td><td>Employment</td><td>Policy relevance</td><td>Spill-over effects</td><td>Sustainability</td></tr><tr><td>7,00</td><td>6,00</td><td>4,50</td><td>6,00</td><td>4,00</td><td>7,00</td></tr></table> <p>The MEA stands out as it is by far the highest ranked across all qualitative indicators with especially high scores in innovativeness and sustainability. This is mainly a reflection of the need and resulting opportunities in getting more sustainable (cleaner) due to upcoming stricter environmental regulations (e.g. NOx, SOx, discharge of ballast water, ship recycling) but also in becoming safer and more efficient across all dimensions such as energy use, costs, time, quality and reliability, while maintaining or even increasing its competitiveness in relation to other modes of transportation (road, rail and air traffic).</p>	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	7,00	6,00	4,50	6,00	4,00	7,00
Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability								
7,00	6,00	4,50	6,00	4,00	7,00								

<p>Drivers and barriers</p> <p>(for growth at sea-basin level)</p>	<table> <tr> <th data-bbox="352 194 884 253"><u>Drivers</u></th><th data-bbox="884 194 1453 253"><u>Barriers</u></th></tr> <tr> <td data-bbox="352 253 884 1384"> <ul style="list-style-type: none"> <li>Increased trade within the BSR especially between West-East leads to increased volumes to be transported.</li> <li>The coming into force of the sulphur emission control area in January 2015 as well as the expected Ballast Water Convention are important external drivers, which in the short term lead to higher costs, but in the medium term put pressure on shipping companies to turn to more efficient, greener and safer, high-tech solutions, which are also offered by BSR companies.</li> <li>Due to competition with other transport modes (road, railway) there is an overall urge for higher efficiency, i.e. cost / time efficiency, reliability, quality.</li> <li>With increasing traffic density, vessel size and dangerous good transportation come higher efforts to prevent accidents.</li> <li>There is high level of continuous research, development and innovation throughout all BSR countries as well as well-developed maritime clusters.</li> <li>Well-developed port infrastructure and good network of facilities and modern operating environments</li> <li>Port of Gothenburg being a forerunner in shore side electricity systems – SE/DE granted tax exemption for shore side electricity</li> <li>National maritime strategies addressing short-sea shipping are in place or in preparation in most MS</li> </ul> </td><td data-bbox="884 253 1453 1384"> <ul style="list-style-type: none"> <li>The current caution of banks in financing ships (in BSR even over-proportional compared to other regions) due to the economic crisis and the price pressure due to over-capacity of global ship tonnage means that shipping companies are hampered in investing into new, more efficient solutions.</li> <li>BSR ports are currently lagging behind in developing “smart” infrastructure, i.e. related to LNG terminal network, shore-side electricity systems, hinterland infrastructure.</li> <li>Lack of incentives for “first movers” as lack of compliance checking systems, later enforcement of environmental regulations, consumer awareness (lack of market pressure)</li> <li>Infrastructure projects which increase competitiveness of other transport modes (i.e. road development)</li> <li>Overall increased costs in shipping foreseen due to compliance needs to environmental regulations</li> </ul> </td></tr> </table>	<u>Drivers</u>	<u>Barriers</u>	<ul style="list-style-type: none"> <li>Increased trade within the BSR especially between West-East leads to increased volumes to be transported.</li> <li>The coming into force of the sulphur emission control area in January 2015 as well as the expected Ballast Water Convention are important external drivers, which in the short term lead to higher costs, but in the medium term put pressure on shipping companies to turn to more efficient, greener and safer, high-tech solutions, which are also offered by BSR companies.</li> <li>Due to competition with other transport modes (road, railway) there is an overall urge for higher efficiency, i.e. cost / time efficiency, reliability, quality.</li> <li>With increasing traffic density, vessel size and dangerous good transportation come higher efforts to prevent accidents.</li> <li>There is high level of continuous research, development and innovation throughout all BSR countries as well as well-developed maritime clusters.</li> <li>Well-developed port infrastructure and good network of facilities and modern operating environments</li> <li>Port of Gothenburg being a forerunner in shore side electricity systems – SE/DE granted tax exemption for shore side electricity</li> <li>National maritime strategies addressing short-sea shipping are in place or in preparation in most MS</li> </ul>	<ul style="list-style-type: none"> <li>The current caution of banks in financing ships (in BSR even over-proportional compared to other regions) due to the economic crisis and the price pressure due to over-capacity of global ship tonnage means that shipping companies are hampered in investing into new, more efficient solutions.</li> <li>BSR ports are currently lagging behind in developing “smart” infrastructure, i.e. related to LNG terminal network, shore-side electricity systems, hinterland infrastructure.</li> <li>Lack of incentives for “first movers” as lack of compliance checking systems, later enforcement of environmental regulations, consumer awareness (lack of market pressure)</li> <li>Infrastructure projects which increase competitiveness of other transport modes (i.e. road development)</li> <li>Overall increased costs in shipping foreseen due to compliance needs to environmental regulations</li> </ul>
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<p>Synergies at sea basin level</p>	<p>The overall sector of maritime transport is a competitive one with both shipping companies and ports competing among each other across the BSR. Furthermore the sector has no marked tradition for sea-basin approaches given the fact that regulation is mainly done at the international / global level (IMO) and has for a long time enjoyed “freedom of the sea”. Thus, also at the institutional level cooperation has tended to be more globally oriented than developing specific BSR branches.</p> <p>There is, however, a strong interdependence between Member States in sending and receiving goods across the basin and with the enforcement of BSR specific environmental and safety regulations there is a growing need to find joint BSR specific solutions to the challenges related to the safety, efficiency, competitiveness and sustainability of maritime transport within the BSR.</p> <p>In fact, in order for increased environmental and safety standards to materialise into growth rather than decline of the sector, the economic actors must cooperate more effectively with each other in a) creating the necessary port infrastructure (i.e. LNG / OPS), b) creating a common standard among ports, e.g. in view of safety regulations, environmental port dues, OPS, c) introduce new systems based on innovative technology allowing for compliance checks, d) creating intelligent data and information networks which for instance allow for a common risk assessment (e.g. Ballast Water) and e) ensure that the necessary finance is available for the related investments.</p>				

	There is a strong interrelation between Blue Growth and the other Integrated Maritime Policy areas. Effective maritime surveillance serves as an enabler to achieve a level playing field for compliance to environmental and safety regulations and common and coherent safety regulations, increasing the operational and thus also economic efficiency of shipping. Cross-border maritime spatial planning may in the future play an increasing role in developing intelligent routes, designated routes, traffic separation schemes, networks of port development areas and transnational contingency planning, while also potentially leading to the rearrangement of shipping lanes in order to best fit the integrated allocation of space across all maritime uses. In view of shore-side electricity systems important linkages exist also with smart grid developments and use of renewable energy sources.		
Level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>Competitive sector</li> </ul>		<b>Sea basin level</b> <ul style="list-style-type: none"> <li>National complementarities</li> <li>Efficiency of shipping routes</li> <li>MARPOL regulations for cleaner &amp; safer shipping (SECA, NECA, Ballast Water)</li> <li>Energy Taxation Directive</li> </ul>
Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b>  7. Promoting sustainable transport and removing bottlenecks in key network infrastructures	<b>Investment priorities</b>  Supporting a multi-modal Single European Transport Area by investing in the Trans-European Transport Network (TEN-T) network ( <i>EU Regulation proposal 2011/0275, Art.5, 7 a</i> )  Developing environment-friendly and low-carbon transport systems ( <i>EU Regulation proposal 2011/0275, Art.5, 7 c</i> )

### 3.2.3 Passenger ferry services

Definition of the MEA and value chain	<p>The MEA Passenger ferry services relates to transporting passengers on fixed sea routes, both nationally and internationally (mainly intra-Europe). The value chain as captured by the methodology of this study is similar to that of Short-sea shipping with the addition of tourist and passenger handling services, as follows:</p> <ul style="list-style-type: none"> <li>Operation of ships (shipping freight)</li> <li>Port services and logistics (operating terminals, handling cargos, storage, VAL, port management)</li> <li>Accommodation</li> <li>Retail / sales</li> <li>Tourism related services</li> <li>Other maritime services (bunkering, ship repair, pilotage, etc.)</li> </ul>																						
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Quantitative assessment (based on data from country fiches)	<p>Passenger ferry services is (on the sea basin level) the 5<sup>th</sup> largest MEA in the Baltic Sea (based on GVA and employment). It features among the 7 largest MEAs in all MS except Germany and Poland.</p> <p><b>Total GVA on the sea basin (2010): € 1,98 billion</b>  <b>Total Employment on the sea basin (2010): 25.616 jobs</b></p> <p>Despite the impact of the economic crisis the MEA has seen esp. in GVA a positive development</p>																						

	between 2008 and 2010: <b>CAGR of the total GVA on the sea basin (2008 - 2010): 7,7 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): -0,7 %</b>					
Special characteristics and further trends	<ul style="list-style-type: none"><li>• In Finland the turnover of coastal and maritime passenger transport grew by 8% between 2007 and 2011. Sea passenger transport (international transport) accounts for 95% of the turnover of passenger transport.</li><li>• In Denmark at the end of 2012 / beginning of 2013 - an increase in the total number of passengers was observed and several growth drivers have been identified (despite threats by new fixed links like the Fehmarn belt): first, the sector is investing into building new faster ferries for long distance routes (trips over 1 hour) as well as into environmentally friendly small ferries operating on short routes (ca. 15 minutes). Another factor is the strong price competition between ferry lines and the bridges over the Great Belt and Oresund (and Fehmarn belt in the future).</li><li>• In Latvia 786.000 passengers embarked/disembarked in 2011, which is 16,4% more than in 2010 and represents 0,2% of the EU-22 total. The development programme of Riga Freeport (2009-2018), one of the leading ports for passenger traffic, also emphasises the development potential of passenger traffic.</li><li>• In Sweden the traffic slightly but steadily decreased between 2008 and 2012 to fall below 30 million passengers in 2012. Still, the Swedish Agency for Economic and Regional Growth is expecting growth for the coming years.</li></ul>					
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	2,00	4,00	2,00	6,00	4,00	7,00
	Overall, Passenger ferry services was assessed quite positively across the whole sea basin (5 <sup>th</sup> highest score of all MEAs). Across the Baltic Sea, it scores high in terms of sustainability, spill-over effects and policy relevance. It was chosen by Denmark, Finland, Latvia and Sweden as one of their most promising MEAs for future growth. Innovative development towards being more environmentally friendly plays an important role in the MEA's future in Denmark and Finland.					
Drivers and barriers  (for growth at sea-basin level)	<b><u>Drivers</u></b>			<b><u>Barriers</u></b>		
	<ul style="list-style-type: none"><li>• Funding for research concerning passenger ships and port infrastructure is available.</li><li>• Growth in tourism and business travels has a positive impact on passenger ferry services.</li><li>• Innovation with regard to LNG fuels constitutes a chance for development of the sector.</li><li>• There is a long tradition in integrated policies and good cooperation on regional and municipal levels.</li><li>• Maritime clusters are well developed</li></ul>			<ul style="list-style-type: none"><li>• Funding and investment have decreased during the economic crisis.</li></ul>		
Synergies at sea basin level	Mainly same ports as in short-sea shipping  Challenges & opportunities provided due to environmental regulations are the same as for short-sea shipping. It should, however, be noted that ferry services are particularly well suited for joint innovative – environmentally sound - solutions such as use of LNG fuel and shoreside electricity systems as these solutions are particularly well suited for shipping lines that commonly berth at the same dock and reduction of air pollution being particularly relevant for passenger ships which berth also within inner harbours. The government funded newly introduced LNG ferry link between Stockholm and Helsinki (Viking Line) may serve as an example for other such ferry destinations / links.					

Level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>Competitive sector</li> <li>The majority of ferry connections in absolute numbers are national</li> </ul>		<b>Sea basin level</b> <ul style="list-style-type: none"> <li>Cross-border connections are economically much more important than national connections (e.g. in Finland 95% of GVA relates to international traffic)</li> </ul>
Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b> <p>7. Promoting sustainable transport and removing bottlenecks in key network infrastructures</p> <p>4. Supporting the shift towards a low-carbon economy in all sectors</p>	<b>Investment priorities</b> <p>Developing environment-friendly and low-carbon transport systems and promoting sustainable urban mobility; (EU Regulation proposal 2011/0275, Art.5, 7, b)</p> <p>Promoting the production and distribution of renewable energy sources;</p> <p>Promoting energy efficiency and renewable energy use in SMEs; (EU Regulation proposal 2011/0275, Art.5, 4, a+b)</p>

### 3.2.4 Fish for human consumption

Definition of the MEA and value chain	<p>This maritime economic activity concerns the catching, processing and sale (both wholesale and retail) of fishery products fit for human consumption. It does not comprise fishing, processing or sale of fish or fish products for feed, which is considered as a separate MEA. The processing of fish for human consumption also includes fish produced via marine aquaculture.</p> <p>Fishing products themselves may be caught locally or in other seas (though most of the catch does come from the Baltic) and the processing industry may deal with national catches or imported fish. The main actors in this sector’s value chain are the fishermen and fishing companies, the processing sector, the wholesale markets and the retail and food service industries.</p> <p>The main species caught in the Baltic Sea region are sprat, herring and cod. Other species in lower volumes include salmon, mackerel, flounder, smelt and perch. Frozen, salted and smoked fish, as well as preserves and canned fish are among the main products of the fish processing industry.</p>																																
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Quantitative assessment  (based on data from country fiches)	<p>The fisheries sector in the BSR has a very long history and its current economic importance across the region is undeniable. The sector ranks among the top five for its size in all of the MS. Furthermore, in LT, LV and PL it is the MEA (2<sup>nd</sup> largest in DE and SE, 3<sup>rd</sup> in EE). In the Baltic countries the processing and trading of fish and fish products creates trade surpluses.</p> <table><tr><td></td><td colspan="2">Share of processing and sales in total MEA</td></tr><tr><td></td><td>GVA</td><td>Employment</td></tr><tr><td>Denmark</td><td>50%</td><td>71%</td></tr><tr><td>Estonia</td><td>78%</td><td>48%</td></tr><tr><td>Finland</td><td>85%</td><td>N/A</td></tr><tr><td>Germany</td><td>98%</td><td>98%</td></tr><tr><td>Latvia</td><td>77%</td><td>76%</td></tr><tr><td>Lithuania</td><td>92%</td><td>88%</td></tr><tr><td>Poland</td><td>37%</td><td>/A</td></tr><tr><td>Sede</td><td>N/A</td><td>N/A</td></tr></table> <p><b>Total GVA on the sea basin (2010): € 3,83 billion</b> <b>Total <i>Employment</i> on the sea basin (2010): 117.350 jobs</b></p> <p>It is highly important to note that while the figures vary from country to county, the fish processing and sales component of this MEA actually accounts for the majority of the sector’s GVA and employment. as can be seen in the table below. Fish processing is often highly export</p>				Share of processing and sales in total MEA			GVA	Employment	Denmark	50%	71%	Estonia	78%	48%	Finland	85%	N/A	Germany	98%	98%	Latvia	77%	76%	Lithuania	92%	88%	Poland	37%	/A	Sede	N/A	N/A
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Poland	37%	/A																															
Sede	N/A	N/A																															



	<p>oriented (mainly intra-BSR trade including Russia) with Estonia exporting up to 75% of its fish volume, Denmark and Latvia up to 90%.</p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): 6,6 %</b>  <b>CAGR of total Employment on the sea basin (2008 - 2010): 2,7 %</b></p>					
Special characteristics and further trends	<p>In terms of growth, although the MEA only grew in FI, DE and SE between 2008 and 2010, the sector is nevertheless ranked among the 7 MEAs that best performed during 2008-2010 in all BSR countries except Denmark. And this is the case despite the global economic crisis, which affected the fishing sector throughout the region. Following the crisis, the dynamics of the sector have largely reversed. Although in many countries the number of fishing vessels and employed persons in both fishing and fish processing sectors is still decreasing, both the value of catches and the efficiency of the fishing and fish processing companies have increased. In many of the region's countries this MEA has significant importance in providing employment opportunities in coastal areas and contributing to the overall development of coastal regions.</p> <p>With an outlook on the future, the sector holds potential primarily in the eastern Baltic countries (EE, LV and LT), as well as in DK (a special case as the largest fisheries export nation in the region and having access to both Baltic and North Seas). This is mostly due to the importance of the fish processing and trading industries in these countries and less so in relation to future prospects for the fish catching component. This is also in large part due to the growing demand from the Russian market and good competitive position given low labour costs in the Baltic States.</p>					
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	3,3	3,0	0,0	6,0	3,0	4,3
	<p>Seven of eight countries score it very highly in terms of policy relevance in view of the extensive regulations and management plans governing the sector at both national and EU levels. A successful fisheries sector is closely associated with the management, protection and sustainable use of shared fish resources and is thus likely to remain high on political agendas. As long as catch quotas and other policies and management plans are enforced, the sector can contribute to the sustainable development of coastal regions and the conservation and protection of biological diversity, including the recovery of fish stocks, which is why it also scores high in terms of its sustainability in five of the Baltic Sea countries (DK, EE, FI, LV, LT).</p>					
Drivers and barriers (for growth at sea-basin level)	<b>Drivers</b> <ul style="list-style-type: none"> <li>Applied research on stock assessments found around region; good local knowledge about fish resources.</li> <li>Level of innovation varies significantly, DK showcasing very innovative post-harvest sector in terms of equipment and product development.</li> <li>Russian and Ukrainian markets are large and offer some credit for companies' development. Limited public funding is also available through national sources (business start-up capital) and EFF.</li> <li>Good local public engagement; regional coastal governments are strong advocates of the sector. All countries have fisheries-relevant strategies in place.</li> </ul>			<b>Barriers</b> <ul style="list-style-type: none"> <li>Technological development remains a barrier in Baltic states, where fishing fleets are often very old and obsolete. Competition is strong and increasing across the region – particularly in relation to CIS markets – and thus technological and product innovation remain critical.</li> <li>Private financing is limited and access to credit and loans difficult, bank crediting policy post-crisis is more oriented towards enterprises with stable financial performance and market position.</li> <li>Personnel becoming a limiting problem, jobs not as appealing as before, aging work force, decreasing numbers of specialists and fishermen capable of working aboard fishing vessels and increasing difficulties in attracting young people.</li> </ul>		

Synergies at sea basin level	<p>Aside from Denmark, this MEA will continue to be relevant and promising mainly in the eastern Baltic states, therefore the focus of cooperation should predominantly be among these latter countries and in the context of fostering trade, particularly with CIS markets, where demand is expected to continue growing.</p> <p>In the context of fish catching, given both intense competition for shared fisheries resources and the dependence of the sector on the health of the marine ecosystem and its fish stocks, strong international cooperation is necessary to achieve an economically, socially and environmentally sustainable fisheries industry. This cooperation should be primarily focused around implementation, control and enforcement of the European Common Fisheries Policy.</p> <p>In this context there are also strong linkages with all other three IMP areas. Maritime surveillance and environmental monitoring are important for achieving Good Environmental Status and also form the necessary information basis for achieving a better integration of fishery as part of integrated maritime spatial planning, ensuring “blue connectivity”.</p> <p>Since fishing fleets remain too large in relation to available fish resources, basin-wide cooperation efforts should focus on the need to reallocate part of the employed sector towards more friendly production methods and support diversification of local economies. One particularly important area for this re-direction of development strategies, funding and capacities is towards sustainable aquaculture, which has potential for sustainable growth across the basin.</p>		
Level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>• Total allowable catches allocated by MS (fishing quotas)</li> <li>• Not an issue of paramount importance for the EU.</li> </ul>	<b>Sea basin level</b> <ul style="list-style-type: none"> <li>• Implementation, control and enforcement of the European Common Fisheries Policy</li> </ul>	
Potential source(s) of funding	<b>European Maritime and Fisheries Fund</b>	<b>Thematic objective(s)</b> <p>3. Enhancing the competitiveness of SMEs, the agricultural sector and the fisheries and aquaculture sector</p>	<b>Investment priorities</b> <p>Fostering innovative, competitive and knowledge based fisheries through the enhancement of the competitiveness and viability of fisheries, in particular of small scale coastal fleet, and improvement of safety or working conditions. (<i>EU Regulation proposal 2011/0380, Art.6, 2, b</i>)</p>

### 3.2.5 Marine aquaculture

Definition of the MEA and value chain	<p>This economic activity consists of the farming of marine aquatic organisms – finfish, shellfish, and plants and algae (currently marginal in the Baltic Sea) – mainly (though not exclusively) for human consumption. The main actors in the value chain include the aquatic product farmers and the harvesters (which sometimes differ from the producers). <b>Processing and distribution of marine aquaculture products is included in the processing sector of Fish for human consumption.</b> In addition, the research, development and innovation sector is a critical player in this field, as marine aquaculture remains a relatively “new” marine economic activity, one still highly dependent on new technological developments.</p> <p>With regards to finfish, three methods of cultivation can be found in the region: open net cages at sea, land-based saltwater farms (ponds or tanks with water treatment measures) and seawater recirculation systems, also known as Recirculating Aquaculture Systems or RAS. In the Baltic Sea, most aquaculture sites developed so far are located in coastal waters or onshore while offshore aquaculture is not yet developed. In terms of shellfish production, this translates currently mainly into farming of blue mussels on long-lines in coastal waters. The commercial cultivation of algae (for food and feed, biochemical substances, bioenergy or removal of nutrients) is still a relatively new and limited field in the region, with the sector mainly still in the R&amp;D stages.</p> <p><i>*Note that inland aquaculture is not included in this study. However, brief information about</i></p>
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	inland aquaculture around the Baltic Sea region countries is provided in Annex 5.																						
MS priorities	Identified in the country fiches as one of the most promising MEAS in: <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td></td></tr></table>							DK	SE	FI	EE	LV	LT	PL	DE	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	
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<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>																	
Quantitative assessment  (based on data from country fiches)	<p>In the Baltic Sea, the state-of-play of this sector differs substantially between the countries in the region and consequently there are different levels of expectations towards the sector's development from country to country. Although the activity remains relatively limited in economic scale in all of the region's countries (FI and DK are the largest countries, but it not ranking among the largest maritime economic activities in terms of GVA and employment in any of them), the sector was ranked among the five fastest growing during the 2008-2010 period in DK and PL and is considered to be among the MEAs with most future potential in DK, PL, SE and DE.</p> <p><b>Total GVA on the sea basin (2010): € 24 million</b> <b>Total Employment on the sea basin (2010): 676 jobs</b></p> <p>The above figures don't comprise any data for DE (in Germany this MEA was up until 2010 mostly in the North Sea) and the 3 Baltic States. The same applies for the following CAGR on the sea-basin:</p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): 13,3 %</b> <b>CAGR of total Employment on the sea basin (2008 - 2010): -6,2 %</b></p>																						
Special characteristics and further trends	<p>In the Baltic Sea, natural conditions for marine aquaculture are not ideal. Only the Scandinavian countries (Finland, Sweden, Denmark) have hydrological conditions suitable for open net cage systems, which are so far still the dominant form of mariculture. These countries also have developed an aquaculture tradition (even though at an overall low level), which does not exist in other BSR countries. Environmental concerns and resulting restrictions have stopped the sector to grow during the last decades, but at the same time has put pressure on companies to develop innovative, sustainable solutions, which increasingly bear fruit.</p> <p>Recently mariculture in DK has made a considerable step forward, with a 7-fold increase in produced volumes since 2008, producing mainly rainbow trout (onshore) and blue mussels (mostly farmed in the North Sea region for water salinity reasons). DK has also been increasingly successful in applying recirculating aquaculture systems (RAS).</p> <p>In addition to these two species, SE also produces arctic char. Production volumes in SE have also increased significantly in recent years. SE has launched an aquaculture strategy 2012-2020 aimed at strengthening the development of sustainable aquaculture including simplifying the administration and the environmental legislation of the aquaculture sector. It also aims at production increases through improved competition (i.e. competency development at all levels, product development, investments and specialisation). In DE, production of blue mussels is also predominantly North Sea oriented, though growing scientific research on marine fish aquaculture in RAS offers promise for the Baltic region.</p> <p>In the case of PL, the outlook is focused not on fish aquaculture for human consumption, where the sector remains very small, but rather in the potential for using aquaculture for removal of nutrients, potentially via mussel farming, for which pilot projects are under way. PL has very substantial phosphorus and nitrogen load reduction targets by 2021 according the Baltic Sea Action Plan of HELCOM, which will be impossible to achieve through conventional approaches only. This gives the use of shellfish and algae aquaculture for water quality improvement promising perspectives for this country.</p>																						
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability																	
	5,0	2,3	-0,7	5,0	4,0	5,0																	
	The sector ranks particularly high in its innovativeness (due to its very close linkage to technological developments), policy relevance (given both EU and national strategies and policies																						

	fostering and regulating the industry) and sustainability (due to the impending decreases in traditional fishing, consequent shifts towards aquaculture, pressure to address environmental challenges within the sector itself as well as even offering solutions to environmental problems), with five out of six countries in the region assigning it positive scores (DK, DE, FI, SE and PL). It also ranks high in its spill-over effects onto other economic activities (due to synergies with other sectors such as traditional fisheries, tourism, environmental monitoring or potentially offshore wind farms) with four countries also scoring it positively (DK, DE, SE and PL).	
Drivers and barriers (for growth at sea-basin level)	<b>Drivers</b> <ul style="list-style-type: none"> <li>• World-wide a significantly growing demand for aquaculture products - also in Europe and the Baltic Sea a very high percentage of fish is already by now coming from aquaculture</li> <li>• In Europe already increased focused on aquaculture (through call for development of aquaculture national strategies)</li> <li>• Significant number of research programmes focused on aquaculture in DK, SE and DE.</li> <li>• Environmental rules are particularly stringent, which has led to strong innovation, particularly in the development of recirculation technologies.</li> <li>• Funding is available from EFF as well as from national sources (in DK and SE). In addition, the BONUS research programme will soon issue a call related to aquaculture.</li> <li>• General interest from business sector varies: DK, SE and FI there is demand from “old” businesses to expand into this sector.</li> <li>• In DK, a number of associations are highly involved and strong advocates. SE launched national aquaculture strategy with vision for production towards 2020 and sector is perceived as safe, long term and prosperous in the political sphere.</li> <li>• Increasing interest of consumers in regional food products, growing awareness of sustainability issues related to food / fish imports</li> </ul>	<b>Barriers</b> <ul style="list-style-type: none"> <li>• Communication between research and industry still remains a weak point.</li> <li>• Permitting process for running aquaculture activities is quite heavy and new licenses are difficult to obtain.</li> <li>• Private financing is limited and access to credit and loans difficult and so far no payment schemes exist that attach a value for the nutrient reduction services offered by algae and/or mussel cultivations.</li> <li>• General interest from the business sector varies: in countries with no aquaculture tradition there is no demand from the business sector yet.</li> <li>• No clear integration of aquaculture exists yet within MSP and planning is done at the local scale. Conflicts of interest are high with environmental protection and industrial and service sectors.</li> <li>• There are also a number of image problems not only in regard to environmental issues but the overall (political) acceptance of aquaculture being at a level playing field with agriculture.</li> </ul>

Synergies at sea basin level	<p>Increased coherence / knowledge / good practice exchange via information exchange on national aquaculture strategies currently being developed</p> <p>Cooperation and funding for R&amp;D and implementation of pilot sites and feasibility studies could allow for a more sustainable fish aquaculture industry in the Baltic Sea.</p> <p>Improved development and interpretation of the legal framework in terms of environmental protection (e.g. region-specific nutrient calculations, nutrient payment schemes).</p>
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	<p>Integrated MSP across the region may lead to better site selection, which is based on “best sites” for each species rather than safeguarding available sites</p> <p>Image improvements (for increased consumer demand for more eco-friendly and locally produced products and to develop and improve labelling and certification systems).</p>		
Level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>For food production: strong dependence on national regulations (licensing, etc.)</li> <li>Growing demand for locally produced farmed products.</li> <li>For nutrient reduction: strong dependence on national regulations (licensing, etc.)</li> </ul>	<b>Sea basin level</b> <ul style="list-style-type: none"> <li>Acceptance of algae and shellfish farming for environmental services and IMTA solutions needs strong EU-supported actions both at R&amp;D level as well as on regulatory basis</li> </ul>	
Potential source(s) of funding	<b>European Maritime and Fisheries Fund</b>	<b>Thematic objective(s)</b> <p>3. Enhancing the competitiveness of SMEs, the agricultural sector and the fisheries and aquaculture sector</p>	<b>Investment priorities</b> <p>Fostering innovative, competitive and knowledge based aquaculture through the enhancement of the competitiveness and viability of aquaculture enterprises, SMEs in particular. (EU Regulation proposal 2011/0380, Art.6, 3, b)</p>

### 3.2.6 Blue biotechnology

Definition of the MEA and value chain	<p>This MEA covers the use and transformation, through biotechnical processes, of raw material from marine living resources as precursors of bio-molecules used for high value products. Blue biotech is the only biotechnological sector defined by the part of the biosphere explored rather than by the process targeted. Marine organisms used for blue biotechnology can be both microorganisms, such as bacteria, fungi and microalgae, or macroorganisms, such as macroalgae and mussels. They are directly used as biomass or as producers of valuable ingredients such as active biological compounds, pigments, antioxidants, vitamins, fatty acids, enzymes, polymers or other biomaterials. High value marine products and technologies can have a wide range of applications in health, food, feed, cosmetics, aquaculture, agriculture, industrial processes, environmental remediation, environmental monitoring and research tools.</p> <p>The key players in this sector are multiple and depend on the type of applications produced. In general, the value chain involves the R&amp;D sector (searching for active ingredients, researching production strains, etc.), those involved in the harvesting or cultivation of the organisms, those involved in the processing of the raw material (e.g. biomass extraction and processing, product development, chemical processing, etc.), those involved in testing the products or applications once they are developed (e.g. clinical or dermatological tests), and those involved in the up-scaling, marketing and sale of the final products.</p>																
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td></tr></table>	DK	SE	FI	EE	LV	LT	PL	DE								<input type="checkbox"/>
DK	SE	FI	EE	LV	LT	PL	DE										
							<input type="checkbox"/>										
Quantitative assessment  (based on data from country fiches)	<p>At the moment the blue biotechnology industry in the BSR is still nascent and very much focused on research and development. It still has very limited economic performance (doesn't rank among the largest or fastest growing MEAs in any MS in terms of GVA and employment size) and plays only a small role in the development plans of the region. For 2008 - 2010 there is no data available on GVA and employment in this MEA (mostly because it is non-existent but also as it is too limited to be quantified or not captured by statistics)</p>																

Special characteristics and further trends	Blue biotechnology remains too limited to compete with more established and traditional MEAs. Currently only Germany could be said to have highly developed biotechnology in the region. While competence centres and private companies working on blue biotechnology topics can be found in all countries around the Baltic Sea, Germany and in particular the State of Schleswig-Holstein is considered as the leader in this field and was selected as the benchmark case for blue biotechnology within the Baltic Sea Blue Growth study. Schleswig-Holstein stands at the frontline of this sector with a clear development strategy – the Masterplan for Marine Biotechnology – and a substantial number of active R&D institutions. Denmark has also made strides to foster this sector, setting a strategic direction for the nation’s blue biotechnology industry. In addition to Germany, Poland also ranks this sector among the maritime economic activities with most future potential in the years to come.												
Assessment of Blue Growth potential	<table><tr><td>Innovativeness</td><td>Competitiveness</td><td>Employment</td><td>Policy relevance</td><td>Spill-over effects</td><td>Sustainability</td></tr><tr><td>4,0</td><td>0,7</td><td>1,3</td><td>3,0</td><td>3,0</td><td>4,0</td></tr></table> <p>Across the Baltic Sea, this MEA scores highly (DK, DE, PL, SE) in its innovativeness due to the highly technological aspects of the industry and in its sustainability, given the expected positive rather than negative impacts on the environment, with the potential for development of innovations such as non-toxic anti-fouling, bio-remediation agents, solutions for aquaculture or enzymes for improving bioenergy processes among others. Germany, Poland and Sweden also score it positively for its policy relevance, with rapidly growing interest and support from EU policy makers, and for its spill-over effects onto other wide ranging economic activities, from the pharmaceutical and food industries to environmental monitoring.</p>	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	4,0	0,7	1,3	3,0	3,0	4,0
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Drivers and barriers  (for growth at sea-basin level)	<table><tr><td><b>Drivers (in DE)</b><ul style="list-style-type: none"><li>• A number of research centres and universities are involved in blue biotechnology projects around the region. Technologies necessary for bio-prospecting are already established in some countries, providing good basis for technology transfer.</li><li>• In DE, new SMEs working on blue biotech expect growth in coming future to be stimulated by expected increases in expenditures for blue biotech from public R&amp;D programmes (DE is part of the recent ERA-NET network on marine biotechnology), but also from investments by the cosmetic, pharmaceutical, food and chemical industries.</li><li>• Existing local and international networks in the BSR that cover related fields like life sciences or biotechnology (e.g. Life Science Nord, ScanBalt, ERA-NET) provide good basis for promoting the blue biotechnology sector.</li><li>• In DK and DE blue biotechnology is recognised as a strategic sector.</li></ul></td><td><b>Barriers (in DE)</b><ul style="list-style-type: none"><li>• Blue biotechnology often falls at the periphery of most funding programmes. This is a substantial barrier to development, considering the high costs of innovation and the long time needed for new applications to reach the market.</li><li>• There are still no specialised degrees and training in blue biotechnology for professional (non-academic) qualifications, in technical and commercial schools. In some countries this translates into a skills shortage, especially in the necessary cross-cutting disciplines.</li><li>• Low level of awareness in most MS about economic and scientific potential of blue biotechnology translates into general lack for support for the field.</li></ul></td></tr></table>	<b>Drivers (in DE)</b> <ul style="list-style-type: none"><li>• A number of research centres and universities are involved in blue biotechnology projects around the region. Technologies necessary for bio-prospecting are already established in some countries, providing good basis for technology transfer.</li><li>• In DE, new SMEs working on blue biotech expect growth in coming future to be stimulated by expected increases in expenditures for blue biotech from public R&amp;D programmes (DE is part of the recent ERA-NET network on marine biotechnology), but also from investments by the cosmetic, pharmaceutical, food and chemical industries.</li><li>• Existing local and international networks in the BSR that cover related fields like life sciences or biotechnology (e.g. Life Science Nord, ScanBalt, ERA-NET) provide good basis for promoting the blue biotechnology sector.</li><li>• In DK and DE blue biotechnology is recognised as a strategic sector.</li></ul>	<b>Barriers (in DE)</b> <ul style="list-style-type: none"><li>• Blue biotechnology often falls at the periphery of most funding programmes. This is a substantial barrier to development, considering the high costs of innovation and the long time needed for new applications to reach the market.</li><li>• There are still no specialised degrees and training in blue biotechnology for professional (non-academic) qualifications, in technical and commercial schools. In some countries this translates into a skills shortage, especially in the necessary cross-cutting disciplines.</li><li>• Low level of awareness in most MS about economic and scientific potential of blue biotechnology translates into general lack for support for the field.</li></ul>										
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Synergies at sea basin level	Although technical competences are available in several of the BSR countries and many of the basic elements are there for the sector to be able to expand rapidly, blue biotechnology initiatives												

	<p>remain disjointed efforts or projects, mainly driven by individual researchers and/or institutions.</p> <p>No cohesive strategic plan is available for the development of this sector in the Baltic Sea region as a whole. An integrated development strategy for blue biotechnology in the region could go a long way to mobilise scattered human capital, focus dispersed infrastructure and enhance technology transfer and collaborative activities.</p>		
Level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>Mainly concerns DE and DK only</li> </ul>		<b>Sea basin level</b> <ul style="list-style-type: none"> <li>An integrated development strategy for blue biotechnology in the region could help mobilise scattered human capital, focus dispersed infrastructure and enhance technology transfer and collaboration.</li> </ul>
Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b> <ol style="list-style-type: none"> <li>Strengthening research, technological development and innovation</li> </ol>	<b>Investment priorities</b> <p>Supporting the development of endogenous potential by supporting regional and local development and research and innovation, including support to public research and innovation bodies and investment in technology and applied research in enterprises. (EU Regulation proposal 2011/0275, Art.3, 1, d,)</p>

### 3.2.7 Offshore wind

Definition of the MEA and value chain	<p>Offshore wind energy refers to the development and construction of wind farms in marine waters and the conversion of wind energy into electricity. Offshore wind speeds are higher and the more uniform wind speeds mean less wear and tear for the turbines. At the same time, the offshore environment is harsher than on land and construction and maintenance costs much higher. Nevertheless, offshore wind is the cheapest and most mature of the offshore renewable energy technologies. But it is still an industry in its infancy.</p> <p>The value chain of this MEA contains:</p> <ul style="list-style-type: none"> <li>Research, development and demonstration</li> <li>Feasibility and impact assessment</li> <li>Project planning and design</li> <li>Turbine manufacture</li> <li>Site installation and connection to the grid</li> <li>Operation</li> <li>Decommission</li> </ul> <p><i>*Note: further information pertaining to technology development expertise for offshore wind as well as for other sources of renewable offshore energy is provided in Annex 5.</i></p>																						
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DK	SE	FI	EE	LV	LT	PL	DE																
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>																
Quantitative assessment (based on data from country fiches)	<p>There is a strong West-East divide within this MEA – with offshore energy being almost exclusively concentrated in Denmark, Germany, Sweden and (to a very small extend) Finland. Only in DE and DK offshore wind has reached a substantial size.</p> <p><b>Total GVA on the sea basin (2010): € 192 million</b>  <b>Total Employment on the sea basin (2010): 1,756 jobs</b></p> <p>During the reference period 2008-2010, offshore wind energy showed the highest growth of all</p>																						

	MEAs around the BSR. However, this growth resulted almost exclusively from developments in Germany with some growth also seen in Denmark.					
	<b>CAGR of the total GVA on the sea basin (2008 - 2010): 20,2 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): 18,3 %</b>					
Special characteristics and further trends	Within the Baltic Sea, offshore wind park capacities are almost exclusively installed and also planned in Denmark, Germany and Sweden. Finland has so far a small pilot plant only.					
		Installed (in 2013)		Approved / Planned		
	Denmark	12 parks / 921 MW		+ 1.447 MW by 2020		
	Germany	50 MW		+ 1.200 MW approved		
	Sweden	5 parks / 164 MW		+2.500 MW		
	Recent figures (2010-2012) in Germany show very dynamic development with 60% employment growth and 70% increase in turnover. This development is mostly due to the current instalment of new capacities, i.e. the manufacturing of new turbines or the site installation. The site operation itself contributes so far only modestly to the GVA and employment in the German Baltic Sea. Furthermore, it should be stressed that in Germany the North Sea is much more important as a site for offshore wind parks (320 MW installed capacity and 8.800 MW approved). The supply sector (planning and engineering, manufacturing, etc.) for building these sites, however, is in the whole of Germany and creates also important employment and GVA effects in the Baltic coastal areas.					
	Denmark has most experience in offshore wind energy and is also world leader in wind turbine production.					
In Sweden several offshore wind farms are planned and have been authorised. Whereas by 2012 the SE targets for offshore wind were still indicated at a level of 182 MW only, the Swedish Land and Environmental Court approved by the beginning of 2013 a wind power project to be developed in the south of Sweden by Blekinge Offshore, close to Karlshamn. This farm will have 700 offshore wind turbines with a capacity of 2.500 MW (more than 15 times the total capacity currently installed in Swedish waters).						
In Poland there are still no offshore wind farms but the licensing process that was started in 2012 has so far resulted in 22 permits for use of the sea space for offshore energy production. Furthermore, some of the Polish shipyards have already engaged themselves in supplying this industry with necessary installations and equipment.						
In fact offshore wind energy is strongly dependent on national energy policies, i.e. renewable energy targets, respective availability of other (renewable) energy sources such as hydropower, and nuclear power policy. This is also the underlying reason why this MEA has so far less importance in other BSR countries, given the availability of other energy sources.						
On the other hand a study commissioned by BASREC, while confirming these real figures, defines DK and DE as “ambitious and experienced”, while Poland, Finland, Estonia and Latvia are defined as “ambitious but inexperienced”. Since no offshore wind capacities are installed in these countries yet, development potentials are according to this study particularly high in those countries, with the highest amount of potential sites to be found in Finland. At the same time they do not provide the necessary financial and regulatory framework for this to be achieved.						
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	4,0	5,0	4,0	5,0	3,0	5,0
Given the West-East divide, overall MEA scores are not as high as in some of the other MEAs, but very high scores in countries of concern (DK, SE, DE) reflect excellent R&D within the sector, world wide leadership and employment effects not only related to wind energy production but also the related construction of parks. It is highly driven by policy developments (national energy policy). It is not only linked to climate protection goals but site selection also depends on other environmental regulations.						



<p>Drivers and barriers</p> <p>(for growth at sea-basin level)</p>	<p><b><u>Drivers</u></b></p> <ul style="list-style-type: none"> <li>• By far the biggest drivers are national energy policies (guaranteed feed in remuneration).</li> <li>• Good availability / strong position of public and private R&amp;D – offshore wind energy clusters (DE: OWIA, WAB, windcomm, EEHH, WEN / DK: Zealand, LORC).</li> <li>• Generally finance available via feed-in, in DK pension funds invest in wind energy and turbines.</li> <li>• Pro-active designation of offshore wind park sites (in DE within MSP) and related grid infrastructure. In DE delays in grid development now tackled and about to finalise grid plan.</li> <li>• First examples of cross-border grid solutions.</li> <li>• Due to natural conditions in the BSR, there are lower investment and maintenance costs than in the North Sea due to shallower water.</li> </ul>	<p><b><u>Barriers</u></b></p> <ul style="list-style-type: none"> <li>• In other BSR countries there are currently other energy mix priorities, given other (renewable) energy resources. No distinction made in incentives provided to on- or offshore wind energy. Necessary financial and regulatory framework currently not in place.</li> <li>• Smart grid installations have to be in place in order to ensure delivery of energy to places where needed and being able to handle energy fluctuations. In DE delays in necessary grid installation, not only offshore, but also onshore leading to increasing caution by investors.</li> <li>• Offshore wind parks (as a new place based infrastructure) are often in competition for space with other uses (i.e. shipping, nature protection, tourism).</li> </ul>
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<p>Synergies at sea basin level</p>	<p>Especially Denmark / Germany are strong in research and development and company clusters (world leaders), allowing for synergies through joint R&amp;D.</p> <p>Defining a common BSR long-term strategy and action plan for offshore wind deployment 2020 and beyond may open offshore wind energy options also to BSR countries, where offshore wind energy is currently not yet developed, but may become an option in the future.</p> <p>Given the fact that the sector depends on national energy policy, alignment of energy policies (moving toward transnational energy markets) throughout the BSR is a key condition to generate sea-basin synergies apart from technology solutions. - Knowledge transfer from “frontrunner” countries also in terms of regulatory / financial framework, i.e. develop financial incentive regulations and development of cost structures, potentially engage in cross-country (virtual) demonstration projects in order to show effects of wind parks connected to more than one market.</p> <p>Cross-border MSPs have key enabling function.</p> <p>High added value can be found through cross-border / smart grids with optimum connection arrangements irrespective of national boundaries. In case cross-border smart grids exist, the energy does not need to be distributed to the country of production only, but can be distributed to places where it is most needed. As shown in the BASREC study, under such a scenario new potentials for sites open up also in countries where offshore wind is currently not yet developed as it is not necessarily needed to reach renewable energy targets.</p> <p>With more detailed environmental and social screening of potentially most attractive areas and sites (golden locations) through full SEAs / MSPs, better site selection is possible, i.e. offshore wind parks at most suitable places, which may be located in other BSR countries (energy to be transferred via super-grids).</p> <p>Synergies with other related (blue) MEAs, i.e. Shipbuilding and repair: Germany and Poland are suppliers of specialised offshore wind energy ships and platforms.</p>
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Level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>National policies of energy independence and security</li> </ul>		<b>Sea basin level</b> <ul style="list-style-type: none"> <li>Cross-border super-GRID / electricity market development</li> <li>Cross-border renewable energy mix</li> <li>Optimal selection of wind energy sites – integrated spatial planning approach with other sea uses / optimal land-sea integration / environmental screening</li> <li>BSR wide financing mechanism</li> </ul>
Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b>  4. Supporting the shift towards a low-carbon economy in all sectors	<b>Investment priorities</b>  Promoting the production and distribution of renewable energy sources ( <i>EU Regulation proposal 2011/0275, Art.5, 4 a</i> )  Developing smart distribution systems ( <i>EU Regulation proposal 2011/0275, Art.5, 4 d</i> )

### 3.2.8 Coastal tourism

Definition of the MEA and value chain	<p>Coastal tourism is understood to comprise tourist and recreational economic activities related to the sea and located in coastal areas. It does not comprise Yachting and marinas and Cruise tourism, which have been analysed as separate MEAs. As such, Coastal tourism includes beach-based recreation and tourism (e.g. swimming, surfing, sun bathing), non-beach related tourism in the coastal area (all other tourism and recreation activities that take place in the coastal area and for which the proximity of the sea is a pre-condition) – both in rural as well as in urban areas.</p> <p>The value chain of this activity comprises suppliers of accommodation, transport and other services but also tour operators and retailers.</p>																							
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>								DK	SE	FI	EE	LV	LT	PL	DE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Quantitative assessment  (based on data from country fiches)	<p>Coastal tourism is, on the sea basin level, the 2<sup>nd</sup> largest MEA in the BSR based on GVA and employment. In all eight MS it is among the seven largest MEAs and in Germany and Sweden it is even the largest.</p> <p><b>Total GVA on the sea basin (2010): € 3,06 billion</b> <b>Total <i>Employment</i> on the sea basin (2010): 127.000 jobs</b></p> <p>During the reference period 2008-2010, Coastal tourism in Germany and Sweden was among the seven fastest growing MEAs. While this trend underlines the importance of this sector in Germany and Sweden (these two countries also have the 2 highest size scores in coastal tourism of the whole BSR) it should also be noted that the CAGR on the sea-basin between 2008 and 2010 was negative due to the financial crisis.</p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): -1,9 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): 0,9 %</b></p>																							
Special characteristics and further trends	<p>Coastal tourism is a mature and well-developed MEA in the BSR. It has a proven ability to create jobs (also in related MEAs like Passenger ferry services, Water projects and Coastal protection) in both urban and remote rural areas. The vast majority of tourists come from the Baltic Sea region itself. Domestic tourists predominate in all MS. International tourists visiting the region are a rather untapped source that could generate additional growth in the future.</p>																							

	A long-term trend (10 years) on indicators for coastal tourism shows significant growth: between 2002 and 2011 the number of tourism arrivals increased by 33%. In the same reference period the overnight stays grew by 20% while increase in the number of tourism establishments (up 5% since 2002) and beds (up 8% since 2002) was less significant (Source BASTIS based on Eurostat data).					
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	1,0	7,0	8,0	5,0	7,0	6,0
	Across the BSR, this MEA scores highly in its employment potential (all 8 MS), its competitiveness (7 out of 8 MS) due to its competitive edge compared to other touristic areas in the EU and its spill-over effects onto other MEAs (7 out of 8 MS). On the other hand almost all MS noted a significant weakness in the innovativeness of this sector, as only ‘sun and beach’ and attractive ports are not enough.					
Drivers and barriers  (for growth at sea-basin level)	<b><u>Drivers</u></b>			<b><u>Barriers</u></b>		
	<ul style="list-style-type: none"><li>• Beautiful beaches, attractive cities and spectacular nature will continue to fuel Coastal tourism.</li><li>• The predicted impact of climate change seems to also create some opportunities from a tourism perspective (e.g. longer seasons, warmer air and water).</li><li>• Public seed money is mostly available.</li><li>• Castles or Hanseatic ports partly form thematic maritime clusters throughout the sea basin.</li><li>• This MEA is strongly influenced by EU and national environmental policies, in particular the implementation of EU Marine Strategy Framework Directive, the HELCOM Baltic Sea Action Plan and the EU Habitats Directive and Natura 2000.</li><li>• The good environmental status and water quality is a prerequisite for this MEA.</li></ul>			<ul style="list-style-type: none"><li>• High fragmentation and large amount of micro-entities in the market.</li><li>• Competition rather than cooperation often prohibits growth.</li><li>• Short season for coastal tourism.</li><li>• Low professionalism of the workforce across the sector (due to many micro-entities and short season).</li><li>• Fragmentation leads to entities that are too small to successfully market their product but nevertheless compete with each other.</li><li>• Micro-entities have not only less access to finance but are also less interested in investing in the product (e.g. second home owners).</li><li>• The introduction of marine protected areas limits the pressures that can be put on a location.</li></ul>		
Synergies at sea basin level	<p>For almost all MS (7 out of 8) Coastal tourism has been identified as priority.</p> <p>Synergies for transnational cooperation have been identified in improved accessibility via integrated connections.</p> <p>Positive synergies with other MEAs: Environmental monitoring, Marine aquatic products (food-based tourism products could stir demand of fresh, local fish and vice versa), Passenger ferry services, Yachting and marinas, Cruise tourism and Water projects.</p> <p>Joint efforts to improve the visibility of the region as a whole for international tourists benefit every MS.</p> <p>Alternative (innovative) tourism products that prolong the short season could also be applied by all MS.</p>					
Level at which to address priorities for Partnership Agreements	<b>MS level</b>			<b>Sea basin level</b>		
	<ul style="list-style-type: none"><li>• Coastal Tourism is a very competitive MEA</li><li>• Qualification of the work force</li></ul>			<ul style="list-style-type: none"><li>• Transboundary Connectivity</li><li>• Joint Marketing of the BSR as one product</li></ul>		

Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b>  4. Enhancing the competitiveness of SMEs, the agricultural sector and the fisheries and aquaculture sector <sup>9</sup> . Promoting social inclusion and combating poverty	<b>Investment priorities</b>  Promoting entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms;  Developing new business models for SMEs, in particular for internationalisation;  <i>(EU Regulation proposal 2011/0275, Art.5, 3, a+b)</i>  Support for physical and economic regeneration of deprived urban and rural communities;;  <i>(EU Regulation proposal 2011/0275, Art.5, 9, b)</i>
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### 3.2.9 Yachting and marinas

Area	Analysis																
Definition of the MEA and value chain	<p>The MEA Yachting and Marinas is understood to comprise services related to recreational shipping (yachting, sailing, etc.) and marinas. Furthermore, within this study the building of leisure and sport boats was also included in this MEA (and constituted a substantial part in terms of the quantitative analysis).</p> <p>Thus the value chain of this MEA comprises also the production of leisure and sports boats (incl. refit and services) but also the operation of marinas and the bunkering as well as the brokerage and charter and other services to yachtsmen .</p>																
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td><input type="checkbox"/></td><td></td></tr></table>	DK	SE	FI	EE	LV	LT	PL	DE			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
DK	SE	FI	EE	LV	LT	PL	DE										
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Quantitative assessment  (based on data from country fiches)	<p>Yachting and marinas is among the seven largest MEAs in Poland, Germany and Finland. In Poland the weight of the MEA is mostly related to the very good competitive position (globally) of the country in the building of leisure and sport boats. On the sea basin level Yachting and marinas is the 8<sup>th</sup> largest MEA in the Baltic Sea (based on GVA and employment).</p> <p><b>Total GVA on the sea basin (2010): € 588 million</b> <b>Total <i>Employment</i> on the sea basin (2010): 11.765 jobs</b></p> <p>During the reference period 2008-2010 yachting and marinas was shrinking in all MS except Poland, where it was also among the seven fastest growing MEAs. While this trend underlines the importance of this sector in Poland (especially in regards to building of leisure and sport boats) it has to be noted that the MEA was shrinking mostly due to the financial crisis during in the reference period.</p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): 4,1 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): -6,5 %</b></p>																
Special characteristics and further trends	<p>Yachting and marinas is an emerging MEA in the BSR that has substantially improved its potential for future growth in recent years by building many new marinas and nautical facilities throughout the sea basin. This is a prerequisite to attract a higher number of sailors, which have the possibility to go on a sailing trip to several countries, which offer long coasts, nice gulfs and attractive ports.</p> <p>In a scenario developed in 2010 HELCOM / WWF expect the number of marinas in the Baltic Sea to double up to 2020 (compared to 2010).</p> <p>In Germany a survey (2013) by the Federal Ministry of the Economy revealed that while over the last 5 years 8% of the interviewees had been sailing (13% motor yachting), for the next 5 years</p>																

	<p>some 30% could imagine to do so (and even some 40% motor yachting).</p> <p>In Estonia the development of a small network of marinas has occurred over the last ten years and this process is still ongoing.</p> <p>In Finland yachting and marinas had high growth between 1990 and 2008, but there was a hard decrease in 2009 mainly due to the financial crisis (-40%) but also to the sharp decline in the building of sports boats. The sector is recovering slowly and 2012 sales are at 2005 levels and for 2013 52 % of Finnboat's member enterprises (i.e. the Finnish association for leisure boat construction) forecast an increase in turnover for the year 2013, while 20 % anticipate expanding their workforce.</p> <p>In the production of motor yachts up to 10 meters long Poland is ranked second in the world after U.S. manufacturers. Same as Finland, Poland is dependent on exports (95% of sales) and thus the global market. After long years of growth (until 2007) there was a market shrinkage in 2008 and 2009 (when production decreased by more than 66% in comparison to 2007). In 2011 the industry regained the production level of 2008 but was still below production capacity.</p>					
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	8,00	6,00	4,00	0,00	8,00	5,66
	<p>The future potential of Yachting and marinas has been assessed very positively across the whole sea basin (3<sup>rd</sup> highest score of all MEAs). Across the Baltic Sea, this sector scores very highly in its innovativeness (all eight MS) as well as in its spill-over effects onto other MEAs (again all eight MS). On the other hand in almost all Member States the policy relevance of Yachting and marinas is limited. Hence there are only few regulatory actions and programmes (especially on the national and transnational levels) that help to develop the MEA.</p>					
Drivers and barriers  (for growth at sea-basin level)	<b><u>Drivers</u></b>			<b><u>Barriers</u></b>		
	<ul style="list-style-type: none"><li>• The Baltic Sea offers interesting and attractive sailing routes which also allow crossing the Baltic Sea with ease.</li><li>• Sailing is a environmentally friendly and sustainable form of marine tourism.</li><li>• The network of marinas has become more dense (not only in Finland and Sweden but also in the Baltic countries and Poland).</li><li>• The majority of marinas were recently built and offer a relatively high standards.</li><li>• Innovative know-how is present in the field of building sports and leisure boats, including a large programme for universities and private sector companies operating in this field in Finland.</li></ul>			<ul style="list-style-type: none"><li>• This MEA is not adequately tackled by national policies.</li><li>• Yachting and marinas is not addressed by the EUSBSR nor on the transnational level.</li><li>• Inadequate public transport from the marinas to the hinterland.</li><li>• A global decline in demand for sports and leisure boats would harm the MEA in the Baltic Sea.</li></ul>		
Synergies at sea basin level	<p>Yachting and marinas has been identified as one of the six most promising MEAs in three Member States: Poland, Estonia and Finland, which consider it as one of their core Blue Growth areas.</p> <p>Yachting and marinas calls for transboundary cooperation in order to develop sailing products in the BSR that attract not only domestic tourists but also international target groups. This constitutes a win-win situation for the involved countries.</p> <p>Competition within the sea basin is less intense than for coastal tourism as the added value for the tourist is in moving from one marina (region/country) to the next.</p> <p>In the field of leisure boat building, Poland is an exceptional case in the Baltic Sea region as, in the particular niche of sports boat construction, it has a very strong global position due to its high capacity for absorption of innovations and their application in products. Germany and Finland on</p>					

	<p>the other hand have very high innovative engineering know-how but are less competitive in actually applying this know-how due to higher production costs. This might call for a vertical integration in the value chain.</p> <p>There are also positive synergies with other MEAs: Environmental monitoring, Coastal tourism, Marine aquatic products, Water projects and Shipbuilding (and repair).</p>		
Justification of level at which to address priorities for Partnership Agreements	<b>MS level</b> <ul style="list-style-type: none"> <li>• Building of sports and leisure boats is competitive.</li> <li>• Marinas are often an important element in integrated local development.</li> </ul>		<b>Sea basin level</b> <ul style="list-style-type: none"> <li>• Attractive sailing routes are often transnational.</li> <li>• Sports and leisure boat construction might allow vertical integration (R&amp;D and manufacturing) between MS.</li> <li>• Sea-basin wide sailing tours can attract a higher number of international sailors.</li> </ul>
Potential source(s) of funding	ERDF	<b>Thematic objective(s)</b> <p>3. Enhancing the competitiveness of SMEs,</p> <p>8. Promoting employment and supporting labour mobility</p>	<b>Investment priorities</b> <ul style="list-style-type: none"> <li>• Development of endogenous potential by supporting regional and local development and research and innovation: <ul style="list-style-type: none"> <li>○ Fixed investment in equipment and small-scale infrastructure</li> <li>○ Networking, cooperation and exchange of experience between regions, towns, and relevant social, economic and environmental actors</li> </ul> </li> <li>• Supporting productive investment, which contributes to creating and safeguarding sustainable jobs, through direct aid to investment in SMEs (EU Regulation proposal 2011/0275, Art.3, 1, b and d)</li> </ul>

### 3.2.10 Cruise tourism

Area	Analysis																
Definition of the MEA and value chain	<p>Cruise tourism is a form of travelling, involving an all-inclusive holiday on a cruise ship according to a specific itinerary in which the ship calls at different ports. It is defined as all activities associated to cruise holidays, including the ships used and the facilitations at destination ports. The value chain of the supply side of cruise tourism shows a number of spill-over effects onto other MEAs:</p> <ul style="list-style-type: none"><li>• Shipbuilding and marine equipment (part of the MEA Shipbuilding)</li><li>• Operation of cruise ships</li><li>• Port services and logistics (operating cruise terminals and port management)</li><li>• Other maritime services (bunkering, ship repair, pilotage, etc.)</li><li>• Maritime works: constructing ports, maintaining access channels (part of MEA Water projects)</li></ul>																
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td></tr></table>	DK	SE	FI	EE	LV	LT	PL	DE		<input type="checkbox"/>						<input type="checkbox"/>
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Quantitative assessment  (based on data	<p>Cruise tourism is so far among the seven largest MEAs only in Sweden. On the sea basin level it is the 9th largest MEA mainly due to its importance in Sweden and Germany.</p> <p><b>Total GVA on the sea basin (2010): € 1,03 billion</b></p>																

from country fiches)	<b>Total <i>Employment</i> on the sea basin (2010): 5,160 jobs</b>  During 2008-2010, Cruise tourism was among the seven fastest growing MEAs in five Member States (only in Denmark, Latvia and Lithuania it didn't appear in the top seven). Despite the overall negative development in the reference period due to the financial crisis Cruise tourism has shown also in the sea-basin level a very positive performance:  <b>CAGR of the total <i>GVA</i> on the sea basin (2008 - 2010): 10,9 %</b> <b>CAGR of total <i>Employment</i> on the sea basin (2008 - 2010): 3,8 %</b>					
Special characteristics and further trends	<p>Cruise tourism has developed dynamically focusing on few attractive cruise destinations scattered around the Baltic Sea. Cruise tourism is already a model for sea basin-wide cooperation as the typical cruise runs from one country to the next and the joint marketing of this sea basin wide product is good. The main players in cruise tourism are mostly large enterprises (and ports). As such, cruise tourism is different from coastal tourism. Most problems affecting coastal tourism do not affect cruise tourism and vice versa.</p> <p>More recent figures from 2012 from Cruise Baltic (a network of 27 cruise destinations in the Baltic Sea) underline the positive trends: compared to 2011 the number of passengers in the BSR increased in 2012 by 5,6%, the number of calls increased by 7,1% and the number of turnarounds increased by 10,4%.</p>					
Assessment of Blue Growth potential	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability
	3,00	6,00	5,33	-1,00	6,33	4,00
	<p>In general, the future potential of cruise tourism was assessed as moderate across the whole sea basin (8<sup>th</sup> highest score of all MEAs). Across the Baltic Sea, this MEA scores relatively highly (in all MS except Estonia and Latvia) in its competitiveness, as the typical cruise from Baltic capital to capital has a strong competitive position in Europe. It also scores relatively highly in its spill-over effects (all MS except Finland and Poland) on other MEAs (e.g. Water projects, Shipbuilding and Coastal tourism). On the other hand, in almost all MS the policy relevance of Cruise tourism is limited. Hence, there are only few regulatory actions and programmes (especially on the national and transnational level) that help to develop the MEA.</p>					
Drivers and barriers  (for growth at sea-basin level)	<b><u>Drivers</u></b> <ul style="list-style-type: none"><li>• A good sea basin wide network of attractive cruise destinations with ports providing sufficient accessibility for bigger ships, as well as port infrastructures is in existence.</li><li>• There is one thematic BSR-wide cluster, Cruise Baltic, which brings together 10 countries (the eight Member States plus Norway and Russia) and some 27 cruise destinations.</li><li>• Successful joint marketing of the whole BSR as a cruise destination</li><li>• Overall improved living standards</li><li>• Innovative sustainable solutions (e.g. LNG) for reducing the energy consumption as fuel is a big cost factor in the cruise industry</li><li>• Strong vertical integration of cruise tourism with building of cruise ships exists (especially in Germany and Finland).</li></ul>			<b><u>Barriers</u></b> <ul style="list-style-type: none"><li>• There are so far only few good and attractive cruise destinations (cities and ports) in the BSR.</li><li>• Some of these cities (rather than ports) have capacity problems during peak season. This limits the growth potential of the MEA.</li><li>• The size of cruise boats limits the number of alternative cruise destinations.</li><li>• This MEA has a relatively small impact on employment as crews are normally international.</li><li>• Cruise boat operators are private and there is hardly any public engagement.</li></ul>		



Synergies at sea basin level	<p>Almost all MS are part of the typical Baltic cruise and thus would benefit from the growth of the MEA (only Lithuania has only a very small cruise destination, Klaipėda).</p> <p>The importance of cruise tourism depends heavily on the number and attractiveness of cruise destinations. One single country alone often cannot satisfy the customer demand: while Copenhagen as a single cruise destination has the largest absolute numbers in the whole BSR in terms of passengers/calls/turnarounds, there are very few other destinations in Denmark and thus cruise tourism does not belong to the seven largest Danish MEAs. On the other hand, Sweden – where cruise tourism is already among the seven largest MEAs – has a number of attractive destinations (e.g. Stockholm, Visby and Gothenburg, which are not too close to each other). As such, it is not a surprise that for Sweden and Germany (where there are also several large destinations, among them Kiel and Rostock) cruise tourism was identified as one of the six most promising MEAs, i.e. as core Blue Growth areas for these two countries.</p> <p>The BSR countries closely cooperate in the field of cruise tourism and especially expanding the network of additional attractive cruise destinations could further extend this cooperation.</p> <p>The development of cruises with smaller vessels would allow the development of smaller ports as cruise destinations and expanding the variety of transnational cruise products.</p>		
Level at which to address priorities for Partnership Agreements	<p style="text-align: center;"><b>MS level</b></p> <ul style="list-style-type: none"> <li>• Spill-over effects like supply industry for cruise boats</li> </ul>	<p style="text-align: center;"><b>Sea basin level</b></p> <ul style="list-style-type: none"> <li>• Cruise ships call at various ports of several MS</li> <li>• No political support at MS level</li> <li>• Issues like vessel size and marketing need to be tackled jointly</li> </ul>	
Potential source(s) of funding	ERDF	<p><b>Thematic objective(s)</b></p> <p>7. Promoting sustainable transport and removing bottlenecks in key network infrastructures</p> <p>4. Supporting the shift towards a low-carbon economy in all sectors</p>	<p><b>Investment priorities</b></p> <p>Developing environment-friendly and low-carbon transport systems and promoting sustainable urban mobility; (EU Regulation proposal 2011/0275, Art.5, 7, b)</p> <p>Promoting the production and distribution of renewable energy sources;</p> <p>Promoting energy efficiency and renewable energy use in SMEs; (EU Regulation proposal 2011/0275, Art.5, 4, a+b)</p>

### 3.2.11 Environmental monitoring

While the MEA Environmental monitoring does not rank among the top most promising functions in the sea basin analysis, it is nevertheless worth discussing due to the importance of environmental monitoring in view of its “potential”. Its potential is a reflection of its importance in view of the environmental challenges the region faces, their prominence in terms of policy relevance, spill-over effects and sustainability and the underlying dependence of Blue Growth on well functioning marine ecosystems.

Definition of the MEA and value chain	<p>Marine environmental monitoring is the systematic measurement, collection and analysis of marine data. It is a basic prerequisite for understanding the health and functioning of the marine environment, for obtaining sustainable growth within other maritime functions, for achieving Good Environment Status of marine waters in accordance with the Marine Strategy Framework Directive and for fulfilling the environmental pillar of the Integrated Maritime Policy.</p> <p>The value chain consists of:</p> <ul style="list-style-type: none"> <li>• Instrument development, deployment, maintenance</li> <li>• Data collection, analysis, interpretation</li> <li>• Modelling and assimilation</li> </ul>
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	<ul style="list-style-type: none"><li>Value-added product development (e.g. spatial and temporal maps, forecasts, hindcasts, etc.)</li></ul> <p>The main market areas that are concerned with marine environmental monitoring are:</p> <ul style="list-style-type: none"><li>Marine safety</li><li>Marine and coastal environment</li><li>Marine resources</li><li>Climate and weather monitoring</li></ul> <p>The infrastructure underpinning environmental monitoring has evolved considerably over the last 20 years and includes <i>in situ</i> measurements, space based observations, modelling and forecasting.</p>																
MS priorities	<p>Identified in the country fiches as one of the most promising MEAS in:</p> <table><tr><td>DK</td><td>SE</td><td>FI</td><td>EE</td><td>LV</td><td>LT</td><td>PL</td><td>DE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td></td></tr></table>	DK	SE	FI	EE	LV	LT	PL	DE							<input type="checkbox"/>	
DK	SE	FI	EE	LV	LT	PL	DE										
						<input type="checkbox"/>											
Quantitative assessment  (based on data from country fiches)	<p>Environmental monitoring appears to only have a noticeable economic size in Denmark, the Baltic States and Poland. However, it is well known that environmental monitoring activities are prominent in Germany, Finland and Sweden.</p> <p><b>Total GVA on the sea basin (2010): € 188 million</b> <b>Total Employment on the sea basin (2010): 1.390 jobs</b></p> <p><b>CAGR of the total GVA on the sea basin (2008 - 2010): -7,0 %</b> <b>CAGR of total Employment on the sea basin (2008 - 2010): -2,7 %</b></p> <p>A long tradition of transboundary cooperation and excellence with respect to environmental monitoring exists in the Baltic Sea region, underpinned by the commitment of the MS to HELCOM, the objectives of the Baltic Sea Action Plan and the common target to achieve Good Environmental Status by 2021 in accordance with the EU Marine Strategy Framework Directive. Environmental monitoring also underpins the operational oceanographic requirements of shipping and safe navigation within the Baltic Sea region through the provision of sea area forecasts and (in winter) sea ice concentrations.</p>																
Special characteristics and further trends	<p>Traditionally, environmental monitoring is perceived to be mainly driven by regulation and public sector investment. However, large quantities of data relating to the marine environment are collected, analysed and used by the private sector. This aspect is not always evident in the economic analysis data as the purpose of the collection is usually commercial and confidential and thus buried in “exploration” activities. Nevertheless, recent estimates by MRAG Ltd (2009) indicate that private expenditure on marine environmental monitoring far exceeds that of public expenditure. There is growing demand from the private sector for marine data and analysis products to support infrastructure projects (e.g. offshore wind) and reduce uncertainty in planning and investments. For example, large reinsurers are now routinely relying on environmental data and analysis products such as weather forecasts and climate predictions to underwrite their coastal investments. The MRAG Ltd (2009) study further estimates that growth in the future within this sector is expected to be mainly driven by private sector followed by research and public monitoring.</p>																
Assessment of Blue Growth potential	<table><tr><td>Innovativeness</td><td>Competitiveness</td><td>Employment</td><td>Policy relevance</td><td>Spill-over effects</td><td>Sustainability</td></tr><tr><td>7,3</td><td>0,7</td><td>3,0</td><td>7,0</td><td>3,3</td><td>7,0</td></tr></table> <p>Recent growth observed within the MEA during the analysis period in Lithuania, Poland and Germany is most likely a response on one side to MS commitment to achieve Good Environmental Status by 2021 and also due to recent growth within the Offshore wind sector, in particular from Germany and its consequent spill-over effects. There is significant growth potential related to monitoring activities required by renewable energy sectors, indicating that further growth can be expected as MSs expand their offshore wind energy capacity.</p>	Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	7,3	0,7	3,0	7,0	3,3	7,0				
Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability												
7,3	0,7	3,0	7,0	3,3	7,0												

<p>Drivers and barriers</p> <p>(for growth at sea-basin level)</p>	<div> <div> <b>Drivers</b> <ul style="list-style-type: none"> <li>• Environmental challenges faced by the region, including the impact of climate change and the need for innovative remediation solutions</li> <li>• MS commitment to achieve “Good Environmental Status” by 2021 as per HELCOM Baltic Sea Action Plan and EU Marine Strategy Framework Directive.</li> <li>• Other policies and initiatives such as Water Framework Directive, Floods Directive and Maritime Spatial Planning and Integrated Coastal Management initiative</li> <li>• Development within renewable energy sector and consequent spill-over effects</li> <li>• Long and strong tradition of marine research and environmental monitoring throughout the region</li> </ul> </div> <div> <b>Barriers</b> <ul style="list-style-type: none"> <li>• Formal recognition of the value of the benefits, new environmental technologies and services provide to ecosystem services and the implementation of appropriate incentives to balance investments.</li> <li>• Optimal use of some technologies is inhibited in the region due to territorial access and data sharing limitations, e.g. gliders and automated underwater vehicles (AUVs).</li> </ul> </div> </div>
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<p>Synergies at sea basin level</p>	<p>Sustainable blue growth is critically dependent on well-functioning marine ecosystems. Despite recent efforts, the environmental status of the Baltic Sea region has not improved as expected. Furthermore, a recent HELCOM assessment of climate change in the Baltic Sea region indicates that current nutrient load reduction targets will not be sufficient to achieve Good Environmental Status in the future.</p> <p>It is clear that more innovative approaches are needed towards environmental remediation which provide opportunities for growth. An important way forward is a more conscious use of sea resources, which contributes to reduce nutrient pollution and which recognises the value of ecosystem services. Environmental monitoring is a key component of this and through innovation, the private sector is in a good position to contribute to change. Moreover, regional solutions to the challenges in the Baltic Sea have global relevance and therefore, further potential for growth. All MSs within the Baltic Sea region have the potential to contribute to growth in the sector in one way or another through innovation in the development of technology, data collection, data handling and data analysis products. There is an important combination of EU directives, transnational regulations, public and private sector investment that stimulates the development of environmental monitoring within the private sector by indirectly supporting technology development, maintenance/monitoring service industries and the further development of marine knowledge. What is needed is formal recognition of the value of the benefits new environmental technologies and services can provide to ecosystem services within the region and the implementation of appropriate incentives to balance the investment.</p> <p>While environmental monitoring is referred to as a maritime economic activity within the context of blue growth, in principle it is a crucial tool to ensure a safe and sustainable well-being and economic usage of marine resources. It is also a way to evaluate the impact of ecosystem goods and services on the ecosystem. Economic theory is only beginning to grapple with the valuation of ecosystem services, which although not tradable, are nevertheless crucial. Some progress has been made in this direction through the development of mapping and accounting frameworks for natural capital through European initiatives such as the Mapping and Assessment of Ecosystems and their Services and the Common International Classification System (CICES).</p> <p>A number of integrated European networks and clusters are already in place which are underpinned by Marine Knowledge 2020 and have as an overarching objective to facilitate the delivery of useable information from environmental data. The networks have a sub-focus or relevance to the Baltic Sea region and can support future growth in the sector through the provision of a shared, open-access, integrated infrastructure. They include:</p> <ul style="list-style-type: none"> <li>• BOOS, Baltic Operational Oceanographic System’ a regional alliance EuroGOOS</li> </ul>
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	<ul style="list-style-type: none"> <li>• EIONET, European Environment Information and Observation Network</li> <li>• EMODnet, European Marine Observation and Data Network</li> <li>• MyOcean2, Copernicus (formally GMES, Global Monitoring for Environment and Security) marine service.</li> <li>• BONUS programme, Science for a better future of the Baltic Sea Region</li> </ul> <p>In addition, European infrastructure which provides space-based observations includes:</p> <ul style="list-style-type: none"> <li>• EUMETSAT, European Organisation for the Exploitation of Meteorological Satellites, especially OSI SAF, Ocean and Sea Ice Satellite Applications Facility</li> <li>• ESA, European Space Agency</li> </ul>	
Justification of level at which to address priorities for Partnership Agreements	<p style="text-align: center;"><b>MS level</b></p> <ul style="list-style-type: none"> <li>• Some competition within technology development sectors, e.g. gliders, AUV, wave energy devices.</li> </ul>	<p style="text-align: center;"><b>Sea basin level</b></p> <ul style="list-style-type: none"> <li>• Common monitoring objectives driven by EU policies</li> <li>• Support for shared, open-access, integrated observation infrastructure</li> <li>• Regional requirements for operational observations and forecasts</li> <li>• Regional agreements needed which cover access to territorial seas and data sharing between MSs to fly AUVs and gliders in the region</li> </ul>

## 4. Blue Growth and the EU Strategy for the Baltic Sea Region

### 4.1 Inventory of maritime actions / projects in the EUSBSR

In the course of the study an inventory of actions and flagship projects was undertaken. For this purpose the **revised Action Plan of February 2013** served as basic source of input to assess the maritime dimension of the EUSBSR. It needs to be stressed that possible developments within PAs/HAs that may have taken place in the past seven months especially in relation to further refinement of targets/indicators, creation of steering bodies or development of new flagship projects could not be taken into account in a systematic way (i.e. thus not influencing the quantitative assessment).

Flagship projects played the most important role as they represent the implementation level. But coverage of blue growth issues at a higher level, i.e. actions, objectives, targets and indicators and general descriptions of PAs/HAs was also taken into account as even in the absence of related flagship projects they may indicate a potential for future projects to be realised. Actions and flagship projects were assessed for their maritime angle based on information given on aims, activities and outputs. When possible further information was compiled relating to the lead partner, partner structure, budget, funding source and duration of a flagship project. In all cases PAs/HAs have been asked to validate the information, thus in case of information not being available within the inventory it may be an indication for either lack of transparency of project activities or low / no real project activity level.

Since the Baltic Sea is the unifying element among states of the Baltic Sea Region, the collected data revealed, unsurprisingly, a considerable maritime dimension in the EUSBSR. About **32% of all actions have a direct maritime aspect**. This number increases to more than 50% when actions are taken into account that do not refer to maritime issues explicitly, but feature at least one partly or highly maritime flagship project. Approximately, **47% of all 174 flagship projects listed in the 2013 EUSBSR Action Plan are currently highly or partly maritime** and are therefore examined more closely in the following.

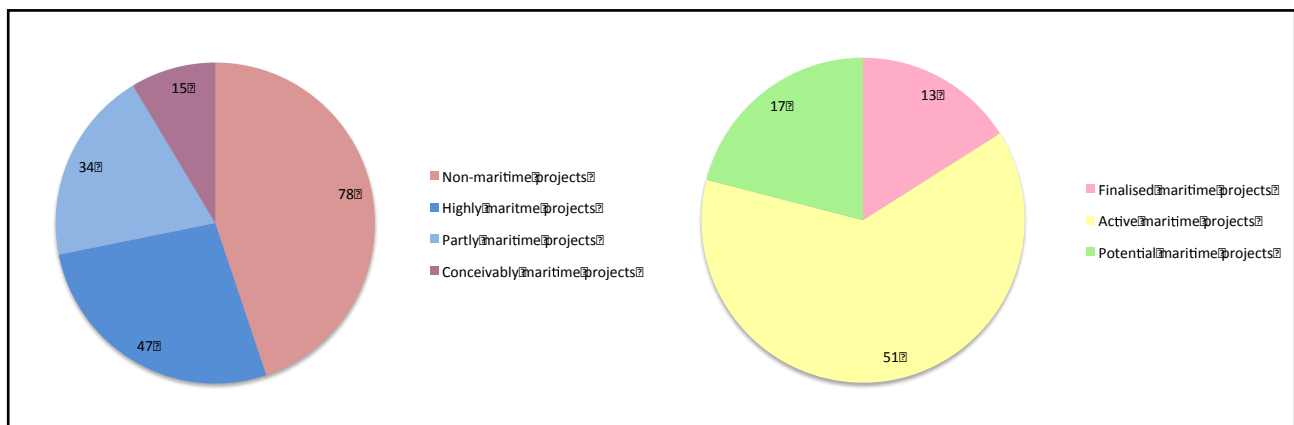


Figure 4 left: Flagship projects and their maritime aspect; right: Implementation status of flagship projects

As can be seen in Figure 4 (right pie chart) only 16% of listed maritime projects are considered as finalised whereas the vast majority of the maritime projects is currently in implementation stage. In quite a number of cases implementation is, however, linked to EU co-finance via the BSR Programme, which will run out by 2013/2014. It remains to be seen which and how some of these projects will be extended or serve as the basis for future activities. It should be noted that the assessment of “potential maritime projects” does not relate to any of such extensions, but only relates to projects explicitly indicated in the Action Plan as being planned but not at implementation level yet.

*We would like to stress once more that by way of contacts with PAs/HAs we are aware of additional project preparations at the current stage (i.e. via SEED money facility), but could not take them into account in the quantitative assessment. Thus the inventory is only a reflection of the situation as it was before dialogues were started within the framework of this study with EUSBSR stakeholders on Blue Growth.*

Even though almost all PAs/HAs have some kind of maritime angle, the **distribution of maritime flagship projects across objectives is far from even** with a diminishing importance attached to maritime issues from “Save the sea” towards “Increase prosperity” (Figure 5).

Obviously Priority Areas assigned to the objective “Save the Sea” show a high concentration of maritime flagship projects often related to both the environmental as well as the economic dimension of IMP. PA Energy and PA Transport under the objective “Connect the Region” in contrast feature only one highly maritime project each. The **number or relevance of actions/flagships for IMP under the objective “Increase Prosperity” as well as the horizontal actions is so far very limited** even though maritime aspects are often mentioned in the introductory sections. It should, however, be noted that some of the Horizontal Actions are “newcomers” within the revised EUSBSR Action Plan and thus may need more time for developing their detailed programmes.

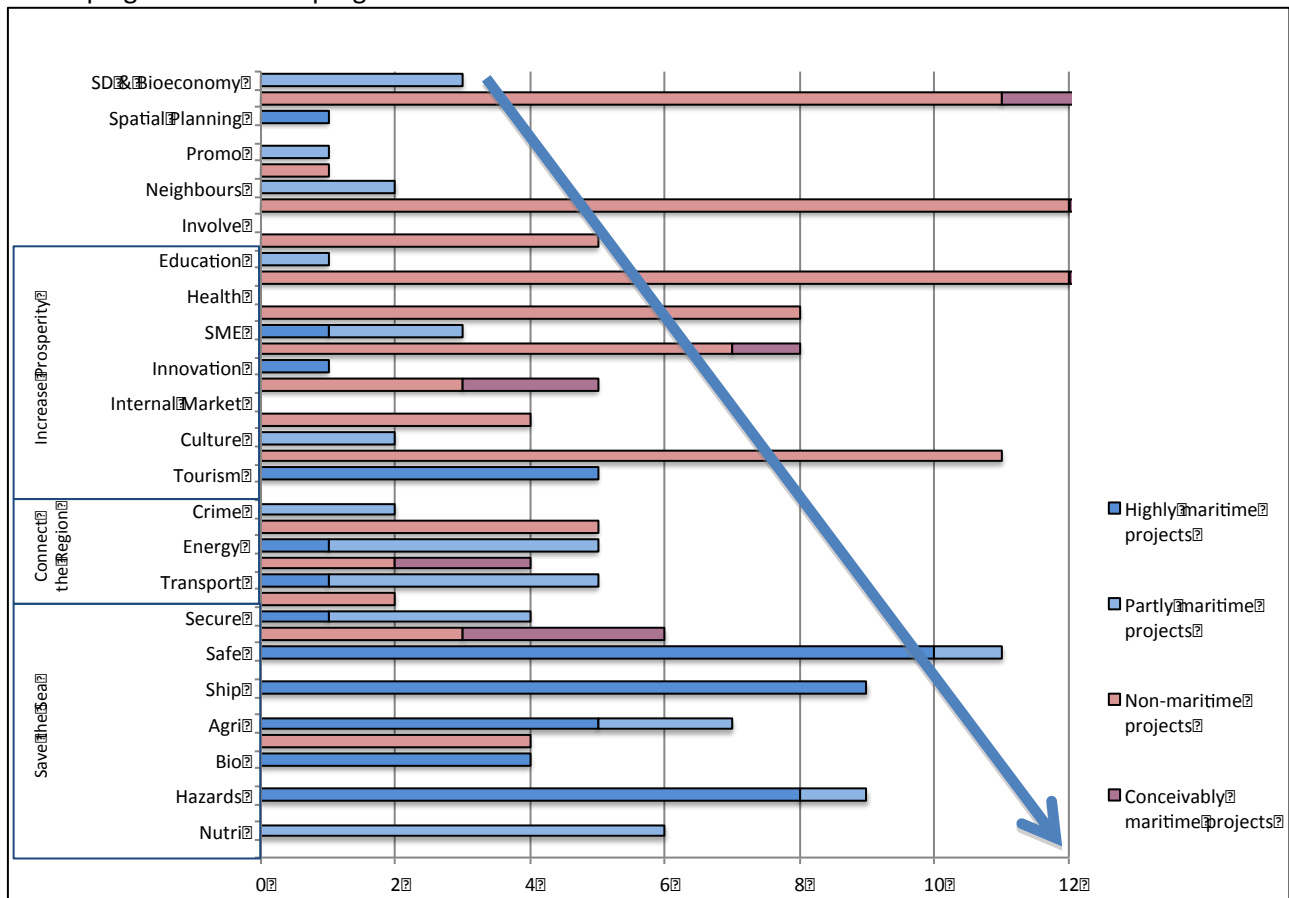


Figure 5: Maritime and non-maritime projects in the EUSBSR

Concerning the geographical scope of maritime actions it has to be noted that BSR states are not equally represented in the maritime part of the EUSBSR. The three Baltic States Estonia, Latvia and Lithuania rarely take a coordination role in Priority Areas or Horizontal Actions or act as flagship project lead partners. In contrast, Sweden is involved as lead partner in about one third of the 81 maritime projects, which is also twice as often as Germany, Denmark and Finland occupying a leading role. The divide between old and new EU member states is, however, less striking when looking at the geographical distribution of project partners. Sweden, again, is most frequently involved in maritime projects, followed by Finland and Germany. Denmark, Latvia and Estonia are least involved, although they are still partners in about 60% of maritime EUSBSR projects.

The implementation of the EUSBSR is clearly state-driven. National and regional authorities as well as local authorities are the most frequent groups of project partners, together with research institutions and universities. The private sector (private business and NGOs) is underrepresented. International organisations (especially regional ones, like HELCOM, CBSS, VASAB, Nordic Council or UBC) act as Horizontal Action Leaders and are also frequently involved as lead or regular project partners. HELCOM is particularly

active as it is leader of eight maritime flagship projects, with all four projects of PA Bio being led by HELCOM. Three of them, however, actually correspond to regular HELCOM activities and are therefore also financed through the regular HELCOM budget.

Publicly available information on budget and funding source of maritime flagship projects is rather scarce. A funding source could be identified in about 60% of the cases with a concrete budget indicated for only half of the maritime projects. About 20% of the projects are not funded via funding programmes but through regular budgets of lead and/or project partners. By far the most frequently tapped funding programme is the BSR programme, which financed about one fourth of maritime flagship projects. As already indicated from the **low involvement of the private sector** in general, company- or other privately funded projects as well as **investment projects in general can only be found very rarely** (exceptions in shipping/shipbuilding, offshore wind, cruise are also indicated under “prominent” projects – see Section III, Annex).

## 4.2 Overview on Maritime Economic Activities within the EUSBSR

The analysis of the maritime dimension of the EUSBSR was further refined in order to assess to what extend the EUSBSR already covers issues of relevance for Blue Growth. For this purpose objectives, targets/indicators, actions as well as flagship projects of the EUSBSR Action Plan were scrutinized for their linkage to all Maritime Economic Activities. Furthermore, flagship projects were given a score in a range of 0 (not applicable), 1 (low), 2 (medium) and 3 (high), depending on how strong of an impact a project makes on each MEA. Potential projects were as a rule given one mark lower as experience shows that not all projects indicated in the Action Plan may actually be realised.

Table 3 shows to which extend MEAs are linked to PAs/HAs. PAs/HAs addressing a certain MEA either primarily or indirectly through objectives, targets/indicators, actions and flagship projects have been attributed a strong link or an indirect link, respectively. A potential link implies that in the current state of the EUSBSR Action Plan, the relation between the MEA and the PA/HA at objective and/or action/flagship project level is, at most, weakly developed, but that there is room for strengthening.

Table 3: Linkages between MEAs and PAs/HAs

		PA															HA			
		Nutri	Hazard	Bio	Agri	Ship	Safe	Secure	Transport	Energy	Crime	Tourism	Culture	Innovation	SME	Education	Neighbours	Promo	Spatial Planning	SD&Bioeconomy
Maritime Economic Activities	Shipbuilding and repair			✓		✓	✓		✓					✓	✓					
	Deep-sea shipping			✓		✓	✓	✓	✓						✓				✓	
	Short-sea shipping			✓		✓	✓	✓	✓						✓				✓	
	Passenger ferry services			✓		✓	✓		✓			✓			✓				✓	
	Fish for human consumption	✓	✓	✓	✓		✓							✓	✓				✓	✓
	Marine aquaculture	✓			✓									✓					✓	✓
	Blue biotechnology													✓	✓					✓
	Ocean renewable energy									✓				✓	✓				✓	
	Offshore wind									✓				✓	✓				✓	✓
	Coastal tourism											✓	✓	✓	✓		✓	✓	✓	
	Yachting and marinas					✓	✓					✓							✓	
	Cruise tourism					✓	✓					✓						✓	✓	
IMP	MSP			✓	✓		✓	✓	✓					✓		✓			✓	
	Maritime Surveillance						✓		✓		✓									
	Environmental monitoring	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓		✓		✓	✓
		✓	Strong link				✓	Indirect link				✓	Potential link							

Figure 6 displays the distribution of flagship projects attributed to a maritime function across PAs/HAs as well as objectives.

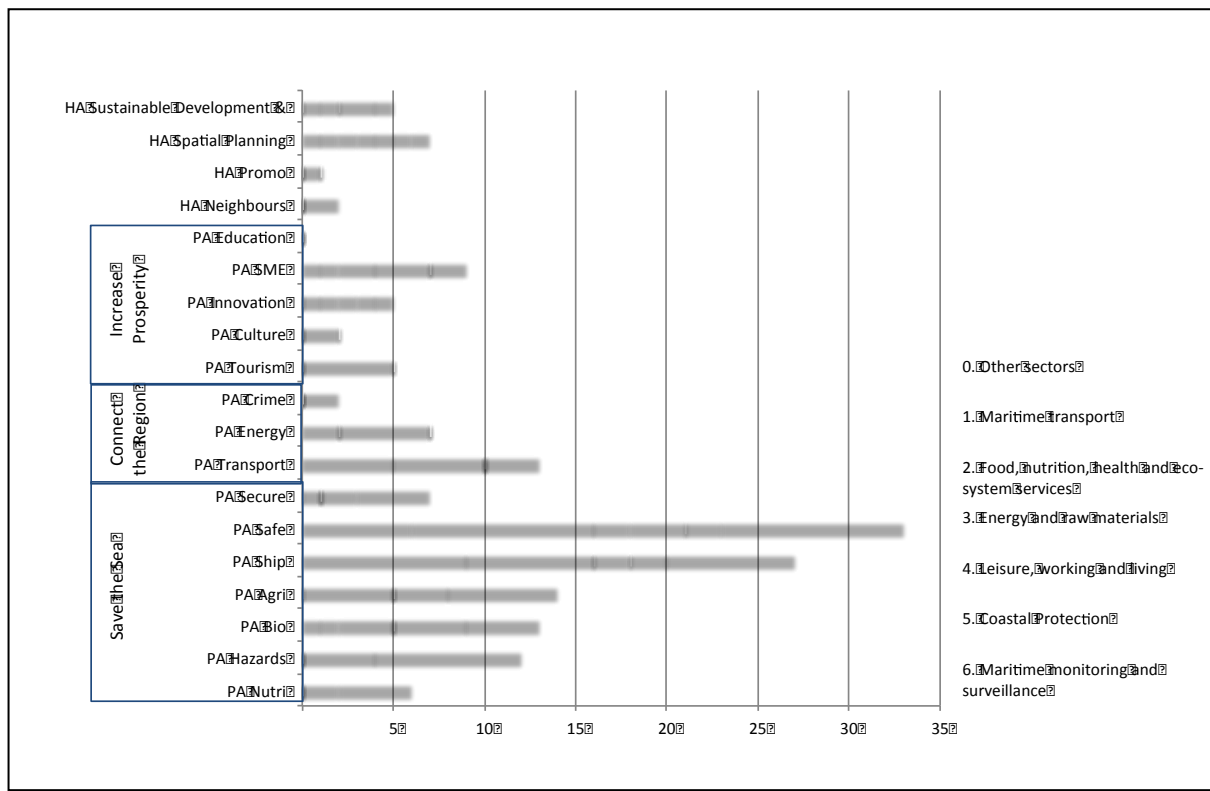


Figure 6: Coverage of maritime functions per PA/HA in the EUSBSR

Given the large variance between flagship projects in view of their relevance to a given MEA the absolute number of projects assigned to one sector does not provide a full picture. Thus Figure 7 depicts the relation between the quantitative and qualitative (average score) dimension of flagship projects per maritime function (as MEA clusters). As already indicated above more than **65% of all EUSBSR maritime flagship projects are related to Maritime monitoring** (incl. surveillance), most of them concerned with environmental monitoring.

Also **Shipbuilding and Shipping** are not only featured by numerous PAs and a relatively high number of projects, but these are also on average well-developed and, therefore, were given high scores. In contrast **Maritime, Coastal and Cruise tourism** have the lowest number of flagship projects in the EUSBSR Action Plan.

The figure corresponds to results on project funding sources as per sector, which shows a **clear correlation between the number of projects under a given sector and whether this was a priority under the BSR Programme (2007-2013)**: whereas maritime transport and environmental issues (both priorities in the past BSR Programme) are positively correlated, tourism and energy issues show a negative correlation (not being explicit priorities in the BSR Programme).



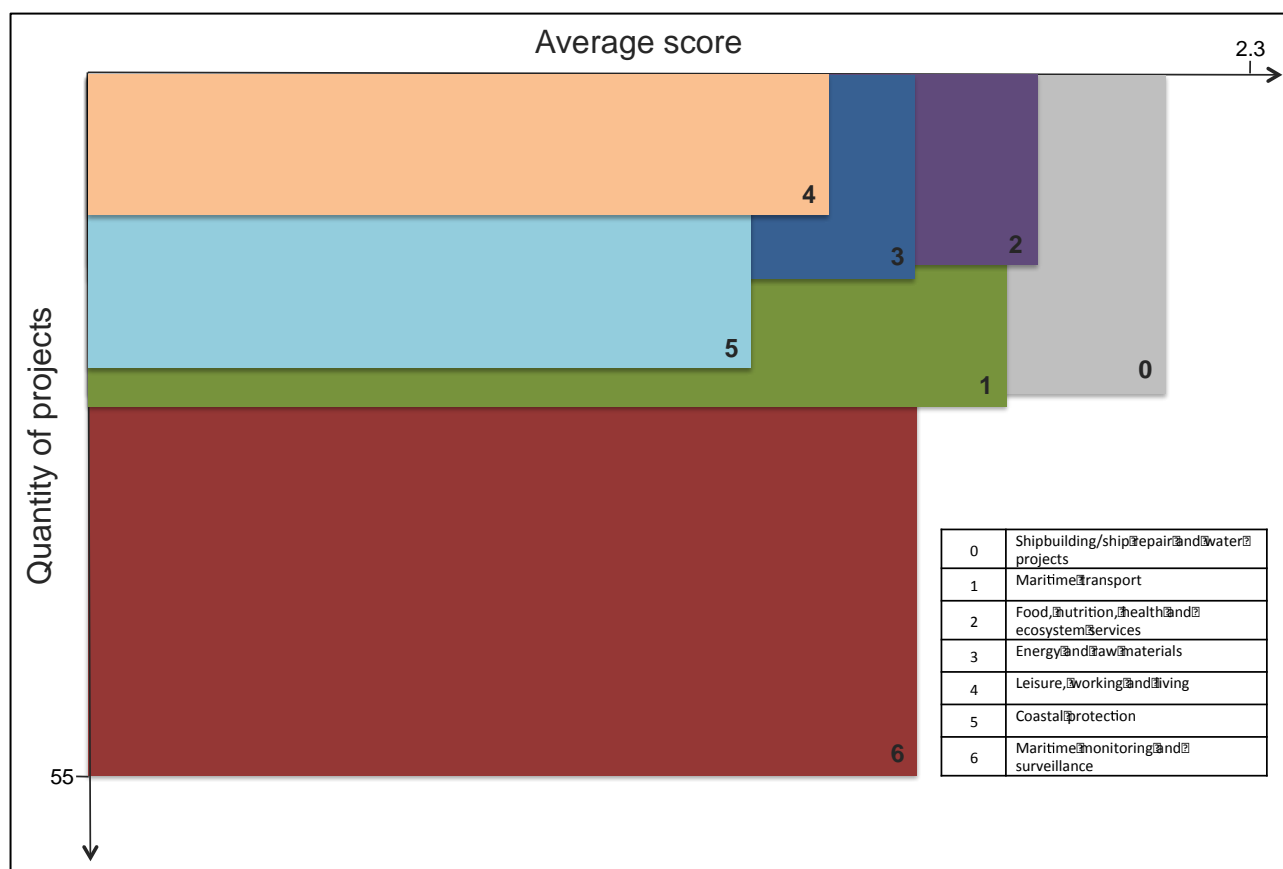


Figure 7: Coverage of maritime functions in the EUSBSR

### 4.3 Coverage of MEAs with High Sea Basin Potential within the EUSBSR

In the following sub-chapters we analyse in more detail to what extent issues with relevance to developing the Blue Growth potential of a given Maritime Economic Activity at sea basin level (as featured in the previous chapter) are already covered within the current EUSBSR Action Plan. For this purpose we always show whether issues are already reflected within the overall EUSBSR Objectives, related sub-objectives at Priority Area or Horizontal Action level and whether related targets / indicators have been set. At a next level Actions / Flagship Projects were analysed.



In all cases all levels are indicated in order to highlight where there are gaps in the logical sequence / inter-relation between all these levels. This means that for instance quite a number of actions are linked or at least indirectly linked to Blue Growth issues, but may not feature a flagship project or that no targets/indicators related to this Blue Growth Action have been set. The assessment given in each case is therefore not only based on flagship projects, but the whole vertical logical framework line of a given PA/HA. Only flagships with scores higher than 1 are featured (whereas the inventory in the annex shows all projects scored). Prominent projects, which are described in further detail in the Annex are marked by a ■




Findings and recommendations take into account institutional capacity, geographic scope, funding possibilities as well as number and relevance of projects, which may either serve as a basis for future projects or are already directly linked to the Blue Growth issues. In cases where important projects, studies, transnational organisations with relevance for an MEA are known from reports taken into account in the Blue Growth analysis at country or sea-basin level but do not feature in the EUSBSR yet, this is also highlighted. On this basis further recommendations are provided indicating either gaps to be filled, modifications to be made or issues to be strengthened in future steps.

### 4.3.1 Shipbuilding and Shipping

The overall importance attached to maritime transport and shipbuilding is matched by the importance attached to this function within the EUSBSR. Maritime transport and shipbuilding constitute one of the most prominent sets of maritime functions covered, both in terms of absolute numbers of projects as well as the relevance of those projects for the sector.

Given the high interrelation between objectives, actions and flagship projects related to shipbuilding and shipping and in order to avoid repetitive presentation of them, we have in the following summarised all of them within one given table rather than making a strong distinction.

EUSBSR objectives linked to shipping	<b>SAVE THE SEA</b> Clean and safe shipping <ul style="list-style-type: none"> <li>Decreasing trend of shipping accidents and elimination of illegal discharges by 2021</li> </ul> <b>CONNECT THE REGION</b> Good transport conditions <ul style="list-style-type: none"> <li>Internal and external connectivity of the region, including travel time</li> </ul>		
Priority Area <u>directly</u> linked to MEA	<b>PA Safe</b>		
	<b>OBJECTIVES, TARGETS, INDICATORS</b>		
	Reduction in the number of maritime accidents		
	<ul style="list-style-type: none"> <li>Measurable reduction/decreasing trend in the number of maritime accidents</li> </ul>		
	Increased cross-border and cross-sector cooperation and information sharing among maritime authorities and other relevant stakeholders		
	<ul style="list-style-type: none"> <li>By 2020 the creation of 1) a Common Information Sharing Environment (CISE) among maritime authorities and coast guard functions; 2) permanent regional cooperation for coastguard functions, 3) a BSR expert e-Navigation Forum</li> </ul>		
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>		
	Action: Improve the coordination of systems relating to ships' routing and monitoring of the vessel traffic and consider establishing new systems		
	 <b>Pilot region for e-navigation (EfficienSea)</b> (see Annex)	Danish Maritime Authority	Finalised in 2012, funded through BSR Programme (€3 million), countries: DK, EE, PL, FI, SE, partners: research institutions and authorities
	Speed up re-surveying of major shipping routes & ports	Port (SE) Trelleborg	Long-term endeavour, financed by Hydrographic Authorities,
	 <b>Develop shipping routes and e-navigation in the Baltic Sea (MONALISA)</b> (see Annex)	Swedish Maritime Admin.	Finalises in 2013, TENT-financed (€ 22,4 million), countries: DK, FI, SE, partners: triple helix structure
	Action: Winter navigation		
	Ensure Safe and Efficient Winter Navigation in the BSR (WINMOS)	Swedish Maritime Admin.	Finalises in 2015, countries: EE, FI, SE, financed by authorities involved, application for TEN-T submitted, budget (€140 million) includes Finnish icebreaker
	Action: Ensure that vessels are up to the highest maritime safety standards		
	Action: Ensure that crews serving onboard vessels are well trained		
	<b>PA Ship</b>		
	<b>OBJECTIVES, TARGETS, INDICATORS</b>		
	Reducing emissions from the shipping in the Baltic Sea, while at the same it is predicted that the intensity of maritime activities will increase		
	<ul style="list-style-type: none"> <li>Decreasing trend in emissions from vessels</li> </ul>		
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>		
	Action: Reduce ship pollution and develop shore-side facilities		
	Eliminate the Discharges of Sewage from Ships	HELCOM	Finalised in 2011, little information on the project publicly available
	Maritime Safety - Transport and Environment in the BSR	Region Blekinge (SE)	Finalised in 2012, BSR programme (€3,9 million), all BSR countries except LT, partners: authorities / research

	(Baltic Master II)		institutes
	Feasibility Study on LNG Infrastructure for Short Sea Shipping	Danish Maritime Authority	Finalised in 2012 (publication), TEN-T funded, countries: DK, DE, FI, SE, RU, triple helix structure,
	 <b>Clean Baltic Sea Shipping (CleanShip)</b> (see Annex)	Port (SE) Trelleborg	Finalises in 2013, BSR programme funded (€2,9 million), involved mostly local authorities
	Baltic Sea cooperation for reducing ship and port emissions through knowledge and innovation-based competitiveness (BSR InnoShip)	The Baltic Institute of Finland	Finalises in 2013, BSR programme (€3,6 million), countries: EU BSR MS + others, partners: research institutions, authorities, private sector
	Introduce Differentiated Port Dues depending on the Environmental Impact of Ships	HELCOM	Finalises in 2013, countries: HELCOM MS, partners: authorities
	Marine Competence, Technology and Knowledge Transfer for LNG (Liquid Natural Gas) in the South Baltic Sea Region (MarTech_LNG)	Klaipeda Science Technology Park (LT)	Finalises in 2014, South Baltic Programme financed (€1,3 million), countries: DK, DE, LT; PL, SE, partners: research institutions, local authorities and NGOs
	 <b>Indexing the Environmental Impact of Vessels (Clean Shipping Index)</b> (see Annex)	Clean Shipping Network Association	Permanent organisational structures, private –sector dominated, currently still partly financed by public money from Sweden, countries: DE, SE, partners: businesses
	<b>PA Transport</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	Increased cooperation in joint planning and implementation of infrastructure <ul style="list-style-type: none"> <li>Implementation of international transport infrastructure projects in line with the TEN-T network and reduction of average travel time</li> </ul> Smarter transport solutions <ul style="list-style-type: none"> <li>Development of balanced network of green transport corridors</li> </ul>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Cooperate on national transport policies and infrastructure investments		
Priority Areas/Horizontal Actions <u>indirectly</u> linked to MEA	Timely Completion of Major Infrastructure Projects in the Macro-region	Respective MS	Cluster of different infrastructure TEN-T projects, only some of them have a maritime dimension
	Action: Improve the connections with Russia and other EU neighbouring countries		
	Make full Use of Cooperation with the Northern Dimension Partnership on Transport and Logistics	Northern Dimension Transport & Logistics	Countries: EU BSR MS + RU, apart from that no further information
	Action: Facilitate efficient and sustainable passenger and freight transport solutions		
	Green Corridors Network I	Berlin-Brandenburg (DE)	Finalised in 2012, three sub-projects on implementation of EU regulations on externalities in from transport, financed through BSR Programme (€15,1 million),
	Green Corridors Network II	East-West Transport Corridor Association	TEN-T financed, apart from that no further information
	Action: Increase the role of the Baltic Sea in the transport systems of the region		
	 <b>Baltic Motorways of the Seas network</b>	Baltic Motorways of the Sea Task Force	Finalises 2013, three sub-projects on maritime connections Karlshamn-Klaipeda, Karlskrona-Gdynia and Sassnitz-Trelleborg, countries: DE, LT, PL, SE, partners: authorities
	<b>PA Bio</b>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Implement the HELCOM Baltic Sea Action Plan, in particular sections on Biodiversity, Nature Conservation and Maritime traffic		
	Restrict Introduction of Alien Species (Ballast Water Convention)	HELCOM	No clear implementation time frame, part of regular HELCOM activities, of regulatory nature, does not deal with solutions required by shipping sector, HELCOM-financed

Overall Assessment	
Findings	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>PA Ship and PA Safe under strong leadership of the same Priority Area Coordinator with good back-up from his national institution (Danish Maritime Administration) and backing by Finnish Baltic Institute for communication</li> <li>Overall there is a comprehensive coherent cluster of projects directly targeted to the topics identified as relevant for sea basin level growth especially under PA Ship and also PA Safe.</li> <li>Increasing number of projects not financed from traditional BSR Programme source, but making use of other funding lines</li> <li>Many of the projects have provided a good set of recommendations / studies on which to build on future activities.</li> <li>There is a good institutional mix and geographic coverage including private industry involvement, especially from Sweden and Denmark.</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>The logical framework of activities related to PA Ship and PA Safe is so far mainly oriented to “Save the sea”, i.e. environmental concerns, and only indirectly tackle the blue growth (increase prosperity) elements entailed in them.</li> <li>Even though strong under the EUSBSR, the sector can so far not relate back to a traditional, grown transnational organisational basis (as the sector was so far mainly globally oriented). A high level BSR wide steering group is only about to be created (≠ CBSS Expert Group on Maritime Policy)</li> <li>Many projects about to come to an end by 2013/2014 as historically based on BSR Programme</li> <li>Russia as an important stakeholder in shipping issues features in some projects but is not part of the EUSBSR.</li> <li>Whereas linkage between PA Ship and PA Safe is ensured via same coordination, linkages between other related PAs (i.e. Transport, SME, Innovation, etc.) may need strengthening.</li> </ul>
Shipbuilding & Repair	
Findings from analysis of flagship projects	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>Strong project coordination cluster within Denmark and South Sweden.</li> <li>Good institutional mix and geographic coverage including private industry involvement, especially from Sweden and Denmark.</li> <li>The sector shows good potential to achieve concrete and measurable outputs, although actions and flagship projects require adaptation or new project development.</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li><u>EUSBSR Objectives / targets only indirectly linked to shipbuilding – not dedicated action associated for instance to business issues at stake for shipbuilding (i.e. access to finance)</u></li> <li>The impact of EUSBSR actions and flagship projects on the shipbuilding industry is often indirect (exception InnoShip). Mostly, new regulations and/or new technology stimulate retrofitting of existing ships.</li> <li>Even though projects show good coverage - strong lead drive from DK/SE – does not correspond with country focus in shipbuilding with DK/SE not being driving countries in this sector</li> </ul>
Recommendations to increase potentials for Blue Growth	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>The PA coordinator highlights project gaps in areas like ballast water or propulsion systems, with potential to build on the results of former projects (e.g. LNG feasibility study).</li> </ul> <p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>Focus should be on the coordinated use of funding opportunities spreading from research and soft territorial cooperation towards investment support.</li> </ul>

Short Sea Shipping	
Findings	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• An important institutional and project cluster is based in South Sweden.</li> <li>• Good institutional mix involving relevant administrations and ports as well as the private sector.</li> <li>• Large range of interventions types covering R&amp;D support, network building and facilitating joint access to finance.</li> <li>• Private funding sources are tapped, which is also an indication for more durable – as non-project related – funding.</li> <li>• Based on this assessment, actions and related flagships for this maritime function show a good potential for achieving measurable and concrete outputs by 2020.</li> <li>• PACs and HALs have expressed that Blue Growth issues should be even further strengthened under PA Ship.</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Although private funding sources are used, there is nevertheless a slight bias towards, and hence reliance on, the BSR programme.</li> </ul>
Recommendations to increase potentials for Blue Growth	<p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>• Maritime transport should be (explicitly) integrated in the formulation of objectives, targets and indicators of PA Transport.</li> <li>• The maritime dimension of flagship projects under the action “Cooperate on national transport policies and infrastructure investments” under PA Transport should be strengthened.</li> <li>• Potential future areas of cooperation may emphasize more strongly the provision of co-funding to create a coherent BSR network of LNG terminals/OPS Ports or create the relevant data sets from all major BSR ports for the (already existing) risk assessment database system (necessary to enable national authorities to provide exemptions to BSR shipping operators). In both cases, such kinds of investment may act as a catalyst, triggering further substantial (private) investments (e.g. LNG &amp; OPS ships) or leading to substantial economic benefits.</li> <li>• More instruments should also be created to provide incentives for “first movers” who choose to install new technology before a new regulation enters into force and port regulations should be better aligned with each other in view of safety and environmental standards.</li> </ul>
Passenger Ferry Services	
Findings from analysis of flagship projects	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Investments in infrastructure for ferry services have been made in the framework of the project Baltic Motorways of the Seas Network in Karlshamn, Karlskrona, Trelleborg (SE), Gdynia (PL) and Sassnitz (DE).</li> <li>• An important institutional and project cluster is based in South Sweden.</li> <li>• Good institutional mix involving relevant administrations and ports as well as the private sector</li> <li>• Large range of interventions types covering R&amp;D support, network building and facilitating joint access to finance.</li> <li>• Private funding sources are tapped, which is also an indication for more durable – as non-project related – funding.</li> <li>• Based on this assessment, actions and related flagships for this maritime function show a good potential for achieving measurable and concrete outputs by 2020.</li> <li>• PACs and HALs have expressed that Blue Growth issues should be even further strengthened under PA Ship.</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Although private funding sources are used, there is nevertheless a slight bias towards, and hence reliance on, the BSR programme.</li> </ul>

Recommendations to increase potentials for Blue Growth	<b>Gaps</b>
	<ul style="list-style-type: none"> <li>There are no flagship projects addressing safety standards and training of crews of passenger ferries, although these issues are taken up by two actions under PA Safe.</li> </ul>
	<b>Modification/Strengthening</b>
	<ul style="list-style-type: none"> <li>Passenger ferry services should be (explicitly) integrated in the formulation of objectives, targets and indicators of PA Transport.</li> <li>The maritime dimension of flagship projects under the action “Cooperate on national transport policies and infrastructure investments” under PA Transport should be strengthened.</li> <li>Potential future areas of cooperation may emphasize more strongly the provision of co-funding to create a coherent BSR network of LNG terminals / OPS Ports or create the relevant data sets from all major BSR ports for the (already existing) risk assessment database system (necessary to enable national authorities to provide exemptions to BSR shipping operators). In both cases, such kinds of investment may act as a catalyst, triggering further substantial (private) investments (e.g. LNG / OPS ferries) or leading to substantial economic benefits.</li> <li>More instruments should also be created to provide incentives for “first movers” who choose to install new technology before a new regulation enters into force and port regulations should be better aligned with each other in view of safety and environmental standards.</li> </ul>

### 4.3.2 Fish for Human Consumption

The MEA is covered by a total of 14 EUSBSR flagship projects that deal primarily with fisheries and to a lesser extend with marine aquaculture<sup>1</sup>. The main focus of EUSBSR flagship projects is on the environmental aspect of catching fish rather than on fish processing. This emphasis is mirrored not only in flagship projects, but also in actions as well as objectives and indicators in the EUSBSR.


Whereas PA Bio focuses directly on the preservation of fish stocks and habitats, PA Hazard and PA Nutri actions have also an indirect effect as they aim towards better Baltic Sea water quality, but since flagship projects are not maritime in direct sense, they do not feature in the given list.

PA Agri is concerned with sustainable ways of conducting fisheries activities and is therefore more directly linked to the Blue Growth elements of this MEA. Even though not yet reflected in the current Action Plan the HA Bio-Economy may play an important role for this sector in the future as it aims to enhance cooperation within research and policy making of the fishery industry and food sector in order to develop Nordic societies into sustainable bio-based economies.

Efforts in integrating fishery into maritime spatial planning are partly covered by the flagship project PartiSEApate (HA Spatial) as well as BaltFIMPA (PA Bio), which is in preparatory stage. Improving monitoring and tracking systems (maritime surveillance) specifically for fishery is partly covered in the EFF funded project under PA Agri.

EUSBSR objectives linked to MEA	SAVE THE SEA		
	Rich and healthy wildlife		
	<ul style="list-style-type: none"> <li>Biodiversity status and ecosystem health (incl. Fish stocks) and amounts of hazardous substances in line developed indicators</li> </ul>		
Priority Areas <u>directly</u> linked to MEA	<b>PA Agri</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	Added value through cooperation within Baltic fisheries and aquaculture		
	<ul style="list-style-type: none"> <li>Baltic Sea fish stocks at MSY level from 2015 onwards</li> </ul>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Develop and improve coordination and cooperation among Member States and stakeholders on fisheries management in the Baltic Sea		
	BALTFISH Forum	Ministry of Rural	Activities correspond to the action, no clear

<sup>1</sup> These projects feature strongly in MEA Marine aquaculture.

		Affairs (SE)	implementation time frame, funded through national budgets, countries: EU BSR MS, partners: authorities
	Eradicating Discard	Ministry of Food, Agri & Fishery (DK)	Recommendations for a discard ban are presented to the Commission and pilot projects on sustainable fishing, no clear implementation time frame, countries: EU BSR MS
	Ensure Sustainable Fishing	SE Water Agency	Aim is to ensure the timely adoption and effective implementation for the proposed EU management plan for Baltic salmon, no clear implementation time frame, EFF funded, countries: EE, LV, LT, FI, SE + RU
	Action: Enhance the combined effects of the European Maritime and Fisheries Fund (EMFF)		
	Develop & improve coordination and cooperation among MS and stakeholders in the EMFF	n/a	Possible future project
	<b>PA Bio</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	<ul style="list-style-type: none"> <li>N° of Baltic Sea Protected Areas (BSPAs) with management plans in place, including integration of fisheries management measures in management plans</li> <li>Habitat restoration measures and plans are implemented by 2020</li> <li>Abundance of salmon population</li> </ul>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Reduce the negative effects of fishing on the Baltic ecosystem		
Priority Areas/Horizontal Actions <b>indirectly</b> linked to MEA	 <b>Managing Fisheries in Baltic Marine Protected Areas (BALTFIMPA)</b> (see Annex)	HELCOM	Assessment of impact of fisheries on Marine Protected Areas - recommendations on how to mitigate negative effects Project in the inception phase, EU funded, countries: EE, LV, LT, SE, FI, partners: authorities and NGOs
	<b>PA Hazard</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	All fish safe to eat		
	<ul style="list-style-type: none"> <li>Level of hazardous substance in Baltic Sea fish is below EU maximum levels in muscle meat of fish</li> </ul>		
	Healthy wildlife		
	<ul style="list-style-type: none"> <li>Healthy fish populations</li> </ul>		
	<b>PA Nutri</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	Clear water in the sea and rich and healthy wildlife		

Findings	<b>Strengths</b>
	<ul style="list-style-type: none"> <li>Strong political institutional set-up started for project definition in fishery aspects. BSR Member States have for the purpose of realisation of the EUSBSR created the BALTFISH forum (with yearly rotating presidency of MS), which in turn also cooperates with the other traditional, transnational players in fishery sector such as HELCOM, BS RAC and ICES. HELCOM is involved directly as project and lead partner.</li> <li>Regular coordination &amp; communication seminars / meetings are held.</li> <li>Funding not only based on “traditional” BSR Programme, but projects funded directly via HELCOM regular budget or European Fishery Fund – which will also serve in future as a good potential source of finance.</li> <li>Cross linkages started between PA Bio via HELCOM and HA Spatial via PartiSEApate</li> </ul>
	<b>Weaknesses</b>
	<ul style="list-style-type: none"> <li>Projects so far mainly focus on environmental issues and are mainly a reflection of regular activities and/or improvement communication among MS</li> <li>Focus mainly on political / administrative level.</li> <li>Difficulties to assess progress of flagship projects.</li> </ul>




	<ul style="list-style-type: none"> <li>No direct involvement of private sector (indirectly as beneficiaries in some project cases)</li> <li>Technology developments mentioned in some flagships, but implementation at project level not clear.</li> </ul>
Recommendations to increase potentials for Blue Growth	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>All projects are on catching fish – no project on sustainability aspects of fish processing.</li> <li>In fact no other sectors which form part of the value chain are involved.</li> </ul> <p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>Work towards realisation / implementation of planned EMFF project.</li> <li>Blue economy aspects of fishery should be given higher focus, in that sense cross-linkages should be fostered between PA Agri, PA Bio and HA Bio-Economy in order to strengthen cooperation on the Blue Value Chain and monetary aspects of ecosystem evaluation.</li> <li>Private sector involvement should be fostered.</li> <li>Continue and strengthen starting cooperation between fishery and MSP projects.</li> <li>Create linkages with PA Ship on realisation / implementation of technical measures related to Ballast Water Convention.</li> </ul>


### 4.3.3 Marine Aquaculture

PA Agri deals with the overall sustainable economic development of the fishery and aquaculture sector and has included these topics among its indicators. On project level marine aquaculture is so far only explicitly covered by two flagship projects under the EUSBSR, i.e. AQUABEST (PA Agri) and the SUBMARINER Network (PA Inno), which have formed a strategic partnership with yet another project AQUAFIMA (not mentioned under the EUSBSR).

All three projects have also cooperated with the project “PartiSEApate” under HA Spatial Planning. Similar to fishery - HA Bio-Economy may also develop into a string player in the development of the Blue Growth potential of this sector with its ambition to focus on activities related to the Blue Value Chain.

In terms of institutional capacity it remains to be seen whether these projects can translate results into a long-term Baltic Sea region-wide cooperation, which can initiate and guide necessary future actions in a coherent way, as aquaculture is not driven by a given transnational organisation. Chances are relatively good in case future funding programmes also incorporate this MEA into their programme lines.

EUSBSR objectives linked to MEA	No direct link to EUSBSR objectives/sub-objectives and targets/indicators		
Priority Area <b>directly</b> linked to MEA	<b>PA Agri</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	Added value through cooperation within Baltic fisheries and aquaculture		
	<ul style="list-style-type: none"> <li>Increase aquaculture production &amp; sustainability compared to 2011 level</li> </ul>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Develop and improve coordination and cooperation among Member States and stakeholders on fisheries management in the Baltic Sea		
	 <b>AQUABEST: Innovative sustainable aquaculture in the BSR</b> (see Annex)	Finnish Game & Research Institute	Finalises in 2014, BSR programme (€3,7 million), partners: DK, DE, EE, LV, PL, FI, SE, triple helix partner structure
Priority	Action: Enhance the combined effects of the European Maritime and Fisheries Fund (EMFF)		
	Develop & improve coordination and cooperation among MS and stakeholders in the EMFF	n/a	Possible future project
	<b>PA Innovation</b>		


Areas/Horizontal Actions <u>indirectly</u> linked to MEA	OBJECTIVES, TARGETS, INDICATORS		
	Increase transnational cooperation on Research & innovation within the BSR with focus on areas with large future market potential, incl. marine resources		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Establish a common Baltic Sea Region Innovation Strategy		
	 <b>SUBMARINER Network: actions towards innovative uses of marine resources in the BSR</b> (see Annex)	Ministry of Economy Schleswig-Holstein	Assessment and roadmap of actions to foster of potential of sustainable forms of fish aquaculture as well as mariculture (algae, mussels) for multiple benefits. Permanent EEIG structure (envisioned). Funded by network members, all EU BSR countries involved
	<b>PA Nutri</b>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Investigate cost-efficient nutrient reduction mechanisms		

Findings	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Clear Target / Indicator defined under PA Agri, which supports development of aquaculture</li> <li>• AQUABEST and the SUBMARINER Network together with AQUAFIMA (a project outside the EUSBSR governance structure) have so far created a critical project mass (€12 million) for this currently rather small-scale sector throughout the Baltic Sea region.</li> <li>• Projects' triple helix structure have so far facilitated the application of knowledge generated by academia on a practical level.</li> <li>• SUBMARINER Roadmap provides recommendations on activities necessary to foster sustainable aquaculture – this is expected to be followed by more specific AQUABEST recommendations by autumn 2013</li> <li>• SUBMARINER Network start of a transnational organisation</li> <li>• Sustainable aquaculture features in several future funding lines (EMFF, Bonus, Horizon 2020)</li> <li>• HA BioEconomy wants to open up “blue bioeconomy value chain” initiative</li> <li>• Some MS and also HELCOM show interest in not only deepening applied research on sustainable fish aquaculture but also other ecosystem services provided by mariculture</li> <li>• Increasing recognition of aquaculture within MSP - start of cooperation at project level</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Institutional capacity is not optimally developed, as aquaculture is not driven by a dedicated transnational organisation yet – SUBMARINER network only starting to gather relevant actors</li> <li>• The finance for the critical mass of flagship projects so far will come to an end by spring 2014 – new project based funding sources need to be generated in the future</li> <li>• Lack of concrete pilot sites for empirical research</li> </ul>
Recommendations to increase potentials for Blue Growth	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>• Nutrient issues related to aquaculture are currently not part of PA Nutri. The action “Investigate cost-efficient nutrient reduction mechanisms”, which explicitly mentions nutrient trading as a possible solution, may open the way to include this.</li> <li>• High Level Group “BaltFish” currently mainly concerned with fishery and not aquaculture – strengthen dialogue and information exchange among MS on regulatory framework / national aquaculture strategies</li> </ul> <p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>• Based on results / recommendation of the set of current flagship projects develop new set of flagship projects, i.e.: <ul style="list-style-type: none"> <li>○ Further support environmental as well as economic sound solutions of aquaculture</li> <li>○ Improve regulatory conditions for aquaculture to allow at least pilot sites for both RAS as well as IMTA systems</li> </ul> </li> <li>• Strengthen collaboration with HA Bio-Economy to develop blue bio-economy value chain and</li> </ul>

involve BSR aquaculture actors in order to raise awareness and develop joint marketing schemes for Baltic Sea (regional) aquaculture products.

#### 4.3.4 Blue Biotechnology

Within the SUBMARINER Network under PA Innovation there is currently only one EUSBSR flagship project currently tackling the issue of blue biotechnology as part of an overall umbrella promoting innovative uses of marine resources. The SUBMARINER Network will be developed into a Baltic Sea region-wide permanent self-sustaining structure acting as a European economic interest group. It is about to strengthen linkages to HA Bio-Economy, which wants to develop activities related to the promoting the Blue bio-economy value chain.



EUSBSR objectives linked to MEA	No direct link to EUSBSR objectives/sub-objectives and targets/indicators	
Priority Area <u>directly</u> linked to MEA	No dedicated PA for Blue biotechnology	
Priority Areas/ Horizontal Actions <u>indirectly</u> linked to MEA	<b>PA Innovation</b> <b>OBJECTIVES, TARGETS, INDICATORS</b> Increase transnational cooperation on Research & innovation within the BSR with focus on areas with large future market potential, incl. marine resources <b>ACTIONS AND FLAGSHIP PROJECTS</b> Action: Establish a common Baltic Sea Region Innovation Strategy	
	 SUBMARINER Network: actions towards innovative uses of marine resources in the BSR (see Annex)	Ministry of Economy Schleswig-Holstein (DE) First assessment of potential for blue biotechnology throughout the BSR with roadmap suggesting necessary future actions Permanent EEIG structure (envisioned), coordination funded by network members (but not projects), all EU BSR countries involved


Findings	<b>Strengths</b> <ul style="list-style-type: none"> <li>Marine resources mentioned in targets of PA Innovation</li> <li>With the SUBMARINER Network a start has been made in terms of strengthening the institutional set-up for a transnational blue biotechnology cooperation.</li> <li>Linkages created with HA BioEconomy as SUBMARINER network partner and thus potentially stronger interlinkage also with “green, yellow and brown bio-economy value chains”</li> <li>Generally EUSBSR stakeholders receptive towards strengthening activities related to promoting Blue Biotechnology</li> <li>Regional network creation started in SH involving also private economic actors</li> <li>First assessment as well as roadmap with recommended set of future activities available</li> <li>Good opportunities for “project” based research funding with Horizon 2020 (need of EU wide coverage)</li> </ul> <b>Weaknesses</b> <ul style="list-style-type: none"> <li>Despite creation of EU ERA-NET, blue biotechnology still plays only marginal role in development strategies of BSR MS - not high on national research agendas.</li> <li>Lack of sufficient leverage from private sector within BSR – higher involvement and dialogue required with potential industry “end-users”</li> <li>Project based funding mechanisms need to be coupled with some continuous basic research infrastructure / capacities based on strategic priorities based in turn on BSR strengths / needs.</li> <li>Research also has to go into technological developments for upscaling needs.</li> </ul>
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Recommendations to increase potentials for Blue Growth	<b>Gaps</b>
	<ul style="list-style-type: none"> <li>HA BioEconomy to develop clearer objectives, targets and indicators</li> <li>BioRefinery concept has currently no “host” under any PA/HA.</li> <li>Develop joint research capacities (and not only networks).</li> </ul>
	<b>Strengthening</b>
	<ul style="list-style-type: none"> <li>Use SUBMARINER network with links to Steering Groups of PA Inno, HA BioEconomy as well as ERA-NET to further increase awareness and dialogue at political level across all BSR countries</li> <li>Based on strategies developed under previous SUBMARINER project further promote strategic collaboration not only based on EU funding, but also BSR MS / private R&amp;D funding in order to:             <ul style="list-style-type: none"> <li>Pool limited capacities among BSR countries</li> <li>Create bridge between basic and applied blue biotechnology research</li> </ul> </li> <li>In addition to further work under PA Inno, further strengthen linkages with HA BioEconomy also in view of other bioeconomy colours (forest, waste) and PA SME for joint business promotion project.</li> <li>Strengthen dialogue, raise awareness with related other EUSBSR areas (i.e. PA Agri, PA Hazard, PA Health, PA Market).</li> </ul>

#### 4.3.5 Offshore Wind Energy

In contrast to the overall role attached to the development of offshore wind energy for Blue Growth this MEA is rather weakly addressed by the EUSBSR. It is only generically addressed by the single PA Energy, which stands, however, more for a general approach to energy that goes well beyond the ocean energy specific issues covered within the Blue Growth initiative and does not feature directly in any of the PA specific targets and indicators.


EUSBSR objectives linked to MEA	Objective Targets/ Indicators	CONNECT THE REGION Reliable energy markets <ul style="list-style-type: none"><li>Full and sustainable interconnection of gas and electricity markets</li><li>Increased use of renewable energies and better market integration of RES</li></ul>	
Priority Area <u>directly</u> linked to MEA	PA Energy		
	OBJECTIVES, TARGETS, INDICATORS		
	See EUSBSR objectives, targets, indicators		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Towards a well-functioning energy market		
	Monitor the Implementation of the Baltic Energy Market Interconnection Plan (BEMIP)	Lithuanian Ministry of Energy	Countries: EU BSR MS, apart from that no further information
	Investment in Infrastructure in the BSR	DK	Possible future project
	Action: Increase the use of renewable energy sources and promote energy efficiency		
	Enhanced Market Integration of RES and Best Practice Sharing	LV	No further information
	 Demonstration of Coordinated Offshore Wind Farm Connection Solution (see Annex)	Energinet DK	Finalises in 2018, Budget €311 million, countries: DK, DE
Exploration of Cooperation Mechanisms	SE	Potential future project	
Priority Areas/Horizontal Actions <u>indirectly</u> linked to MEA	HA Spatial Planning		
	OBJECTIVES, TARGETS, INDICATORS		
	Increase transnational cooperation on Research & innovation within the BSR with focus on areas with large future market potential, incl. marine resources		
	Action: Establish a common Baltic Sea region innovation strategy		
	 SUBMARINER: actions towards	Ministry of Economy	Assessment covered combined uses of offshore wind parks with other marine Permanent structure

	<b>innovative uses of marine resources in the BSR</b> (see Annex)	Schleswig-Holstein (DE)	(envisioned), Funded by network members, all EU BSR countries involved
	<b>PA SME</b>		
	<b>OBJECTIVES, TARGETS, INDICATORS</b>		
	Targets and indicators to be developed still – but establishment of BSR Network for offshore renewable energy mentioned		
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>		
	Action: Building platforms for growth		
	 <b>Regional platform for strategic collaboration in the Green Offshore Industry</b> (see Annex)	LORC (DK)	One transnational workshop has taken place. Apart from that no further information
	<b>HA Sustainable development and bioeconomy</b>		
	<b>OBJECTIVES, TARGETS, INDICATORS</b>		
	Climate Change Mitigation: Becoming a low-carbon region		
	<ul style="list-style-type: none"> <li>Reaching the RES share targets by BSR countries and reaching GHG mitigation targets for non-ETS sectors</li> </ul>		

<b>Findings</b>	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>DK-DE demonstration project at “Krieger’s Flak” largest project within EUSBSR, part of DK national energy policy</li> <li>Good set of clusters / cross-border projects exist (mentioned in country reports DK / DE) covering partners from both forerunning as well as potential countries: i.e. GADOW (Interreg 4a / DK-DE), ECOWindS (FP7: DK, UK, NO, DE), Mare-Wint (FP7: DK, PL &amp; EU), South Baltic OFF.ER (South Baltic DE, PL, LT), SEANERGY 2020 (IEE: DE, LT &amp; other EU countries), 4POWER (Interreg 4C: DE, PL, LV &amp; other EU countries).</li> <li>Moreover the transnational body for BSR energy cooperation under the CBSS (BASREC – WIND) commissioned a study on “conditions for deployment of wind power in the BSR” (2010-2012) outlining a set of strategic BSR wide actions many of which being based in the countries so far not highly involved in offshore wind energy. The BASREC ministerial meeting in 2012 confirmed that cooperation until 2015 includes – among others – integration of fluctuating wind power into the electricity systems. Also other BSR wide networks or conferences take place on offshore wind / grid development.</li> <li>Survey among EUSBSR stakeholders shows that higher emphasis on “offshore wind energy” finds broad consensus and is seen as the most important MEA for Blue Growth. <ul style="list-style-type: none"> <li>⇒ Conditions for transnational networking should be there.</li> </ul> </li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>Offshore wind energy and related grid development needs not explicitly emphasised in EUSBSR: <ul style="list-style-type: none"> <li>Only part of “renewable energy mix”</li> <li>Related grid connections only indirectly covered within the overall Baltic Energy Market Interconnection Plan (Action 3 of BEMIP)</li> <li>No single standing action / target / indicator given</li> </ul> </li> <li>The transnational cooperation BASREC does currently not feature in the EUSBSR.</li> <li>Scope of transnational network activities of regional platform (led by LORC) so far very limited. Offshore wind energy not only question of SME promotion.</li> <li>Little information available on other possibly related flagship projects – thus difficult to assess institutional capacity, geographical scope, funding scope.</li> <li>The numerous existing projects/studies covering either part or all BSR countries (see strength) do not feature in the EUSBSR.</li> </ul>
<b>Recommendations to increase</b>	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li><b>Increase visibility / put stronger emphasis on “offshore wind energy” within EUSBSR –</b></li> </ul>

potentials for Blue Growth	<p><b>potentially create new action with related set of targets/indicator under PA Energy with own coordination</b></p> <p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>Substantially strengthen transnational network structure at action / flagship project level – potentially move from PA SME to a new action under PA Energy (as offshore wind energy development not only SME driven)</li> <li>Build on existing transnational cooperation structures (i.e. BASREC under CBSS) and related feasibility studies / recommendations for supporting offshore wind energy structure in BSR.</li> <li>Build on good practice / existing knowledge centres and projects, which are so far not mentioned in EUSBSR.</li> <li>Increase visibility, transparency and transfer experience from “Krieger’s Flak” initiative – so far difficult to access</li> <li>Increase links between flagships under PA Energy – PA SME – PA Innovation related to offshore wind energy.</li> <li>Increase linkages between HA Spatial Planning for efforts on cross-border spatial planning and offshore energy/grid development with MSP, develop dedicated flagship projects.</li> </ul>
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#### 4.3.6 Coastal Tourism

EUSBSR objectives linked to MEA	No direct link to EUSBSR objectives/sub-objectives and targets/indicators	
Priority Area <u>directly</u> linked to MEA	<b>PA Tourism</b>	
	OBJECTIVES, TARGETS, INDICATORS	
	<ul style="list-style-type: none"> <li>Real opportunities for networking and dialog on tourism (conferences, meetings, workshops etc.)</li> <li>Increase in the number of jointly developed tourism strategy and policy documents, both regarding comprehensive/all-inclusive strategies, and documents focusing on more specific aspects, including maritime and coastal tourism</li> </ul>	
	ACTIONS AND FLAGSHIP PROJECTS	
	Action: Facilitate networking and clustering of tourism stakeholders	
	Network of Regional Tourism Innovation Centers	Regional Council for Southwest Finland Possible future project, further lead partner: Turku Touring (FI)
	Action: Mobilise the full potential for sustainable tourism of the Baltic Sea region	
	 <b>Facilitate Sustainable Land Excursions of Cruise Ships Operators in the Baltic Sea</b> (see Annex)	AIDA Cruises (DE) Started in 2012, financed primarily by AIDA (€70.000), involves three partners only from DE
	Promote the Cultural and Natural Heritage	Pomorskie Voivodeship (PL) No clear time frame for implementation, funding South Baltic Programme (€1 million) partners: DE, LT, PL
Priority Areas/Horizontal Actions <u>indirectly</u> linked to MEA	Develop Strategies for Sustainable Tourism	University of Greifswald (DE) Sub-project AGORA finalises in 2013, financed by BSR programme (€2,8 million), countries: all BSR EU members states, triple helix structure
	Attract Tourists to Rural Areas especially the Coastal ones	n/a Possible future project
	<b>HA Neighbours</b>	
	ACTIONS AND FLAGSHIP PROJECTS	
	Action: Develop sustainable cross-border areas for tourism and economic development	
	<b>HA Promo</b>	

OBJECTIVES, TARGETS, INDICATORS		
Joint promotion of the region		
<ul style="list-style-type: none"> <li>Shared branding elements for the Baltic Sea region including joint marketing campaigns and events, joint marketing products, joint cultural collaborations</li> </ul>		
ACTIONS AND FLAGSHIP PROJECTS		
Action: Boosting joint promotion of the region		
Baltic Metropolises Accelerating Branding and Identity Building of the Baltic Sea Region (ONE BSR)	City of Helsinki	Finalises in 2014, financed through BSR programme (€3 million), countries: DE, EE, LV, PL, FI, SE, triple helix structure

Findings	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>A dedicated Priority Area on Tourism has only been introduced with the latest revision of the Action Plan. In the course of that tourism issues have been upgraded.</li> <li>The Priority Area Coordinators are aware of the weaknesses of their PA. They have set up objectives and actions to react to existing problems in a realistic scope.</li> <li>The Priority Area Coordinators seek to increase the number of flagship projects and encourage actors in the field to develop projects tapping seed money facilities.</li> <li>There are projects on tourism that are not included in the BSR (e.g. those listed in the YEPAT data base).</li> <li>Stakeholders affirm that tourism is an important sector for Blue Growth.</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>The tourism sector is fragmented and largely non-cooperative. However, the readiness to cooperate at transnational level differs (e.g. Scandinavia has established cooperation patterns).</li> <li>The current quality and quantity of projects do not reflect the economic significance of the tourism sector in the BSR.</li> <li>The institutional capacity is very weak. There is no comprehensive permanent body for cooperation on tourism matters. There are temporary or single-topic related working groups.</li> <li>There is a lack of a comprehensive macro-regional political framework.</li> <li>Funding opportunities for projects (EU Territorial Cooperation Objective projects) largely go along with a limited geographic reach. There is lack of incentives to link up projects at overall sea-basin level.</li> <li>Currently, the number of private actors involved remains very limited.</li> </ul>
	<p><b>Recommendations to increase potentials for Blue Growth</b></p> <p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>PA Tourism has identified a lack of a permanent institutional framework and network structures as well as a lack of a macro-regional political framework (i.e. lack of suitable funding lines and lack of joint strategies). There are actions and flagship project addressing these gaps, however, at the current stage they have not been consolidated yet.</li> <li>The aspect of transboundary connectivity to facilitate coastal tourism in a wider region could be addressed also by PA Transport</li> <li>Actions related to Tourism under PA Neighbours do not feature flagship projects related to <u>coastal</u> tourism.</li> </ul> <p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>Quantity of projects should increase by creating new ones and integrating existing projects that have not been included in the Action Plan so far.</li> <li>Cooperative elements of coastal tourism in flagship projects should be reinforced to stimulate the willingness to cooperate.</li> <li>Stronger involvement of the private sector is desirable.</li> <li>Jointly promote the BSR as a tourist destination as foreseen in the possible future project under HA Promo, in order to attract tourists from beyond the BSR.</li> </ul>




## 4.3.7 Yachting &amp; Marinas

EUSBSR objectives linked to MEA	No direct link to EUSBSR objectives/sub-objectives and targets/indicators
Priority Area <u>directly</u> linked to MEA	<b>PA Tourism</b> OBJECTIVES, TARGETS, INDICATORS <ul style="list-style-type: none"> <li>• Opportunities for networking and dialog on tourism (conferences, meetings, workshops etc.)</li> <li>• Increase in the number of jointly developed tourism strategy and policy documents, both regarding comprehensive/all-inclusive strategies, and documents focusing on more specific aspects, including maritime and coastal tourism</li> </ul> ACTIONS AND FLAGSHIP PROJECTS <ul style="list-style-type: none"> <li>Action: Facilitate networking and clustering of tourism stakeholders</li> <li>Action: Mobilise the full potential for sustainable tourism of the Baltic Sea region</li> </ul>
Priority Areas/Horizontal Actions <u>indirectly</u> linked to MEA	<b>PA Safe</b> ACTIONS AND FLAGSHIP PROJECTS <ul style="list-style-type: none"> <li>Action: Ensure that vessels are up to the highest maritime safety standards</li> </ul>

Findings	<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Yachting and marinas is perceived by PAC/HAL to be among the top 5 MEAs in the Baltic, yet there is no flagship project nor any horizontal action dedicated to this MEA</li> <li>• Despite the fact that yachting and marinas offers next to PA Tourism a number of connecting factors to other PAs (e.g. PA Ship or PA Safe) and HAs (e.g. HA Neighbours or HA Spatial Planning) this MEA is not addressed in any of them</li> </ul>
Recommendations to increase potentials for Blue Growth	<b>Gaps</b> <ul style="list-style-type: none"> <li>• There are no flagship projects on yachting and marinas.</li> <li>• Reflection of the perceived importance and potential of yachting and marinas in transnational policies / strategies in order to exploit this potential (both on MS and sea-basin level)</li> <li>• The development of new Marinas calls for an integrated approach (development of joint marina networks, standardized equipment &amp; services in the marinas etc.) in order to facilitate the development of transnational sailing trips</li> <li>• Joint marketing of a Baltic Sailing trip to attract international sailors</li> </ul>

## 4.3.8 Cruise Tourism

EUSBSR objectives linked to MEA	No direct link to EUSBSR objectives/sub-objectives and targets/indicators
Priority Area <u>directly</u> linked to MEA	<b>PA Tourism</b> OBJECTIVES, TARGETS, INDICATORS <ul style="list-style-type: none"> <li>• Real opportunities for networking and dialog on tourism (conferences, meetings, workshops etc.)</li> </ul> Increase in the number of jointly developed tourism strategy and policy documents, both regarding comprehensive/all-inclusive strategies, and documents focusing on more specific aspects, including maritime and coastal tourism

	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Facilitate networking and clustering of tourism stakeholders		
	Action: Mobilise the full potential for sustainable tourism of the Baltic Sea region		
	 <b>Facilitate Sustainable Land Excursions of Cruise Ships Operators in the Baltic Sea</b> (see Annex)	AIDA Cruises, (DE)	Started in 2012, financed primarily by AIDA (€70.000), involves three partners only from DE
Priority Areas/Horizontal Actions <b>indirectly</b> linked to MEA	<b>PA Safe</b>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Ensure that vessels are up to the highest maritime safety standards		
	Action: Ensure that crews serving onboard vessels are well trained		

Findings	<b>Strengths</b> <ul style="list-style-type: none"> <li>The project “Facilitate Sustainable Land Excursions of Cruise Ships Operators in the Baltic Sea” is specifically dedicated to cruise tourism.</li> <li>The project involves the German market leader for cruise tourism, AIDA, and is mostly financed by AIDA, too.</li> <li>The cluster “Cruise Baltic” has been established by ports / cruise destinations across the Baltic and forms a strong institutional platform for potential further cooperation</li> <li>Private sector commitment on the transnational level</li> </ul>
	<b>Weaknesses</b> <ul style="list-style-type: none"> <li>The single current project is small in geographical scope. It only involves three partners from Germany.</li> <li>The budget of approximately €70.000 is also small.</li> </ul>
Recommendations to increase potentials for Blue Growth	<b>Gaps</b> <ul style="list-style-type: none"> <li>The project is limited to the development of sustainability indicators. Other aspects of cruise tourism are not tackled at the moment.</li> <li>PA Ship could tackle the issue of smaller cruise vessels in order to facilitate the development of smaller cruise destinations whose ports / cities cannot deal with the super vessels.</li> </ul>
	<b>Modification/Strengthening</b> <ul style="list-style-type: none"> <li>The project should be scaled up geographically, in order to establish the developed sustainability indicators across the BSR.</li> <li>The cluster “Cruise Baltic” could be extended in order to foster also medium sized cruise destinations ( for smaller vessels – see above)</li> <li>Increase linkages with PAs dealing with Shipping given the fact that Cruise boats &amp; Cruise Shipping form an important element in this sector with same overall issues related to compliance to new regulations than other shipping segments</li> <li>Energy consumption is key for cruise operators and thus offers a good entry point for measures in the field of PA Transport, PA Ship or PA Innovation</li> </ul>

#### 4.4 IMP Support Functions to Blue Growth within the EUSBSR

The analysis of activities required to generate blue growth potential at sea basin levels shows that it is not sufficient to analyse the EUSBSR activities only in relation to the MEAs directly, but to also include the coverage of the other fields of the Integrated Maritime Policy.



For this reason we present in the following inventory results in relation to these IMP areas and provide recommendations geared towards increasing their linkage to Blue Growth issues.

#### 4.4.1 Maritime Spatial Planning

Maritime Spatial Planning has been identified as a key enabler for promoting Offshore Wind Energy as well as Sustainable Marine Aquaculture. Whereas MSP in the case of marine aquaculture may in many instances be related to regional MSPs and Integrated Coastal Management and thus be of less importance at sea-basin level MSP development, a BSR wide perspective is seen to be critical for the wider development of Offshore Wind Energy. Also in the case of Shipping the issues at stake within MSPs to be developed are more of transnational character given the international connectivity dimension of transport routes.

Maritime Spatial Planning is mainly covered under the Horizontal Action “Spatial Planning”, which is jointly coordinated by HELCOM and VASAB. Part of the Horizontal Action is also devoted to land-based spatial planning (mainly associated to VASAB), but so far the description and targets/indicators within the EUSBSR are mainly associated to MSP only with one dedicated flagship project associated.

At the same time as can be seen from the table below, MSP is also covered by numerous other projects in related Priority Areas, where it is often associated to development of sector specific MSP solutions.

EUSBSR objectives linked to MEA	SAVE THE SEA <ul style="list-style-type: none"> <li>Better cooperation</li> <li>Drawing and application of transboundary, ecosystem-based MSPs by 2020</li> </ul> INCREASE PROSPERITY <ul style="list-style-type: none"> <li>Climate change adaptation               <ul style="list-style-type: none"> <li>Regional strategy in 2013 and adoption of an integrated coastal protection plan and programme by 2020</li> </ul> </li> </ul>		
Horizontal Action <u>directly</u> linked to MEA	<b>HA Spatial Planning</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	Increased cross-border and cross-sector cooperation and information sharing among maritime authorities and other relevant stakeholders to improve maritime safety and security		
	ACTIONS AND FLAGSHIP PROJECTS		
	 <b>Multi-level Governance in MSP throughout the Baltic Sea Region (PartiSEApate)</b> (see Annex)	Maritime Institute Gdansk (PL)	Finalises in 2014, BSR programme (€1 million), directly linked to HELCOM-VASAB WG on MSP, partners: SE, DE, LT, LV, PL – cross-border MSP pilot projects; pan-Baltic dialogue series on MSP with sectors, data, research; recommendation on transboundary MSP governance structure to VASAB Ministerial Conference in 2014
Priority Areas/Horizontal Actions <u>indirectly</u> linked to MEA	<b>PA Agri</b>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Develop and improve coordination and cooperation among Member States and stakeholders on fisheries management in the Baltic Sea		
	 <b>Innovative practices and technologies for developing sustainable aquaculture in the Baltic Sea region (AQUABEST)</b> (see Annex)	Finnish Game and Research Institute	The Aquaculture Spatial Planning Manual was tested in the framework of the spatial planning processes of three regions, finalises in 2014, BSR programme (€3,7 million), partners: DK, DE, EE, LV, PL, FI, SE, triple helix partner structure
	<b>PA Bio</b>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Reduce the negative effects of fishing on the Baltic ecosystem		
	Managing Fisheries in Baltic Marine Protected Areas (BALTFIMPA)	HELCOM	Implementation of generic tool for fisheries management, method to summarise information on fishery impacts on Baltic ecosystems and species, no clear implementation time frame, part of regular HELCOM activities, financed by HELCOM, partners: authorities and NGOs
	<b>PA Education</b>		
	ACTIONS AND FLAGSHIP PROJECTS		

	Action: Enhance voluntary cooperation between the regional universities of the BSR		
	Baltic University Programme (BUP)	Uppsala University	Implementation of BSR wide course on MSP (autumn 2013) countries: EU BSR MS + RU, partners: research institutions, authorities, private sector
	<b>PA Secure</b>		
	Action: Develop a joint macro-regional prevention and preparedness approach towards major hazards and emergencies		
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>		
	Sub-regional Risk of Spill of Oil and Hazardous Substances in the Baltic Sea (BRISK)	Admiral Danish Fleet HQ	Development of an environmental sensitivity map, Finalised in 2012, funded by BSR-programme (€3,3 million), countries: EU BSR MS + RU, partners: authorities, research institutions, business
	<b>PA Transport</b>		
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>		
	Action: Facilitate efficient and sustainable passenger and freight transport solutions		




Findings	<b>Strengths</b> <ul style="list-style-type: none"> <li>Dedicated HA has been introduced, which is led by VASAB and HELCOM.</li> <li>In HELCOM-VASAB WG on MSP all relevant national bodies for MSP organised</li> <li>Concrete targets / indicators set for MSP development set at highest EUSBSR objective level</li> <li>It is expected that through flagship project “PartiSEApate” the currently existing institutional capacity for MSP is increased as it aims to develop recommendations for a transnational governance model on MSP</li> <li>PartiSEApate strongly based on former MSP pilot projects in the BSR (BaltSeaPlan / Plan Bothnia)</li> <li>With PartiSEApate dialogue series with various sectors (aquaculture, offshore energy, shipping, fishery) has at least started, work and personal contacts among MSP responsible bodies across the BSR level as well as with HELCOM is intensified.</li> <li>Lithuanian MSP pilot project within PartiSEApate is a “real” case.</li> <li>It is expected that funding opportunities for MSP will also exist in future BSR Programme / also MSP specific call within BONUS research programme</li> <li>Linkages with other PAs/HAs ensured via normal VASAB / HELCOM operations</li> </ul> <b>Weaknesses</b> <ul style="list-style-type: none"> <li>No real action / flagship so far associated to ICM under Climate Change (HA SD) – linkage to HA MSP as well as other related PAs not clear</li> <li>So far only one dedicated action and flagship defined within HA Spatial</li> <li>PartiSEApate is a rather small project with limited funds / duration – work on transnational pilot projects is mainly related to transnational dialogues rather than real MSP development</li> <li>Linkages with other PAs/HAs showing MSP elements (i.e. Integrated Coastal Plans as stipulated in SD) not formalised</li> </ul>
Recommendations to increase potentials for Blue Growth	<b>Modification/Strengthening</b> <ul style="list-style-type: none"> <li>Build on results expected from PartiSEApate project – strengthen “blue growth” elements by working closer with related sectors on BSR wide MSP strategies and developing economic dimension of ecosystem based MSP approach</li> <li>Continue combination of political dialogue at VASAB-HELCOM WG on MSP and implementation oriented projects</li> <li>Projects should not be seen separate from “real” MSP implementation</li> </ul>



#### 4.4.2 Maritime Surveillance

Maritime Surveillance has been identified as an important element to increase the operational efficiency in shipping with an increasingly important role in future given the importance to ensure a level playing field within the market by ensuring enforcement of the environmental regulations through compliance checks.

Even though PA Safe is directly linked to issues related to Maritime Surveillance, however, PA Ship may in future be equally important as it addresses smart solutions for compliance checking or systems allowing exemptions of BSR shipping companies.

PA Internal Market is not mentioned in the table below as it does not feature neither related objectives, actions or flagships, but actually refers in its introductory section to the problem of applying single market procedures to goods entering EU ports on maritime routes.

EUSBSR objectives linked to MEA	No direct link to EUSBSR objectives/sub-objectives and targets/indicators	
Priority Area <b>directly</b> linked to MEA	<b>PA Safe</b>	
	OBJECTIVES, TARGETS, INDICATORS	
	Reduction in the number of maritime accidents <ul style="list-style-type: none"> <li>Decreasing trend in the number of maritime accidents by 2020</li> </ul> Improved long-term planning <ul style="list-style-type: none"> <li>Development and usage of joint, regional scenario for maritime safety and security</li> </ul> Increased cross-border and cross-sector cooperation and information sharing among maritime authorities and other relevant stakeholders <ul style="list-style-type: none"> <li>By 2020 the creation of 1) a Common Information Sharing Environment (CISE) among maritime authorities and coast guard functions; 2) permanent regional cooperation for coastguard functions, 3) a BSR expert e-Navigation Forum</li> </ul>	
	ACTIONS AND FLAGSHIP PROJECTS	
	Action: Create a common maritime management system and monitoring, information and intelligence sharing environment for the Baltic Sea, in compliance with developments at EU level	
	 <b>Baltic Sea Maritime Functionalities</b> (see Annex)	<div>Finnish Border Guard</div> <div>Develop an information sharing environment for the maritime domain in the coastal countries of the BSR, finalised in 2011, financed by the SI (€ 0,45million), countries: EE, PL, FI, SE, RU, partners: authorities</div>
	 <b>Pilot Region for the Integration of Maritime Surveillance Systems (MARSUNO)</b> (see Annex)	<div>Swedish Coast Guard</div> <div>Finalised in 2011, financed by DG Mare and SI (€3 million), countries: DE, EE, LV, LT, PL, FI, SE, partners: authorities</div>
	Testing Best Practices for Cooperation	<div>n/a</div> <div>Possible future project</div>
	Action: Improve the coordination of systems relating to ships' routing and monitoring of the vessel traffic and consider establishing new systems	
	 <b>Become a Pilot Region for e-Navigation (EfficienSea)</b> (see Annex)	<div>Danish Maritime Authority</div> <div>Finalised in 2012, funded through BSR Programme (€3 million), countries: DK, EE, PL, FI, SE, partners: research institutions and authorities</div>
Priority Areas/Horizonal Actions <b>indirectly</b> linked to MEA	<b>PA Crime</b>	
	OBJECTIVES, TARGETS, INDICATORS	
	Better cooperation <ul style="list-style-type: none"> <li>Permanent joint analysis and investigations and law enforcement cooperation platform by 2016 and operations/investigations/activities by 2013</li> </ul> Better cooperation to prevent trafficking in human beings for forced labour and to protection of the victims <ul style="list-style-type: none"> <li>Use of enhanced national and regional partnership and improved knowledge</li> </ul>	
	ACTIONS AND FLAGSHIP PROJECTS	

Action: Implementation of the BSTF OPC Regional Strategy 2010–2014		
Create a Single National Coordination Centre	Europol Finnish Border Guard	Finalised in 2012, was linked to the MARSUNO project, further lead partner Swedish Coast Guard, countries: EU BSR MS, partners: authorities
To Consider the Creation of a joint BSR Law Enforcement Authorities' Cooperation Structure	Priority Area Coordinators	Project in the starting phase, no funding source yet (estimated budget €30.000), countries: EU BSR MS, partners: authorities and IOs
Action: Combatting trafficking in human beings		
<b>PA Secure</b>		
ACTIONS AND FLAGSHIP PROJECTS		
Action: Develop a joint macro-regional prevention and preparedness approach towards major hazards and emergencies		
Sub-regional Risk of Spill of Oil and Hazardous Substances in the Baltic Sea (BRISK)	Admiral Danish Fleet HQ	Finalised in 2012, funded by BSR-programme (€3,3 million), countries: EU BSR MS + RU, partners: authorities, research institutions, business
<b>PA Ship</b>		
OBJECTIVES, TARGETS, INDICATORS		
Reducing emissions from the shipping in the Baltic Sea, while at the same it is predicted that the intensity of maritime activities will increase		
<ul style="list-style-type: none"> <li>Decreasing trend of annual emissions from vessel traffic in the Baltic Sea</li> </ul>		
ACTIONS AND FLAGSHIP PROJECTS		
Action: Reduce ship pollution and develop shore-side facilities		
Maritime Safety - Transport and Environment in the BSR (Baltic Master II)	Region Blekinge	Finalised in 2012, BSR programme funded (€3,9 million), countries: DK, DE, EE, LV, FI, PL, SE, partners: authorities and research institutions
 <b>Clean Baltic Sea Shipping (CleanShip)</b> (see Annex)	Port of Trelleborg (SE)	Finalises in 2013, BSR programme funded (€2,9 million), countries: EU BSR MS + RU, partners: authorities, research institutions, business
Baltic Sea cooperation for reducing ship and port emissions through knowledge and innovation-based competitiveness (BSR InnoShip)	The Baltic Institute of Finland	Finalises in 2013, BSR programme (€3,6 million), countries: EU BSR MS + others, partners: research institutions, authorities, private sector
Introduce Differentiated Port Dues depending on the Environmental Impact of Ships	HELCOM	Finalises in 2013, countries: HELCOM MS, partners: authorities
 <b>Indexing the Environmental Impact of Vessels (Clean Shipping Index)</b> (see Annex)	Clean Shipping Network Association	Permanent organisational structures, private –sector dominated, currently still partly financed by public money from Sweden, countries: DE, SE, partners: businesses
<b>PA Transport</b>		
ACTIONS AND FLAGSHIP PROJECTS		
Action: Increase the role of the Baltic Sea in the transport systems of the region		
Baltic Motorways of the Seas network	Baltic MoS Task Force	Purchasing oil sanitation equipment in Karlshamn to mitigate risks due to increased traffic, finalises 2013.

Findings	<b>Strengths</b>
	<ul style="list-style-type: none"> <li>Maritime surveillance issues featured strongly at objective/target as well as action and flagship project level across PA Safe as well as PA Ship</li> <li>Project under PA Ship “InnoShip” already developed recommendations for improved compliance checking</li> </ul>
	<b>Weaknesses</b>
	<ul style="list-style-type: none"> <li>All related flagship projects are in finalised stage.</li> <li>Future funding sources rather unclear in order to make investments necessary in technical equipment, data provision as well as covering possibly operational costs</li> </ul>

Recommendations to increase potentials for Blue Growth	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>Projects have to move into investment / implementation stage.</li> </ul> <p><b>Modification/Strengthening</b></p> <ul style="list-style-type: none"> <li>Added value can still be generated on sea-basin level especially by making use of new technologies.</li> <li>New set of applied R&amp;D projects required. Create linkages also with PA Inno.</li> </ul>
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#### 4.4.3 Environmental Data and Monitoring

Whereas the MEA is called “environmental monitoring” the correlated IMP policy field actually runs by now under “Marine Knowledge 2020”, which indicates also the scope for recommendations given below on blue growth data gathering needs in the BSR as already explained under scope for increased added value to be gained at sea-basin level.

As can be seen from the table given below the coverage of environmental monitoring within the EUSBSR is very good given the close link to the EUSBSR overall objective “Save the Sea”. As can be seen from the complete inventory (Annex) about 47 flagship projects are somehow related to environmental monitoring with a high number of them being interlinked to regular HELCOM working groups. For ease of reading we have, however, not again listed projects related to shipping, which have already been accounted for under the previous maritime surveillance section.

EUSBSR objectives linked to MEA	<p><b>SAVE THE SEA</b> Clear water in the sea</p> <ul style="list-style-type: none"> <li>GES by 2012</li> </ul> <p>Rich and healthy wildlife</p> <ul style="list-style-type: none"> <li>Biodiversity status and ecosystem health (incl. Fish stocks) and amounts of hazardous substances</li> </ul> <p>Better cooperation Evaluation of BSAP in 2013 and full implementation</p> <p><b>INCREASE PROSPERITY</b> Climate change adaptation</p> <ul style="list-style-type: none"> <li>Integrated coastal protection plan and programme, including providing for effects of increased runoff and changes in marine environment</li> </ul>		
Priority Areas and Horizontal Actions <u>indirectly</u> linked to MEA	<b>PA Agri</b>		
	OBJECTIVES, TARGETS, INDICATORS		
	<p>Added value through cooperation within Baltic fisheries and aquaculture</p> <ul style="list-style-type: none"> <li>State of Baltic Sea fish stocks and level of aquaculture production; activities of BALTFISH are result oriented and effective</li> </ul>		
	ACTIONS AND FLAGSHIP PROJECTS		
	Action: Develop and improve coordination and cooperation among Member States and stakeholders on fisheries management in the Baltic Sea		
	Eradicating Discards	Ministry (DK) of Food, Agriculture and Fisheries	Recommendations for a discard ban are presented to the Commission and pilot projects on sustainable fishing. No clear implementation time frame, ongoing process involving national/regional authorities from all EU BSR Member States, funded through national budgets
	Ensure Sustainable Fishing	Swedish Agency for Marine and Water Management	Set up ecosystem management plans and develop a roadmap for labelling and traceability of Baltic fisheries, No clear implementation time frame, aim is a discard ban, pilot projects being carried through national/regional authorities from all EU BSR Member States involved
	<b>PA Bio</b>		
	OBJECTIVES, TARGETS, INDICATORS		



- Develop and apply management plans for BSPAs
- Implementation of habitat restoration plans
- Active conservation of endangered/threatened wild salmon river populations and native Baltic Sea salmon populations

#### ACTIONS AND FLAGSHIP PROJECTS


Action: Implement the HELCOM Baltic Sea Action Plan, in particular the Sections on Biodiversity and Nature Conservation, and on maritime traffic

Create Marine Protected Areas	Forest Admini. (FI)	No clear implementation time frame, part of regular HELCOM activities, HELCOM-financed
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Action: Reduce the negative effects of fishing on the Baltic ecosystem

Restrict Introduction of Alien Species (Ballast water convention)	HELCOM	No clear implementation time frame, part of regular HELCOM activities, financed by HELCOM
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Establish Measures to Facilitate the Migration and Reproduction of Migratory Fish Species	HELCOM	No clear implementation time frame, part of regular HELCOM activities, financed by HELCOM
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 <b>Managing Fisheries in Baltic Marine Protected Areas (BALTFIMPA)</b> (see Annex)	HELCOM	Plan to carry out detailed assessment of fishing activities and their impacts within selected areas and to develop innovative solutions, Project in the inception phase, EU funded, countries: EE, LV, LT, SE, FI, partners: authorities and NGOs
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#### PA Hazard

##### OBJECTIVES, TARGETS, INDICATORS

Concentrations of hazardous substances close to natural levels, and zero level of man-made substances

- Decreasing trends and/or concentrations below levels of EU Environmental Quality Standards or other relevant thresholds used by HELCOM

All fish safe to eat

- Levels of hazardous substances in Baltic Sea fish below EU max. levels in muscle meat of fish

Healthy wildlife

- Healthy populations of predatory birds, seals and fish

#### ACTIONS AND FLAGSHIP PROJECTS

Action: Remediation and mitigation

Assess the Need to Clean up Chemical Weapons	Environment Protection Inspectorate (PL)	Finalises in 2015 (earliest), HELCOM-financed, partners: authorities, research institutions, NGOs
Chemical Munitions, Search and Assessment (CHEMSEA)	Institute of Oceanology PAS (PL)	Finalises in 2014, funded through BSR-programme (€4,6 million), countries: DE, LT, PL, FI, SE, partners: research institutions and authorities

Action: Implementation of regulatory frameworks and conventions

Development of HELCOM Core Set Indicators	HELCOM	Finalises in 2013, countries: HELCOM MS, partners: authorities
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Action: Research and innovative management

Biological effects of anthropogenic chemical stress: tools for the assessment of ecosystem health (BEAST)	Finnish Environment Institute	Finalised in 2012, funded through BONUS+ (€1,6 million), countries: HELCOM MS; partners: primarily research institutions
Sustainable Management of Contaminated Sediments in the Baltic Sea (SMOCS)	Swedish Geotechnical Institute	Finalised in 2012, funded through BSR-programme (€3,6 million), countries: DE, LT, FI, PL, SE, partners: research institutions and authorities
Control of Hazardous Substances in the BSR (COHIBA)	Finnish Environment Institute	Finalised in 2012, funded through BSR-programme (€4,9 million), countries: EU BSR MS, partners: research institutions, authorities, NGOs
Innovative Management of Hazardous Substances in the BSR (InnoMaHaz)	Fraunhofer Institute (DE)	No clear time frame yet, no funding source yet, countries: EU BSR MS + RU

#### PA Nutri

##### OBJECTIVES, TARGETS, INDICATORS

Clear water in the sea

- Total nutrient reduction by 2016

Clear water in the sea, rich and healthy wildlife

	<ul style="list-style-type: none"> <li>Sea-area (km<sup>2</sup>, %) in good ecosystem status by eutrophication descriptors</li> </ul>
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>
	Action: Improving waste water treatment
	Action: Managing nutrients more efficiently
	Action: Facilitate cross-sectoral policy-oriented dialogue
	Action: Investigate cost-efficient nutrient reduction mechanisms
	Action: Improve nutrient load data
	<b>HA Spatial Planning</b>
	<b>OBJECTIVES, TARGETS, INDICATORS</b>
	Pilot eco-based MSPs by 2013 and application throughout the region by 2020
	Indicators: Drawing up and application of transboundary, ecosystem –based MSPs
	<b>HA Sustainable development and bioeconomy</b>
	<b>OBJECTIVES, TARGETS, INDICATORS</b>
	Climate Change Mitigation: Becoming a low-carbon region
	<ul style="list-style-type: none"> <li>Reaching the RES share targets by BSR countries by 2020 and reaching GHG mitigation targets for non-ETS sectors</li> </ul>
	Climate Change Adaptation: Becoming a region adapted to the expected impacts of climate change
	<ul style="list-style-type: none"> <li>Adaptation Strategy (CCAS) and Action Plan developed/endorsed, adoption of national Climate Change adaptation policies and relevant national policy documents revised/adopted</li> </ul>
	<b>ACTIONS AND FLAGSHIP PROJECTS</b>
	Action: ‘Climate change and mitigation’
	Action: ‘Climate change adaptation’

Findings	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>Environmental monitoring is a cross-cutting issue that is prominent in a large number of PAs/HAs</li> <li>Relevant transnational institutions, especially HELCOM, involved in EUSBSR flagship projects on environmental monitoring</li> </ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>Linkages between environmental monitoring in helping to create favourable conditions and promote Blue Growth activities so far not emphasised yet – emphasis on environmental monitoring rather translation into marine knowledge with relevance to Blue Growth</li> <li>Environmental monitoring has to be a regular effort – projects should only pave the way for establishing innovative, improved systems (which are then taken on board)</li> <li>PA Nutri / HA SD have important actions but so far no projects in implementation stage yet.</li> <li>Other projects only partly at implementation level - many more on regulatory basis</li> <li>Economic dimension / advantages to be gained from harmonised, targeted monitoring; coherent sea-basin wide ecosystem based approach or economic development potential from new technology development not covered so far</li> <li>So far little/no involvement of regional technology centres</li> <li>Role of regional analysis centres and distribution between public and private sector, research institutes and SMEs in providing services related to environmental monitoring not clear</li> </ul>
	<p><b>Gaps / Modify</b></p> <ul style="list-style-type: none"> <li>Strengthen efforts to gather data needed for environmental monitoring purposes also for blue growth knowledge needs (incl. MSP).</li> <li>Formal recognition of the value of the benefits new environmental technologies and services can provide to ecosystem services within the region and the implementation of appropriate incentives to balance the investment is needed.</li> <li>Promote further actions / projects which support shared, open-access, integrated</li> </ul>
Recommendations to increase potentials for Blue Growth	

infrastructure for environmental monitoring within EUSBSR and beyond.

- Support operational programmes, and move away from the “project life cycle”, continuity is essential and programmes must be part of an operational budget.
- Work with private industry to unlock scale of commercial monitoring investments. Develop public/private data sharing philosophy.
- There is significant growth potential related to monitoring activities required by the renewable energy sector. Invest in new technologies and services which support the renewable energy sector’s monitoring requirements.
- Create linkages to PA Inno and promote investments into technologies which support environmental remediation.
- Promote investments in marine data and knowledge development services which support savings to other MEAs through the provision of improved forecasts and analysis products (i.e. clean / safe shipping, offshore wind energy, aquaculture, MSP)

#### 4.5 Summary results from coverage of Blue Growth issues under the current EUSBSR

It was analysed in this study to what extent the current EUSBSR already by now relates to maritime economic activities, integrated maritime policy fields as well as to the issues at stake to drive Blue Growth in these areas. The analysis reveals some interesting findings, which can be summarised as follows:

- **With the only exception of – yachting & marinas – all maritime economic areas are already covered by the current EUSBSR in one way or another.**
- Whereas in general maritime issues play an important role within the current EUSBSR most of them are, however, not directly associated with the objective to generate Blue Growth, but are at their core most often related to environmental concerns. **Blue Growth often features more as a “side-effect”,** but is not automatically an integral part and parcel of actions.
- At the same time a **good set of “prominent projects”** could be identified with at least one for each sea-basin relevant MEA, which may **serve as a foundation for future projects** to be undertaken in these fields. All of them have been taken from the current pool of projects being already finalised or being in such stage of development that clear activities could be associated to them (see Annex 3.3). Whereas in the case of shipping even more projects could have qualified as “prominent” in all other sectors projects were mainly chosen due to their single standing nature in being directly associated to the given MEA. Especially in the case of “energy”, “tourism” as well as for “marine knowledge” other projects – outside the current EUSBSR - could have actually served as potential candidates for being rated as “prominent” for Blue Growth issue, but were not taken into account as the task was to identify those which are currently explicit part of the EUSBSR.
- **Shipping is the sector, which is by far the best assessed sector across all ranges.** It features a strong and dedicated coordination, which - even though activities have been developed mainly on the ground of environmental or safety concerns – shows a good set of relevant actions and projects with direct relevance also for promoting Blue Growth. However with more focus on Blue Growth, activities could be brought which are more directly designed to create business incentives and trigger the relevant investments in order to promote sustainable sea-basin wide solutions. The current set of implementation projects had to rely to large extend on BSR Programme finance, which is about to run out. But increasingly other available funding sources are brought in. Also BSR wide involvement in steering developments within this sector is about to pick up with a steering group about to be created.
- On the other hand **ocean energy and tourism are substantially under-represented within the EUSBSR** in relation to their size and the importance attached to them by numerous BSR countries. This cannot solely be explained by the lack of direct funding for these sectors within the “old” BSR wide programme – as in contrast both sectors feature numerous projects in the cross-border programmes, which may have therefore also been highlighted within the EUSBSR.
- Whereas tourism may currently still lack the necessary institutional capacity to develop BSR wide activities it is, however, represented by a dedicated Priority Area Coordinator.
- **Ocean renewable energy, incl. ocean wind energy, does not even feature as a separate action, let alone objective or priority area.** The issue is all subsumed under the BEMIP. This is in surprising

contrast to the economic weight attached to this sector throughout the BSR and the actual number of already existing projects / studies. Relevant BSR transnational organisations like BASREC (Wind) do not feature explicitly in the current EUSBSR.

- At the same time it should be noted that with Kriegers Flak the most prominent cross-border wind park and the world's largest offshore energy grid connection is featured, in which Energinet.dk and the German TSO (Transmission System Operator) 50Hertz look for an optimised solution for simultaneously bringing ashore current from the offshore farms and for electricity trading between the countries.
- Whereas **fishery is well represented** and with BaltFish also starts to feature a EUSBSR specific MS driven high level working group (working with but independent from BS RAC, ICES, HELCOM), sea basin activities related to **fish processing and retailing**, which actually makes the bulk of the economic size of this MEA, **do not feature at all**.
- At the same time **aquaculture** issues, even though until 2014 covered by the two prominent projects "Aquabest/SUBMARINER", are not driven by a dedicated sector specific transnational body at BSR wide political level. Aquaculture is, however, the only Blue Growth sector which is directly addressed by a concrete Blue Growth target / indicator within the current EUSBSR.
- The SUBMARINER EEIG based on a triple helix structure as well as combining economic and environmental bodies may increasingly develop into an appropriate coordination platform covering these blue bio-economy areas incl. also the aspects related to blue biotechnology.
- The IMP fields – **MSP, Maritime Surveillance and Marine Knowledge 2020** – which are associated with the promotion of Blue Growth are already covered by the current EUSBSR. MSP is not only covered by a dedicated Horizontal Action, but also is associated with a concrete target. At the same time none of them is designed for "Blue Growth" specific purposes, with little focus on generation of relevant socio-economic data or cost-efficiencies to be gained from shared data sources for environmental monitoring, economic analyses and/or MSP, which could for instance be used for optimal BSR wide site selections or ecosystem service price development – taking into account both economic as well as environmental perspectives.
- In almost all cases the overview of actions & flagship projects shows that a whole cluster of initiatives exists in relation to a given maritime economic activity, which are, however, often spread across a rather wide range of the various Priority Areas and Horizontal Actions. The degree of coordination and cooperation among these initiatives currently depends on the respective coordinators and flagship project leaders and is not organised in a systematic way.
- The EUSBSR document itself as well as the overview tables shown in this report highlight the interrelation between the various PAs/HAs to the three overarching objectives of the EUSBSR as well as the given Maritime Economic Activities or IMP fields. However, sub-objectives and related targets / indicators / actions developed for the various PAs/HAs tend to focus on one of the three overarching objectives only. This means in concrete terms that PAs, directly linked to "save the sea", hardly feature sub-objectives, targets and indicators which show the (positive) effect of environmental measures on the economy or vice versa.
- In large number of cases related active flagship projects are soon about to come to an end of their current funding line. Whereas this presents a risk for discontinuation it is also an opportunity as many of them have or are about to produce good sets of recommendations for actions to be undertaken in the near future related to blue growth, which can therefore be integrated into future actions/projects to come (see below).

## 4.6 Strengthening Blue Growth issues within the overall EUSBSR Governance System

### 4.6.1 Introductory remarks on EUSBSR governance structures and resulting survey

The EUSBSR governance system involves a multitude of actors from all eight BSR member states. Before assessing how the maritime part of the EUSBSR could be more effectively coordinated, a baseline review

was undertaken about the roles and responsibilities of the groups involved in order to assess at which level to assess Blue Growth potentials within the EUSBSR.

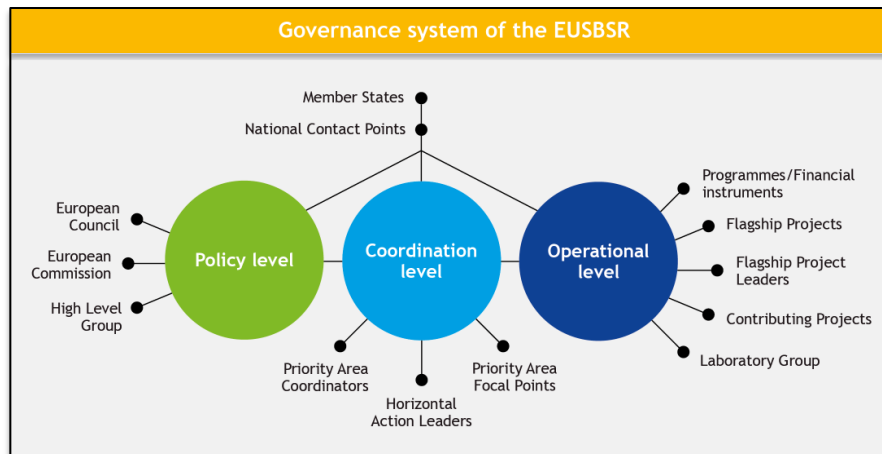


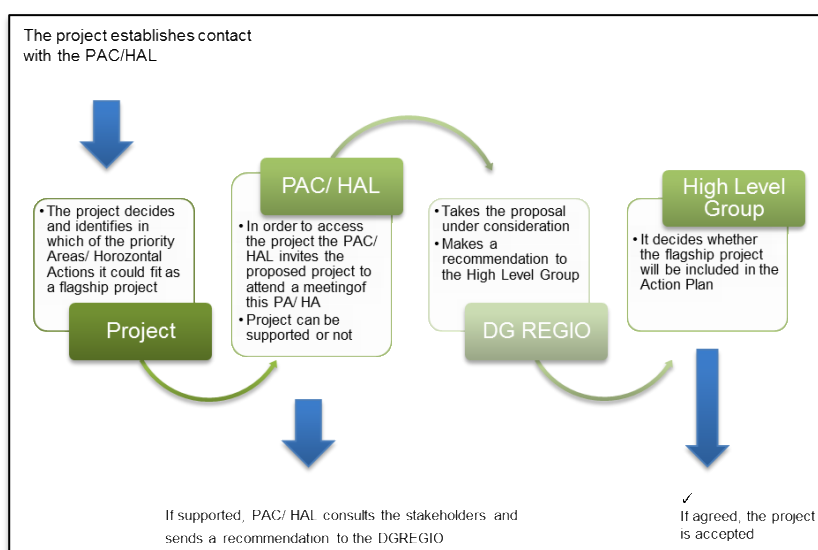
Figure 8 Governance System of the EUSBSR. Source: EUSBSR webpage

Priority Area Coordinators and Horizontal Action Leaders play a central role in the implementation of the EUSBSR in general and of its maritime part in particular as they have to ensure that targets and indicators of their PA/HA are reached.

Flagship projects are the most direct entity in the implementation process and are, hence, of very high importance. PACs/HALs play a crucial role in the selection process of flagship projects. As can be seen from Figure 9 the starting point for flagship projects has so far often been the existence of a project or at least a project idea from an institution, which may not have been involved in the steering of a given PA/HA. Projects were mainly looking for an appropriate PA/HA roof or alternatively PAs/HAs were looking for (existing) projects, which they could suggest as for the flagship project label. As a rule flagship projects should serve one PA/HA only rather than being spread across a variety of PA/HAs.

With the EUSBSR now entering a new EU funding period and given their role in giving approval to project proposals submitted for the (highly oversubscribed) EUSBSR SEED money facility, this process seems to slowly change with some PAs/HAs being increasingly active in seeking / calling for the creation of suitable flagship projects, which are specifically designed as to meet the needs of the action in question.

Figure 9 Decision making process for EUSBSR flagship projects



The main decisions on the labelling of a project or not are, however, taken at a higher political level. At the same time also prior decisions on flagship projects are not taken by PACs/HALs individually. Whereas the majority of Horizontal Actions is coordinated by secretariats of transnational organisations, Priority Area

Coordinators are representatives of national or (in exceptions) regional administrations, with differences to be noted in support services provided to them. Increasingly BSR wide steering committees are created in order to facilitate an involvement of stakeholders from all EUSBSR Member States.

**For some Blue Growth areas the creation and active involvement of relevant stakeholders in these BSR wide steering committees is an important achievement in itself as a pre-condition for creating the path towards Blue Growth. It has been noted that the active involvement of relevant EU DGs in these steering groups is also highly important in this regard as to strengthen linkages between BSR and EU-wide activities.**

Next to PACs/HALs also National Contact Points were seen as to considerably contribute to the successful implementation of thematic aspects such as IMP and Blue Growth in the EUSBSR as they have to seek the national political support for the implementation of the EUSBSR formulating and communicating national positions on the EUSBSR, provide support to PACs/HALs in the implementation of the EUSBSR and monitor the implementation activities.

As a result of the baseline review a survey was carried out among PACs/HALs/NCPs about their perception of the role of maritime and Blue Growth issues in the EUSBSR and possible ways of strengthening them within the overall EUSBSR governance system.

Questions centred around the importance to be attached to specific maritime economic activities and integrated maritime policy fields within the EUSBSR, drivers and barriers within the current EUSBSR governance structure for taking them on board and resulting suggestions on how to strengthen the coverage of these topics within the strategic document itself as well as within current and potentially future flagship projects.

#### 4.6.2 Importance of IMP/Blue Growth Topics in the EUSBSR as perceived by EUSBSR coordinators

Overall the survey showed that there is general agreement that IMP and Blue Growth play a role in the EUSBSR. Whereas Maritime Surveillance and marine data were considered as important, but are already a part of the strategy already, **Blue Growth was attributed the highest need to be strengthened within the EUSBSR.** Of all four IMP areas, Maritime Spatial Planning was seen as less relevant, but still at least one third wishes also to see MSP being strengthened in the EUSBSR as a whole.

In fact, IMP, Blue Growth and other (maritime) strategies have so far, however, only played a minor role in the design of the PAs/HAs. Only a small minority of respondents claimed to have strongly considered IMP, Blue Growth, the Marine Strategy Framework Directive, National Maritime Action Plans/Strategies and the Smart Specialisation Strategy.

Among other questions, EUSBSR coordinators and contact points were also asked to evaluate the importance they attach to certain MEAs for Blue Growth in the Baltic Sea region. As can be seen on Figure 10, there is quite a close match between the assessment provided from the aggregated country fiche data and the results of this survey, however, with some noteworthy differences in order of importance. Interestingly there are also marked differences between these survey results and the current level of how MEAs are currently covered within the EUSBSR. **Offshore wind and Coastal tourism** are rated as highly important for Blue Growth development in the Baltic Sea region. In both cases this matches with the sea-basin economic data, but not with the current level of coverage within the EUSBSR itself. **Environmental monitoring and coastal protection** are also rated high by EUSBSR coordinators, which is neither matched by economic figures nor by the role EUSBSR actions/projects currently play in this area for supporting Blue Growth. Also **Ocean renewables, Blue biotechnology and Marine aquaculture feature much more prominently** than can be justified by figures or current EUSBSR actions, with almost all National Contact Points rating them highly. In the case of **Short-sea shipping** figures correspond both among PAs/HAs and National Contact points as well as with economic indications. **Shipbuilding and ship repair** on the other hand is generally perceived as of lower importance than can be seen from country fiches. .



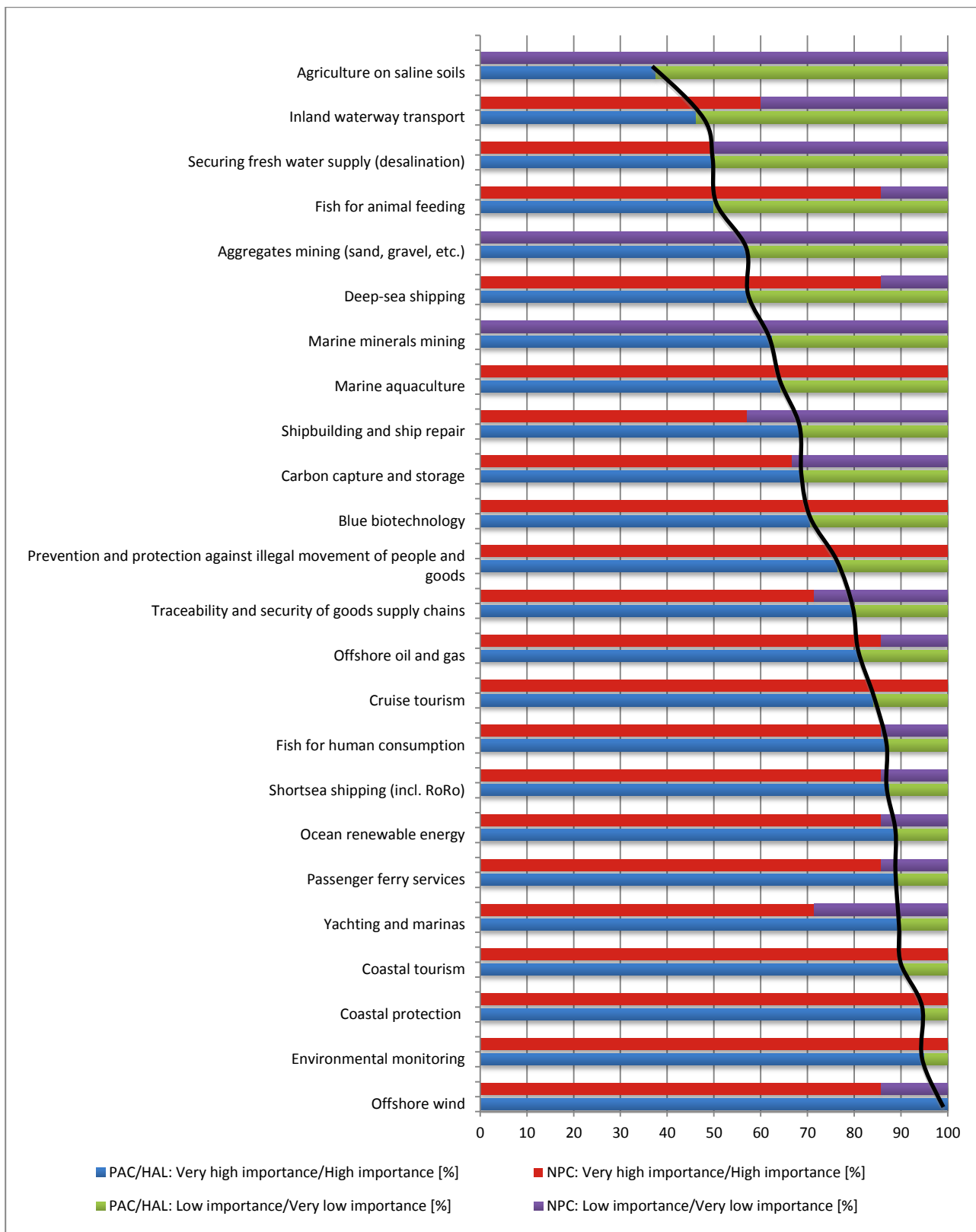


Figure 10: Perceived importance of maritime economic activities for the Baltic Sea region by Priority Area Coordinators/Horizontal Action Leaders and National Contact Point representatives\*

\*It should be noted that percentages, especially in the case of National Contact Points should be treated carefully as only eight respondents (one per country) took part in the survey.



#### 4.6.3 Drivers and barriers for IMP / Blue Growth issues within the current EUSBSR governance structure and ways forward to strengthen them

##### Raise Awareness

Whereas the concept of Blue Growth was met with high and positive interest, the survey results also showed that – by the stage before this study - it was rather unclear what it means and implies for the Baltic Sea region. In most cases more information was requested, which would explain and justify the underlying concept for country, sector as well as Baltic Sea Region level.

Whereas overall respondents agreed that Blue Growth issues deserve a higher emphasis within the EUSBSR, a vast majority was for instance rather unsure about which specific Maritime Economic Activity (outside their own area) is currently sufficiently or insufficiently addressed within the Strategy.

It can therefore be assumed that while there was general agreement that **Offshore Wind Energy and Coastal Tourism** are of key importance for sea-basin level Blue Growth development, that there is lack of awareness that these topics are currently insufficiently covered by actions / projects put forward under the EUSBSR.

Increased attention by policy makers and decision makers and clear transnational political will were earmarked as crucial for the success of flagship projects and increasing the number of flagship projects of clearly high quality.

- **Show concrete Stories of What Blue Growth actually means.** The report has shown that much Blue Growth is already within the current EUSBSR - but that it is somehow "hidden" by being too much spread across the various strategy levels, Priority Areas or action fields or even difficult to access from some of the projects themselves. But there are, indeed, already good stories to be told on Blue Growth at local, regional, national as well as cross-border level relating to public, private or research engagement, or combinations of them. The prominent projects selected from within the current EUSBSR already entail a lot of such stories - but there are even many more to be told, which have not found their way into the strategy, yet. Be it the Baltic Cruise Network, the LNG Ferry operating between Sweden and Turku (Finland), the engagement of Trelleborg or Lolland, new types of shipbuilding or blue biotechnology companies and many more. In many cases they have so far also not yet been told with the emphasis on Blue growth. While showing success it is also important to highlight the challenges faced by these "early movers" and the interaction, which is/was required between various players to make these changes happening. But it is clear: much better advantage can be made from this rich source of stories by a professionally designed information campaign entailing brochures, a website, but also presentations and discussions at round tables, conferences, workshops and other Inter-active modes.
- **Raise awareness among policy makers and decision makers at EU, national and regional level concerning maritime and blue growth potentials within the Baltic Sea Region that are not fully exploited within the framework of the EUSBSR.** Increase understanding of required new or modified actions to be taken.
- **Inform potential stakeholders in relevant Blue Growth areas about advantages and benefits of being featured as an EUSBSR action and related EUSBSR flagship project in view of receiving higher profile and related longer term benefits.** Urge also industry as well as financial sector to get more pro-actively involved in developing and raising the profile of Blue Growth issues within the EUSBSR and the positive contribution they can make to all three objectives of the EUSBSR.

### Improve EUSBSR Formulation

Overall coordinators agreed that the Strategy as it stands right now provides a good opening for covering maritime actions and also Blue Growth issues in particular. This corresponds with the overall assessment of MEA/IMP coverage within the inventory undertaken in the framework of this study. As has been shown all Maritime Economic Activities can be subsumed in one way or another to an already given PA/HA.

However it is seen as necessary to improve the formulation of specific parts of the EUSBSR. Especially at the level of PAs/HAs highly relevant for driving blue growth a more pronounced formulation of sub-objectives, actions and indicators in relation to issues relevant for blue growth is seen as a way forward.

- **It is suggested that IMP / Blue Growth should become a cross-cutting issue throughout all maritime oriented PAs / HAs. Sub-objectives, actions and indicators should not focus on one of the three overall objectives only, but where appropriate should include aspects related to the other two objectives.**

Indicators are important to increase accountability and monitoring of whether the EUSBSR achieves its objectives. It is therefore important that PAs/HAs do not only relate to one objective alone, but that targets and related indicators are developed – where appropriate – in regard to the other two overarching objectives. In such way the already existing cross-linkages could be highlighted. It would also facilitate the inclusion of actions and related projects under any given PA/HA, which address the economic implications, provide business incentives and promote business development in areas related to improving the Baltic Sea environment. Vice versa linkages should be strengthened between actions and projects for instance designed to promote R&D, SME development and education as to demonstrate how environmental and connectivity issues can be strengthened via technical solutions, business and efficient governance models.

The previous chapter has provided for a whole range of possible amendments, which may be considered in the formulation of given PAs/HAs. Whereas this shows that almost all PAs/HAs are concerned, those which have also been listed by EUSBSR stakeholders are: PA Ship, PA Safe, PA Energy, PA Tourism, PA Innovation and HA Spatial Planning.

### Funding for future Blue Growth Flagship Projects

All respondents of the survey agreed that flagship projects are seen as the best way forward to increase the Blue Growth profile of the strategy. Both quality and quantity of flagship projects are important factors. Given the fact that Blue Growth has only been introduced as a matter of importance quite recently within the revised EUSBSR and considering the often considerable time it takes for sea-basin wide projects to move from idea to implementation stage, this core set of existing projects should be rated rather positively with good chances for future much more relevant projects to come to the forefront of the EUSBSR.

- **Alignment and availability of relevant funding lines is seen as a key condition for the development and realisation of such future Blue Growth Flagship Projects. Whereas overall funding lines are rated quite positively, the continuous availability of seed money is seen in the short term as a prime instrument to increase the number of Blue Growth Flagship projects. This should also be made available to provide support so that actions and projects make more effective and combined use of the rich flora of funding opportunities available as well as achieving better access and integration of private funding sources and company activities into Blue Growth initiatives.**

### Coordination / Technical Assistance for Blue Growth issues

Whereas increased political and stakeholder awareness; a more pronounced formulation within the EUSBSR, especially in sub-objectives and actions; as well as access to seed money are all seen as key to strengthen blue growth issues within the EUSBSR and a pre-condition for opening the way to future flagship projects in this field - most respondents saw an urgent need in the short run for

- **Installing a dedicated support facility to EUSBSR Coordinators, which provides assistance to them in further developing Blue Growth topics, ensures the underlying coherent framework, demonstrates success as well as initiates and provides support for running successful flagship projects. Possibly this**

**could take the form of a BSR wide flagship project itself aiming at facilitating the coordination of maritime and blue growth activities within the EUSBSR.**

It has been shown that whereas numerous linkages exist between actions / flagships related to maritime actions, coordination among the PAs/HAs is still more or less ad-hoc and requires more in-depth, continuous coordination which goes beyond alignment of the EUSBSR text itself. Blue Growth workshops within the given EUSBSR annual forums, EU Maritime Days and other conferences devoted to EUSBSR stakeholders may serve as an open exchange platform on topics related to Blue Growth.

However, a more dedicated coordination platform could provide assistance in awareness raising activities ensuring that recommendations as developed in current – but soon to be finalised – projects are disseminated as widely as possible and are taking as a basis for pro-active design and approach of relevant stakeholders to get involved in relevant future projects. In view of the linkages described above it may seek to create projects, which go beyond on single PA/HA only, but are actually part of actions in more than one PA/HA (i.e. energy – MSP / tourism – ship – SME / ship - education).

Given the rather long time lines for specific flagship projects to enter realisation stage, it may also act as a quick facilitator for highlighting showcases in form of already existing studies, projects, networks at public, private or research level from within the BSR with relevance to blue growth, which have so far remained outside the EUSBSR reach (i.e. tourism, offshore energy, yachting & marinas) – thus going beyond the current reach of EUSBSR annual forums.

The survey showed that implementation oriented flagship projects as opposed to those which are not related to regular on-going activities, are much better known also to non-involved stakeholders. There was a high correlation between flagships nominated by EUSBSR stakeholders as “prominent Blue Growth projects” and those identified with high relevance through the inventory. Thus such a platform may also assist in raising the profile of activities / outcomes of existing EUSBSR flagships, which are more related to regular on-going activities, but are still of particular importance to Blue Growth.

Even more it may in the medium term also serve as a general Blue Growth platform, which facilitates and improves sea-basin wide coordination and information exchange on national strategies / initiatives / projects related to Blue Growth, which do not qualify for sea-basin wide funding as they are more aligned to regional, national or even European funding lines.

- **It should be noted that the suggestion of such a platform would not replace the wish, which was generally expressed by EUSBSR stakeholders for an overall stronger and higher involvement of the European Commission and more particular DG Mare as well as other related DGs in the horizontal governance of the maritime part of the EUSBSR was expressed by numerous EUSBSR stakeholders. Nor does it replace the equal wish expressed by many EUSBSR stakeholders to move from annual and/or project based grants to PACs/HALs to multi-annual grants in order to increase capacity building, continuity and, hence, effectiveness not only in matters related to Blue Growth but general EUSBSR implementation.**

## 5. Concluding Remarks

This paper has shown the enormous variety of economic activities hosted by the Baltic Sea. Traditional sectors like Short-sea shipping and Fish processing remain important players. Offshore wind is already a large and growing sector in all Western Baltic countries and tourism is by far the largest sector across all countries. At the same time, new and more specialised sectors are gaining importance such as Yachting and marinas and Cruise tourism or Marine aquaculture and Blue biotechnology building on new opportunities. Also in Shipbuilding and repair companies in many BSR countries seem to have adapted adequately to the changing environment they face.

What is key is the interdependence of all these individual sectors with each other. The growth in offshore wind energy is coupled with the availability of specialised ships, appropriate grids and platform building capacities. Coastal tourism is interlinked with the availability of good quality passenger ferry service transport connections, while Cruise tourism and Yachting and marinas should not only be rated as a tourism economic activity but are obviously part of the maritime transport sector. Blue biotechnology may have important spill-over effects on creating the conditions for a more sustainable shipping industry (anti-fouling) and marine fish aquaculture, while creating a market itself for other forms of mariculture (i.e. algae cultivation).

Last but not least it has been shown that an effective environmental monitoring as well as maritime surveillance system serves as an important support function to all these economic activities. In that sense the translation of data into knowledge is the key as it provides the necessary basis for assessing the environmental status in a given region as well as the sustainability of a given or new maritime use (new forms of mariculture, clean shipping solutions and standards, offshore energy sites, etc.). It should also be understood as a motor for economic growth as it forms a market for technical innovations itself, which in turn may lead to substantial cost efficiencies in other maritime economic activities.

This underlines that Blue Growth goes of course hand in hand with the other Integrated Maritime Policy fields. Apart from marine data and surveillance also Maritime Spatial Planning may serve as an important facilitator for ensuring that uses are placed in optimal combinations with each other at sites that are suitable both from economic as well as environmental points of view. Offshore energy is the example most often given when it comes to MSP, but the paper highlights that this applies to all other sectors as well - be it shipping connections, port infrastructure, aquaculture sites, tourism centres or even blue biotechnology facilities.

But also site decisions within MSPs are ultimately an expression of political will. In this regard it should be understood that not only the various economic sectors are highly interdependent. Given the small size of the Baltic Sea and its high vulnerability, also the countries surrounding the Baltic Sea can hardly operate effectively in isolation from each other.

The paper shows that all BSR countries have much to gain from a coherent and cooperative approach relating to all fields of the blue economy. It has shown that this applies not only to the provision of marine data, joint safety and environmental systems and standards or a coherent approach to MSP, but also the other areas of intervention supporting Blue Growth such as access to finance, knowledge and technology transfer, coherent infrastructure or aligned company incentives.

In this sense the vulnerable environmental status of the Baltic Sea should be understood as an economic driver rather than a barrier. Whereas its natural conditions and characteristics may preclude some blue activities such as aquaculture or wave energy to develop into large scale economic sectors in this region, environmental pressures have already turned into strong incentives for public and private innovations in the field of clean shipping solutions, sustainable aquaculture, new forms of environmental remediation or combined uses of space. In many cases the Baltic Sea itself may not be the only market for such technological solutions.

The overall importance attached throughout the region to the Baltic Sea is also clearly evidenced by the large number of maritime actions / projects to be found in the EUSBSR. However, at the same time there is

certainly room for strengthening cooperation designed to make better use of the economic opportunities provided by this very sea.

In the maritime transport function time has come to move from preparatory to implementation stage, i.e. by following a coherent sea-basin wide approach to realising some of the investments and regulations in Baltic Sea ports. Joint approaches related to cross-border solutions in offshore wind energy as well as tourism (especially Yachting and marinas) are clearly underrepresented and current efforts related to supporting sustainable aquaculture solutions and strategic blue biotechnology approaches should be further strengthened.

Whereas maritime surveillance, data and maritime spatial planning are already part of the EUSBSR, the maritime angle to the other given business support functions related to the development of education and skills, small and medium sized enterprises, regional promotion as well as internal market would deserve a more prominent role as well.

Throughout the whole paper it has been shown that **thinking in combinations** “outside the box” is key for substantiating the promise blue growth holds not only for the economy, but society and the environment as a whole. In that sense it is also highly important that the three objectives of the EUSBSR “save the sea – connect the region – increase prosperity” are not seen as separately but may deserve to be reformulated into the one single objective **“save the sea and increase prosperity by connecting the region”**.