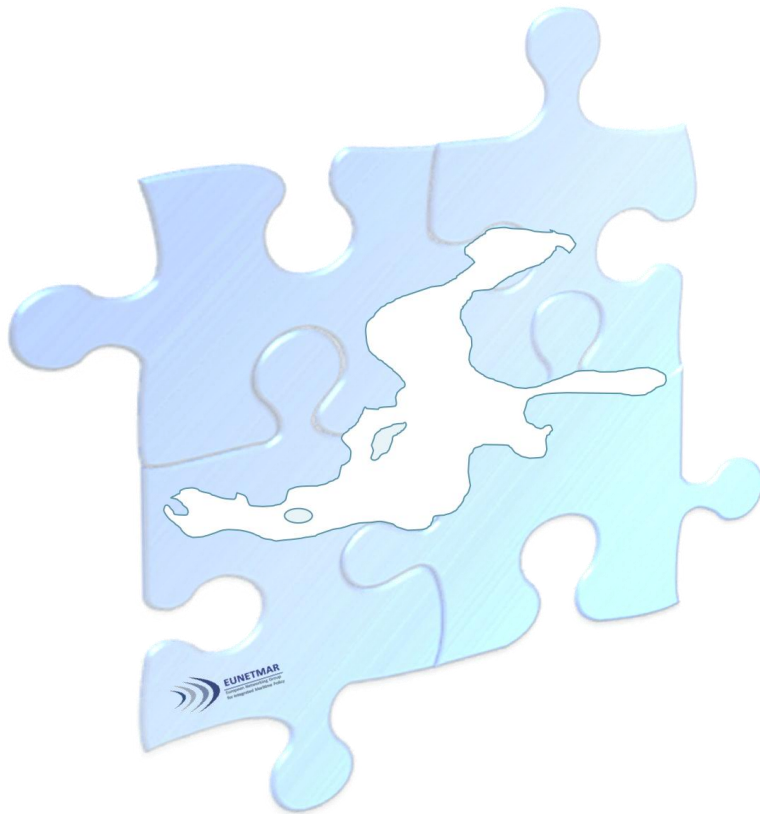




STUDY ON BLUE GROWTH, MARITIME POLICY AND EU STRATEGY FOR THE BALTIC SEA REGION



CONTRACT NUMBER
MARE/2012/07 - REF. NO 1

ANNEX 1.9:

COUNTRY FICHE SWEDEN

DECEMBER 2013



Contents

1. General overview.....	3
2. Marine and maritime economic activities (MEAs)	4
3. Breakdown of maritime economic activities at regional level (NUTS 2) and selection of most relevant region(s) for the study	8
4. List of the 7 largest, fastest growing and with most future potential marine and maritime economic activities	12
4.1 Ranking order of the 7 largest marine and maritime economic activities	12
4.2 Ranking order of the 7 fastest growing marine and maritime economic activities over the 3 past years.....	13
4.3 Ranking order of the marine and maritime economic activities with most future potential	13
5. Growth scenarios for 6 of the most relevant and promising marine and maritime economic activities.....	14
5.1 Description of the nature of each of the 6 maritime economic activities and value chains.....	15
5.2 Description of economic and infrastructural scenario	16
5.3 Regulatory environment of the maritime economic activities	18
6. Growth drivers and barriers to growth for the 6 most promising marine and maritime economic activities	19
7. List of existing clusters	23
8. Analysis of maritime strategies at regional and national level, as well as those under preparation and their links with Smart Specialisation Strategies	24
9. References.....	27
1. Selection of the most important regions	3
2. 7 Largest maritime economic activities: indicative size of all activities	3
3. 7 Fastest growing maritime economic activities: relative growth of all activities	4
4. 7 maritime economic activities with most future potential: indicators for all activities	5
5. Maritime strategies.....	6

1. General overview

Morphological structure of the coastline

- Sweden has the largest coastline of all the EU-22 coastal Member States, with a total length of 21.591 km, i.e. 15,9% of the total coastline length of the 22 EU coastal countries.
- The country's coastal zone (within a range of 10 km from the coast) covers 302.047 km². This corresponds to 17% of the total EU-22 coastal area and is the largest one observed in the EU-22 coastal Member States.
- Sweden has 98.400 marine islands with a total area of 8.246 km² and a shoreline of 31.900 km. The two biggest islands are Gotland (3.140 km²) and Öland (1.342 km²).

Population and related social conditions for maritime areas

- In 2012, 5,86 million inhabitants or 61,76% of the country's population lived in Sweden's coastal areas.
- In 2012, the coastal NUTS 2 regions employed 3.507,1 thousand persons, which is 79,80% of all employed persons in Sweden and 1,82% of the employed population in the EU-22 coastal Member States.
- In 2012, the unemployment of the coastal NUTS 2 regions was about 268,4 thousand persons, which is 80,31% of all unemployed persons in Sweden and 1,21% of the unemployed population in the EU-22 coastal Member States.

Economic role of maritime areas over the national total

- In 2010, the people in the coastal regions of Sweden generated EUR 39.324 in gross domestic product (GDP) per capita, compared to EUR 37.315 at the national level (105,38% of national average).
- In 2010, coastal regions in Sweden were responsible for EUR 198,34 billion or 64,91% of the country's gross value added (GVA).

GVA – Details by NACE activities (2010)

Sector	GVA of coastal regions (billion EUR)	Share in the national GVA for the sector
Agriculture, Aquaculture and Fishing (A)	2,91	55,5
Manufacturing (C)	29,13	56,21
Construction (F)	10,38	65,11
Wholesale and retail trade; transport; accommodation and food service activities; information and communication (G-J)	48,93	66,06

Employment – Details by NACE activities (2010)

Sector	Employment of coastal regions (thousand)	Share in the national employment for the sector
Agriculture, Aquaculture and Fishing (A)	55,7	59,00
Manufacturing (C)	309,7	50,67
Construction (F)	186,9	62,05
Wholesale and retail trade; transport; accommodation and food service activities; information and communication (G-J)	722,7	64,96

2. Marine and maritime economic activities (MEAs)

Table 1 - Overview of relevant maritime economic activities in Sweden at NUTS-0 level

Maritime economic activity		GVA (EUR, billion)	Employment (*1000)	Number of enterprises	Further indicators	Source & reference year
0. Other sectors						
0.1	Shipbuilding (excl. leisure boats) and ship repair	0,19	3,43	1.095		Eurostat (2013) – Data 2008-2010
0.2	Water projects	0,039	0,55	93		Eurostat (2013) – Data 2008-2010
1. Maritime transport						
1.1	Deep-sea shipping	0,05	0,74	246	8% of goods transported by DSS in 2010	Eurostat (2013) - Data 2008-2010; share in total shipping based on freight volumes
1.2	Short-sea shipping (incl. Ro-Ro)	0,52	8,92	3.417	92% of goods transported by SSS in 2010	Eurostat (2013) - Data 2008-2010; share in total shipping based on freight volumes
1.3	Passenger ferry services	0,43	10,34	515		Eurostat (2013) - Data 2008-2010
1.4	Inland waterway transport	0,01	0,15	487		Eurostat (2013) - Data 2008-2010
2. Food, nutrition, health and ecosystem services						
2.1	Fish for human consumption	0,60	14,25	2.415		Eurostat (2013), Data 2008-2010 ¹ ; JRC Scientific and technical reports (2010; 2011; 2012); The 2010; 2011; 2012 Annual Economic Report on the EU Fishing Fleet
2.2	Fish for animal feeding	0,007	0,143	15		Eurostat (2013) - Data 2008-2010 ² ; JRC Scientific and technical reports (2010; 2011; 2012); The 2010; 2011; 2012 Annual Economic Report on the EU Fishing Fleet
2.3	Marine aquaculture	0,0026	0,147	64		JRC Scientific and policy reports (2013): The Economic Performance of the EU Aquaculture Sector – 2012 exercise (STECF-13-03) - Data 2008-2010
2.4	Blue biotechnology	N/A	N/A			
2.5	Agriculture on saline soils	0	0			
3. Energy and raw materials						
3.1	Offshore oil and gas	0	0			
3.2	Offshore wind	0,0017	0,046		There is a large wind mill farm south of Malmö (Lillgrund), as well as 5 other locations. In the end of 2010 there were 75 wind mills located offshore ³	Eurostat (2013) – Data 2011 calculation ⁴
3.3	Ocean renewable	0	0	0		

¹ Due to confidentiality, 2010 GVA and Employment data for NACE 10.2 (Processing and preserving of fish, crustaceans and molluscs) is taken from 2009.

² Ibid.

³ <http://www.favonius.se/fragor-svar/11-hur-mycket-havsbaserad-vindkraft-finns-det-i-sverige-och-europa/>

⁴ Capacity installed for offshore wind in 2010: 134 MW. Total capacity installed for electricity production: 35.699 MW (source: Swedish Energy Agency). Thus factor of 134/35.699 applied to Eurostat data for GVA and Employment in NACE 35.11

	energy					
3.4	Carbon capture and storage	0	0	0		
3.5	Aggregates mining (sand, gravel, etc.)	0	0	0	There was some extraction in 2011 (see table 2) but nothing in 2010	ICES 2010
3.6	Marine minerals mining	0	0	0		
3.7	Securing fresh water supply (desalination)	0	0	0		
4. Leisure, working and living						
4.1	Coastal tourism	0,81	23,98	2 985		Eurostat (2013) – Data 2010
4.2	Yachting and marinas	0,07	1,87	583		Eurostat (2013) – Data 2010
4.3	Cruise tourism	0,52	1,10			Contribution of Cruise Tourism to the Economies of Europe 2012 Edition
5. Coastal protection						
5.1 – 5.2	Coastal protection	0,133	1,326			Eurostat (2013) – Data 2010 (estimate)
5.3	Protection of habitats	Included in 5.1	Included in 5.1			
6. Maritime monitoring and surveillance						
6.1	Traceability and security of goods supply chains	N/A	N/A			
6.2	Prevent and protect against illegal movement of people and goods	N/A	N/A			
6.3	Environmental monitoring	N/A	N/A			

Table 2 Overview of relevant maritime economic activities in Sweden at NUTS-0 level

Maritime economic activity	Overview	Socio economic indicators	Source & reference year
0. Other sectors			
0.1	Shipbuilding (excl. leisure boats) and ship repair	This MEA has lost most of its former glory. Up until the early 1980's, Sweden had a large industry with several shipyards producing large vessels for ocean travel. However, due to outsourcing to countries with lower wages and production costs, all Swedish shipyards (for new builds) were eventually closed down in the 1980's. However, many shipyards have remained as repair yards for servicing ships travelling through the Baltic Sea and the North Sea. Use of environmentally friendly and light materials.	Altogether, the shipbuilding but especially the ship repair sectors, employ a large amount of people in the maritime industry.
0.2	Water projects		Sjöfartsforum (2010): Vision och strategi för det maritima klustret
			There are some construction companies building ports and other marine installations but such companies are not identified as being part of the "maritime economy" and are thus not available to address in national statistics.
1. Maritime transport			

1.1	Deep-sea shipping	Sweden has a large sector for deep-sea shipping but the Swedish ship registry is decreasing, with less than 100 ships at present. The Swedish share of shipping in the world remained at the same level until 2008 and then went down significantly. However, Swedish ship owners are increasing their holdings in ships and the number of ships controlled by Swedish ship owners is rising, though these ships are registered in other, often nearby countries. Sweden has many well-known shipping companies, such as Stena AB and Wallenius Lines, as well as headquarters for several other shipping companies in Sweden. 90% of exports are transported in some stage by sea.	In 2012, 173 million tonnes of goods were handled in Swedish ports. The volume of goods decreased by 2% compared to 2011. Transport performance decreased from 30.027 million tonne-km in 2010 to 29.774 million tonne-km in 2012. The decrease was much larger for domestic traffic (-14,1%) than for foreign traffic (-5,1%).	Trafikanalys 2012 Svensk sjöfarts konkurrenssituation 2012 Sjöfartsforum (2010): Vision och strategi för det maritima klustret
1.2	Short-sea shipping (incl. Ro-Ro)	As Swedish shipping faces considerable challenges regarding competitiveness as well as environmental and safety requirements, the Swedish government presented in January 2013 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.	Transport performance of domestic goods shipping decreased from 7.851 million tonne-km in 2010 to 6.744 million tonne-km in 2012	Trafikanalys 2012
1.3	Passenger ferry services	Stockholm and Helsingborg are the two biggest harbours. With respectively 9,1 and 7,8 million passengers, they represent 58% of the total passenger traffic.	26,2 million passengers were transported to and from Sweden during 2012. The number of ship passengers arriving from other countries was 13,3 million.	Trafikanalys 2012
1.4	Inland waterway transport		86% of turnover of inland waterway transport is in passenger transport and 14% in goods transport	SCB-Trafikanalys Water transport 2011
2. Food, nutrition, health and ecosystem services				
2.1	Fish for human consumption	The total catch was 147.000 t in 2011. Swedish sea fisheries focus on small pelagics (herring 60.900 t, sprat 60.600 t) and cod (13.500 t).	The number of vessels in the Swedish fleet has been steadily declining in the last years and this development is expected to continue. Currently the level of investment in Swedish fisheries is low (low profitability and general pessimism about the future). Many fishermen leave the trade since they cannot make a living from fishing anymore. And the jobs are not an attractive way of living for younger people (low profitability, high entrance costs).	SCB Swedish sea fisheries 2011 Annual Economic Report on the European Fishing Fleet (STECF)
2.2	Fish for animal feeding	Sand eel fisheries provide raw material for animal feeding	Catches quite stable (32.610 t in 2011 compared to 32.767 t in 2006) but not likely to grow.	SCB Swedish sea fisheries 2011
2.3	Marine aquaculture	Swedish aquaculture has had a positive trend for its three segments (trout, arctic char, blue mussel). Almost 50% of production is by a few large entities. Freshwater and marine finfish production are both export-oriented. Aquaculture in Sweden appears to have good potential for further development in the West. Prospects are limited by the excess of nutrients in the Baltic Sea.	The total aquaculture production was 13.440 t in 2011 (26% more than 2010). The three main species farmed (more than 99% of the total aquaculture production) are rainbow trout (10.745 t, in increase), blue mussel (1.470 t, stable), arctic char (1.128 t, in increase). The 4 largest enterprises account for almost 50% of the total value of aquaculture production.	SCB Aquaculture in Sweden 2011
2.4	Blue biotechnology	Growing sector (but more in the North Sea shore)		
2.5	Agriculture on saline soils	None		
3. Energy and raw materials				

3.1	Offshore oil and gas	None		
3.2	Offshore wind	Offshore wind is a small sector at the present, but growing. At present, most wind farms in Sweden are built on land due to cost restraints and no land scarcity, but there have been some offshore wind farm being built recently. In 2010, there were 75 wind mills off the coast of Sweden, with 10 of these located in West Sweden (in lake Vänern). Future Swedish offshore projects will most likely be produced where costs are the lowest, which is mainly in the Baltic Sea. The coastline north of Gothenburg is less favourable than the coastline south of Gothenburg for wind farms, but there might be several sites where wind farms might be built in the future in West Sweden. At present, there are projects in the main inlet to the port of Gothenburg, and on the border between the counties Falkenberg and Halland in the south of West Sweden. 97% of windmills are currently land-based. There were no new mills offshore in 2012. Sweden has 3,3% of the offshore wind turbines installed in Europe (75 turbines).	There is support for planning initiatives for wind power.	(EWEA, 2013) (Favonius, 2013)
3.3	Ocean renewable energy	Wave power project in Lysekil (Centre for Renewable Electric Energy Conversion at Uppsala University)	No operational sites yet but research and development are among the highest ranked in the world and with strong networking give possibilities for innovation systems.	En strategisk innovationsagenda för marin energi - Blå Energi Wave Power Project - Lysekil
3.4	Carbon capture and storage	None		
3.5	Aggregates mining (sand, gravel, etc.)	Extraction of 95.562 m ³ of marine aggregates (sand and gravel) in 2011	Extraction permission for 80.000 m ³ for 2014, 2017 and 2020	ICES WGEXT report 2012
3.6	Marine minerals mining	None		
3.7	Securing fresh water supply (desalination)	None		
4. Leisure, working and living				
4.1	Coastal tourism	Number of summerhouses in Sweden: 275.655 and number of overnight stays 17.981.000. Number of hotels: 645-929 with 9.797.000-17.583.000 overnight stays and a turnover of SEK 13.115-23.563 million. Number of cabin villages and hostels: 357-438 with 1.660.000-2.356.000 overnight stays and a turnover of SEK 991-1.404 million. Camping sites: 344-435, with 6.154.000-8.128.000 overnight stays and a turnover of SEK 2.151-2.880 million (2010).	The part of the turnover tied to foreign tourists visiting Sweden has increased from 27% to 34%. In 2010, the total gross value added of the Swedish tourism industry was about SEK 80.000 million (2010 prices). In relative terms, the tourist industry has accounted for an almost constant proportion of GNP during the last decade: 2,7-3,0%.	Marine tourism and recreation in Sweden A study for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive Swedish Agency for Marine and Water Management, report 2012:2 Tillväxtverket (2011)
4.2	Yachting and marinas	In 2010 the number of seaworthy leisure boats owned by Swedish residents was about 881.000, of which 47% are reported to have home harbours in marine waters This suggests that there are about 414.000 leisure boats owned by Swedish residents and primarily used for boating in marine waters. There are 202.000 pleasure boats with sleeping accommodation, which were used for around 5 million overnight stays (berth-nights) in the summer of 2010. There are more than 1.500 pleasure boat harbours in Sweden, 430 of which are classified as guest harbours.	Around 2,5 million people go boating each year in Sweden. According to SWEBOAT 4.000 people are employed in the boating industry (12.000 with all suppliers and subcontractors taken into account). Some 8.200 boats were manufactured in Sweden in 2011 with a production value of SEK 1.850 million.	Marine tourism and recreation in Sweden A study for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive Swedish Agency for Marine and Water Management, report 2012:2 SWEBOAT (Swedish Marine Industries Federation) (2011)

4.3	Cruise tourism	In 2010, calls made by cruise-ships were reported at ten Swedish ports, and Stockholm accounted for almost 80 % of the total number of passengers	Cruise ship traffic is likely to show a moderate increase until 2020, at least if the world does not experience an economic crisis of long duration. During the period 2004-2012 the amount of passengers on cruise ships went up from 235.000 to 524.000.	Marine tourism and recreation in Sweden A study for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive Swedish Agency for Marine and Water Management, report 2012:2
5. Coastal protection				
5.1 – 5.2	Coastal protection	N/A	N/A	
5.3	Protection of habitats	N/A	N/A	
6. Maritime monitoring and surveillance				
6.1	Traceability and security of goods supply chains	N/A	N/A	
6.2	Prevent and protect against illegal movement of people and goods	N/A	N/A	
6.3	Environmental monitoring	N/A	N/A	

3. Breakdown of maritime economic activities at regional level (NUTS 2) and selection of most relevant region(s) for the study

According to the methodology used to score the maritime role of the coastal NUTS-2 regions in Sweden based on the water transport, coastal tourism, fishing and aquaculture sectors, the region of Västsverige is the highest ranked and is analysed below (See Annex Sweden all coastal NUTS-2 regions' rankings).

In this region there are several key geographic locations for the maritime industry. The main location is of course Gothenburg, Sweden's second largest city and regional capital of the Region Västra Götaland, with a population of roughly 950.000 people in the greater metropolitan area (Statistics Sweden, 2013). Gothenburg houses many of the Swedish ship owners, shipbrokers and companies within maritime technology (as well as other high tech companies within IT and manufacturing) (Hanning, 2013). Other main locations in West Sweden are municipalities north of Gothenburg, where a large portion of the Swedish shipping fleet and industries working with the preparation of seafood are located. In these municipalities one finds many companies, not uncommonly Norwegian-owned, where seafood is prepared and produced for both domestic and international markets.

Table 3 - Overview of relevant maritime economic activities in the Västsverige region

Maritime economic activity	GVA (EUR, billion)	Employment (*1000)	Number of enterprises	Further indicators	Source & reference year
0. Other sectors					
0.1	Shipbuilding (excl. leisure boats) and ship repair	0,07	1,00	414	SCB 2010, calculations from share of national total
0.2	Water projects	0,014	0,244		SCB 2010, calculations from share of national total
1. Maritime transport					
1.1	Deep-sea shipping	0,02	0,28	91	SCB 2010, calculations from share of national total
1.2	Short-sea shipping (incl. Ro-Ro)	0,19	3,33	1274	
1.3	Passenger ferry services	0,04	1,08	53	
1.4	Inland waterway transport	0,003	0,038	124	

2. Food, nutrition, health and ecosystem services						
2.1	Fish for human consumption	0,21	4,99	845		SCB 2010, calculations from share of national total
2.2	Fish for animal feeding	0,002	0,05	5		
2.3	Marine aquaculture	0,0004	0,02			
2.4	Blue biotechnology	N/A	N/A			
2.5	Agriculture on saline soils	0	0			
3. Energy and raw materials						
3.1	Offshore oil and gas	0	0			
3.2	Offshore wind	0	0			One farm in Göteborg area (Risholmen), operational only in 2012
3.3	Ocean renewable energy	0	0			
3.4	Carbon capture and storage	0	0			
3.5	Aggregates mining (sand, gravel, etc.)	0	0			
3.6	Marine minerals mining	0	0			
3.7	Securing fresh water supply (desalination)	0	0			
4. Leisure, working and living						
4.1	Coastal tourism	0,16	4,78	597		
4.2	Yachting and marinas	0,04	0,94	291		
4.3	Cruise tourism	0,06	0,12			
5. Coastal protection						
5.1	- Coastal protection	N/A	N/A	N/A		
5.2						
5.3	Protection of habitats	N/A	N/A	N/A		
6. Maritime monitoring and surveillance						
6.1	Traceability and security of goods supply chains	N/A	N/A	N/A		
6.2	Prevent and protect against illegal movement of people and goods	N/A	N/A	N/A		
6.3	Environmental monitoring	N/A	N/A	N/A		

Table 4 - Overview of relevant maritime economic activities in the Västsverige region

Maritime economic activity		Overview	Socio economic indicators	Source & reference year
0. Other sectors				
0.1	Shipbuilding (excl. leisure boats) and ship repair	There are distinctive marine engineering clusters in Västra Götaland involving the shipbuilding industry.	Among the products / services available: materials, design, construction and electronics.	Maritim strategi för Västra Götaland
0.2	Water projects			
1. Maritime transport				
1.1	Deep-sea shipping	Many companies in shipping work with both short and deep-sea shipping. Västsverige is the first	The Port of Gothenburg is the only Swedish harbour	Maritime Strategy for

1.2	Short-sea shipping (incl. Ro-Ro)	region of Sweden for shipping. Out of the 74 million tons of freight unloaded in Swedish ports in 2012, 38 million tons were unloaded in the ports of Västsverige (more than 50%). Out of the 764 thousand containers loaded in Swedish ports in 2012, 458 thousand were loaded in Gothenburg (60%). Stena AB conducts many of its operations from their headquarters in Gothenburg. Many of the Swedish ship brokers involved in deep sea shipping are also based out of Gothenburg (Sjöfartsverket, 2012)	capable of servicing Post-Panamax vessels. Gothenburg is today Scandinavia's largest transport and logistic hub.	Västra Götaland ⁵ Shipping goods 2012 (SCB-Trafikanalys) Sveriges hamnar 2010
1.3	Passenger ferry services	Sweden is essentially an island from a European perspective; hence this MEA plays an important role in Sweden. West Sweden has several regular shipping routes connecting Sweden to mainland Europe through passenger and RoPax ferries to Denmark and Germany. There are also RoPax lines connecting to the UK and Norway. The main passenger ferry routes in West Sweden traverse the Kattegat (most north-western part of the Baltic Sea) from Gothenburg to Fredrikshavn in Denmark and from Gothenburg to Kiel in Germany. In 2012 Gothenburg was the fourth largest Swedish port for the number of passengers (1,605 thousand) behind Stockholm, Helsingborg and Ystad.	For ferries with pronounced "bridging function" such as those for Gothenburg-Fredrikshamn, transportation time is an important competitive factor.	Shipping goods 2012 (SCB-Trafikanalys) Sveriges sjöfartssektor En viktig del i en svensk maritim strategi
1.4	Inland waterway transport	Sweden has extensive possibilities for inland waterway transport, with the lakes Vänern and Mälaren as the two main lakes suitable for inland waterway transport. These are served by the Göta River and the Norrtälje Canal, respectively. Connecting Vänern and the Baltic Sea, there is also the Göta Canal, which is mainly used for leisure boats and tourism cruises. However, there are possibilities for using the canal for more transport solutions as well. There are several ports in lake Vänern that serve the industries of inland West Sweden and Värmland County. Fuel supply for imports and forest goods for export are handled through Göta River as the most important linkage from the sea to lake Vänern. Göta canal goes from Gothenburg to Stockholm.		Maritim strategi för Västra Götaland Sveriges sjöfartssektor En viktig del i en svensk maritim strategi
2. Food, nutrition, health and ecosystem services				
2.1	Fish for human consumption	7% of Swedish fish landings in value (9% in volume) take place on the West coast. The main species (in value): shrimp (98% of Swedish total landings), Norway lobster (99%) and herring (26%). There is a large community of fishing and fisheries in the north of the West Sweden region.	Sub-sectors with strong concentration in Västsverige: commercial fishing (more than 50%) and processing industry (80%)	Swedish sea-fisheries 2011 (SwAM)
2.2	Fish for animal feeding	Västsverige almost not involved in catching of fish for animal feeding	Less than 0,4% of landings of fish for reduction (in volume) take place on the West coast.	Swedish sea-fisheries 2011 (SwAM)
2.3	Marine aquaculture	100% of mussel and oyster farming is located in the region, as well as 16% of production of farmed fish for consumption (1.961 t of trout in 2011) and 10% of fish for stocking	Aquaculture appears to have good potential for further development in Västsverige	SCB Aquaculture in Sweden 2011 Maritim strategi för Västra Götaland
2.4	Blue biotechnology	Blue biotechnology is a minimal sector in Sweden and in West Sweden alike. However, it is a sector in the early formative stages with several research projects being conducted at research institutions in West Sweden, such as the University of Gothenburg and Chalmers University of Technology. There are also larger biotechnology companies in West Sweden, such as Astra Zeneca and others that have started	N/A	Pettersson & Söderpalm, 2012

⁵ www.sjofartsverket.se/upload/Listade-dokument/Rapporter_Remisser/SV/2011/Sektorsrapport2011.pdf

		working with blue biotechnology on a small scale. This sector will see an increase in the coming years, but it is still too small to make an impact in the national statistics		
2.5	Agriculture on saline soils	N/A	N/A	
3. Energy and raw materials				
3.1	Offshore oil and gas	N/A	N/A	
3.2	Offshore wind	Offshore wind is a small sector at the present, but a sector which is on the rise. At present, most wind farms in Sweden are built on land due to cost restraints, but there have been some offshore wind farm being built. In 2010, there were 75 wind mills off the coast of Sweden, with 10 of these located in West Sweden (in lake Vänern). Future Swedish offshore projects will most likely be produced where costs are the lowest, which is mainly in the Baltic Sea. The coastline north of Gothenburg is less favourable than the coastline south of Gothenburg for wind farm, but there might be several sites where wind farms might be built in the future in West Sweden. At present, there are projects in the main inlet to the port of Gothenburg, and on the border between the counties Falkenberg and Halland in the south of West Sweden. The offshore wind farm in Risholmen-arendal, which belongs to Göteborg Energi, is operational since 2012 and is the first one in the region.	Total power: 4 MW (1 turbine). Estimated annual production (f2013): 10 GWh	EWEA, 2013 Favonius, 2013 4C Offshore The Wind Power Database
3.3	Ocean renewable energy	This is still a tiny sector, but several promising research and development projects and some projects relating to testing installation of wave energy are beginning to take place.		Hanning, 2013 Wenblad, Lindegarth, & Hanning, 2012
3.4	Carbon capture and storage	This sector is non-existent today, though it should be noted that there is research on the topic being conducted at Chalmers University of Technology in Gothenburg.	N/A	The Swedish Energy Agency, 2013
3.5	Aggregates mining (sand, gravel, etc.)	Western Sweden not concerned by the extraction permissions given for 2011, 2014, 2017 and 2020.		ICES-WGEXT
3.6	Marine minerals mining	N/A	N/A	
3.7	Securing fresh water supply (desalination)	N/A	N/A	
4. Leisure, working and living				
4.1	Coastal tourism	Västra Götaland is Scandinavia's most visited tourist region in competition with Stockholm. Coastal tourism in West Sweden is an important sector due to a large amount of employees and the economic impact on the region. All coastal municipalities in West Sweden benefit from coastal tourism, though they specialize in different areas. The municipalities from Gothenburg and northward have the main attraction of the Bohuslän archipelago as a main feature, creating possibilities for yachting and other coastal tourism. The municipalities south of Gothenburg down to the southernmost parts of West Sweden have no archipelago, but have long beaches where tourists spend summer vacation for swimming, surfing and other activities.		
4.2	Yachting and marinas	Västra Götaland has the greatest proportion of Sweden's production, with a manufacturing value of boats of about 2 billion SEK, out of which more than 1,5 billion takes place in Bohuslän area (between Gothenburg and the Norwegian border). More than half of the exported boats (in value) come from Orust, where the industry employs approximately 1,1 thousand people.	Bohuslän has an informal boating cluster of about 200 companies and organisations (source: West Swedish Tourist Board). The Björlanda Kile marina has about 2,3 thousand moorings. It combines a dozen companies with combined	Marine tourism and recreation in Sweden A study for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive 2012:2

			sales of 150 million (source: Gothenburg region marinas), generates. This is a typical metropolitan archipelago characterized by relatively high growth and urban consumption patterns.	
4.3	Cruise tourism	Gothenburg is the only cruise port in Väst Sverige, at third place in number of passengers in Sweden after Stockholm and Gotland. Cruise tourism in West Sweden is not such a large sector, and the main attraction for cruise tourism is Gothenburg where there are some calls from cruise ships every summer. Small cruise ships sail up the Göta River and subsequently the Göta Canal during a large part of the year, which contributes to a great touristic value for the region.	41 calls and 50.241 passengers in 2010. Turnover ashore 55,5 million SEK, employment ashore 40.	Marine tourism and recreation in Sweden A study for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive 2012:2
5. Coastal protection				
5.1 – 5.2	Coastal protection	N/A	N/A	
5.3	Protection of habitats	N/A	N/A	
6. Maritime monitoring and surveillance				
6.1	Traceability and security of goods supply chains	N/A	N/A	
6.2	Prevent and protect against illegal movement of people and goods	N/A	N/A	
6.3	Environmental monitoring	N/A	N/A	

4. List of the 7 largest, fastest growing and with most future potential marine and maritime economic activities

4.1 Ranking order of the 7 largest marine and maritime economic activities

The seven largest MEAs, listed in Table 5, were chosen based on a score calculated on the basis of the GVA and the number of persons employed by the sector, using 2010 data (for all MEA scores see Annex Sweden).

Table 5 - Ranking order of the 7 largest maritime economic activities in Sweden at NUTS-0 level

Rank	Maritime economic activity	GVA (billion EUR)	Employment (*1000)	Score
1	Coastal tourism	0,81	23,90	16,00
2	Fish for human consumption	0,60	14,25	10,14
3	Passenger ferry services	0,43	10,34	7,32
4	Short-sea shipping (incl. Ro-Ro)	0,52	8,92	7,06
5	Cruise tourism	0,52	1,10	3,15
6	Shipbuilding (excl. leisure boats) and ship repair	0,19	3,43	2,67
7	Coastal protection / Protection of habitats ⁶	0,13	1,33	1,33

4.2 Ranking order of the 7 fastest growing marine and maritime economic activities over the 3 past years

The seven fastest growing MEAs, listed in Table 6, were chosen on the basis of scores calculated using the compound annual growth rate for GVA and number of persons employed over the period 2008-2010 (for all MEA scores see Annex Sweden).

Table 6 - Ranking order of the 7 fastest growing maritime economic activities in Sweden at NUTS-0 level

Rank	Maritime economic activity	GVA (CAGR)	Employment (CAGR)	Score
1	Inland waterway transport	13,39	12,75	13,07
2	Water projects	15,97	3,25	9,61
3	Cruise tourism	5,13	5,13	5,13
4	Shipbuilding and ship repair	8,66	-0,91	3,88
5	Fish for human consumption	6,36	-0,18	3,09
6	Coastal tourism	4,19	0,86	2,53
7	Passenger ferry services	0,16	4,72	2,44

4.3 Ranking order of the marine and maritime economic activities with most future potential

The eight MEAs with most future potential, listed in Table 7, are based on scores assigned to each MEA by expert views for the six following indicators: innovativeness, competitiveness, employment, policy relevance, spill-over effects and sustainability (for all MEA scores see Annex Sweden). The first two sectors with most future potential in Sweden (offshore wind and blue biotechnology) are presently not key sectors in terms of GVA and employment but they can rely on favourable policy directions, involvement of sound investors and high level research entities.

⁶ These two MEAs were calculated in a combined form

Table 7 - Ranking order of the maritime activities with most future potential in Sweden at NUTS-0 level

Rank	Maritime economic activity	Score
1-2	Offshore wind	++++
1-2	Blue biotechnology	++++
3-8	Cruise tourism	++
3-8	Coastal tourism	++
3-8	Marine aquaculture	++
3-8	Ocean renewable energy	++
3-8	Inland waterway transport	++
3-8	Environmental monitoring	++

5. Growth scenarios for 6 of the most relevant and promising marine and maritime economic activities

Table 8 - Sets of top-7 maritime economic activities ranking in order of size/growth/scores

Top-7 current size	Top-7 recent growth	Top most future potential
Coastal tourism	Inland waterway transport	Offshore wind
Fish for human consumption	Water projects	Blue biotechnology
Passenger ferry services	Cruise tourism	Cruise tourism
Short-sea shipping (incl. Ro-Ro)	Shipbuilding and ship repair	Coastal tourism
Cruise tourism	Fish for human consumption	Marine aquaculture
Shipbuilding (excl. leisure boats) and ship repair	Coastal tourism	Ocean renewable energy
Coastal protection / Protection of habitats ⁷	Passenger ferry services	Inland waterway transport
		Environmental monitoring

Table 9 - 6 most relevant and promising marine and maritime economic activities

6 most relevant and promising maritime economic activities
Coastal tourism
Cruise tourism
Passenger ferry services
Marine aquaculture
Offshore wind
Short-sea shipping (incl. Ro-Ro)

The above listed six MEAs were selected as most relevant and promising according to the following rationale:

- Coastal tourism is the first sector in size, still growing and appears to still have a good potential.
- Cruise tourism has grown significantly in the last years and the major destinations of Stockholm and Gothenburg are likely to draw new visitors.
- Passenger ferry services is the second largest MEA with a limited growth in the last years but a positive trend is expected for the coming years.

⁷ These two MEAs were calculated in a combined form

- Marine aquaculture is presently of minor economic importance but receives clear political support and can rely on an increasing demand for sustainable locally produced food.
- Offshore wind is currently little developed but will benefit from the national energy policy and from high local expertise.
- Short-sea shipping is an important economic sector, which has recently experienced difficult times but should recover thanks to the action plan launched by the government and to important research efforts on clean shipping.

5.1 Description of the nature of each of the 6 maritime economic activities and value chains

The first three maritime economic activities selected relate to marine tourism, which includes cruise-ship traffic, national and international passenger ferry traffic, leisure boating, holiday housing and commercial accommodations associated with marine recreation as well as same-day visits associated with marine recreation.

Coastal tourism

Sweden has a coast perfectly designed for tourism: long (almost 22 thousand km) and with many islands (98.400). The total tourism industry turned over EUR 26,7 billion and employed 162.100 persons in 2010 according to Tillväxtverket (Swedish Agency for Economic and Regional Growth)⁸. Coastal tourism accounted for between 23-29% of this turnover and for between 23-33% of the employment. Commercial accommodation (hotels, cabin villages and hostels, camping sites) showed a turnover of EUR 2,920 billion in 2010. Holiday housing (overnight stays in holiday houses, visits to relatives and friends – which may also take place in their permanent homes – and other types of non-commercial accommodation) has generated a total turnover of EUR 1,331 billion in 2010.

Cruise tourism

Cruise tourism remains a small sector compared to coastal tourism but is growing much faster. Cruise ship traffic in Swedish marine waters occurs during the summer months when ships are making round trips in the Baltic Sea and/or the North Sea. Norwegian fjords are a common destination included in the trips. 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 thousand passengers in 2012, Stockholm is one of the leading cruise ports, ranked first in the Baltic Sea, ahead of Tallinn (441 thousand), St. Petersburg (440 thousand) and Helsinki (368 thousand). Cruise tourism has a strong impact on the economy: direct expenditures of the cruise industry (cruise passengers, maintenance of cruise ships, provisioning and fuelling of ships, maintaining headquarter facilities, compensation of cruise line administrative staff and crew) in Sweden amounted to EUR 195 million in 2012. According to CLIA Europe (Cruise Lines International Association), cruise tourism generated 2.618 jobs in Sweden in 2012 (direct, indirect and induced). Cruise passengers are now a very important part of the tourism industry, bringing significant revenues through restaurant visits, shopping and tours.

Passenger ferry services

26 million passengers were transported in 2012. Domestic passenger traffic represents 11% of the total traffic with two main lines serving Gotland island. Foreign traffic concerns mainly Denmark (39% of total foreign traffic), Finland (35%), Germany (7%) and Norway (6%). The two main ports – Stockholm and Helsingborg – represent 58% of the total passenger traffic, followed by Ystad, Göteborg, Visby and

⁸ According to Tillväxtverket data, the size of this MEA is larger than shown in Table 1, which is based on EUROSTAT data

Trelleborg. Ferry is the dominant method of transport for foreign same day visitors and overnight visitors to Sweden. More than 4 out of 10 same day visitors travel by ferry.

Marine aquaculture

Swedish aquaculture focuses on three main species: rainbow trout, blue mussel and arctic char. 73% of the GVA generated by the sector comes from freshwater units. Marine aquaculture relies mainly on blue mussel on long lines (farmed in the western region of Västra Götaland) and on rainbow trout, which is however mostly farmed in freshwater. In 2011 production in marine water reached 4.732 t (3.255 t of rainbow trout, 1.470 t of blue mussel and 7 t of salmon). Effluent load from marine finfish aquaculture is lower than EU average.

Offshore wind

Sweden has 75 turbines installed in 6 offshore wind farms and totalling an installed capacity of 164 MW, which represents 3,3% of the total installed offshore wind capacity in Europe (European Wind Energy Association). The capacity is only 134 MW if we do not take into account the Vänern farm installed on Lake Vänern. The largest offshore park is Lillgrund, close to Malmö, which has 48 turbines and an installed capacity of 110 MW. It was inaugurated in 2008. Four of the five offshore wind farms belong to the state owned power company Vattenfall. The most recent one, Risholmen-Arendal, belongs to Western Sweden's leading energy company Göteborg Energi, which is owned by the City of Gothenburg.

Short-sea shipping (incl. Ro-Ro)

According to the Swedish Ministry of Enterprise, Energy and Communications shipping plays a big role in the Swedish blue economy. It directly employs some 15 thousand people but some 100 thousand are engaged in support functions (subcontractors, brokers, shipping agents, shipyards, banks, insurance companies, infrastructure managers and port and cargo handling companies).

5.2 Description of economic and infrastructural scenario

Coastal tourism

The GVA generated by coastal tourism increased by 15% between 2008 and 2011 and the number of persons employed rose from 49.764 to 53.559 in the same period. Even though ski resort tourism has grown more due to a higher willingness to invest in new facilities at Swedish ski resorts than at coastal destinations, coastal tourism is still the most important of maritime activities both in terms of GVA and employment. It has experienced very positive development in the last years and has 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. But the most important driving force is general economic development. The development of attractions at or close to the ports also plays a significant role. The number of rented boats has also increased in the last years.

Cruise tourism

Cruise tourism is growing fast and should continue to grow. Cruise vessel calls in Swedish ports increased 88% in the last decade, from 383 in 2002 to 720 in 2011. The number of cruise ship calls in Stockholm increases by around 10% every year. Between 2010 and 2012 the number of passengers calling at Stockholm grew from 415 thousand to 467 thousand (+13%).

The size of cruise ships has also changed significantly. In the size category > 1000 beds (which represents 80% of the ships calling in Sweden) the average size rose from 144 m to 210 m between 2002 and 2011 and width rose from 25 to 29 m.

In Gothenburg the development has also been fast, rising from 5 calls and 2,4 thousand passengers in 2002 to 70 calls and 84 thousand passengers in 2012. The bankruptcy of the company Classic International

Cruises will lower indicators in 2013 but this should be only a temporary downturn in what has otherwise been a strong upward trend. A record number of visits, both in terms of the number of ships and the number of passengers is expected for 2014: 70 ships that have already announced they will be visiting Gothenburg. The Port of Gothenburg and Göteborg & Co work together to promote cruise tourism to Gothenburg.

This MEA will essentially remain a Stockholm-Göteborg phenomenon and will therefore not benefit large parts of the non-metropolitan maritime regions of the country. Indeed cruise tourism primarily affects big cities for two major reasons: cruise ships are large vessels which cannot be welcomed in any small port and cruise tourists are more attracted by cities with rich heritage than by smaller less-equipped spots.

Passenger ferry services

This MEA experienced a strong decrease in 2000 and 2001 (-22% between 1999 and 2001) linked to the abolition of the duty-free regime and to the opening of the bridge connecting Malmö and Copenhagen in July 2000. From 2001 to 2008 the traffic remained stable above 32 million passengers. From 2008 to 2012 the traffic slightly but steadily decreased to fall below 30 million in 2012. Still, the Swedish Agency for Economic and Regional Growth is expecting growth for the coming years.

Marine aquaculture

Aquaculture in Sweden developed significantly in the last years (in 2011 production of sea-farmed trout increased by 43% compared to the previous year, from 2.283 t to 3.255 t) and appears to have a large potential for further development with a clear political goal to expand the sector in line with the increasing demand for locally produced, environmentally sustainable food.

In July 2012 a new strategy for Swedish aquaculture 2012-2020 was launched (“Svenskt vattenbruk – en grön näring på blå åkrar, Strategi 2012–2020”). The strategy was developed in cooperation with a broad range of stakeholders including universities, NGOs (e.g., WWF, Swedish Society for Nature Conservation), public authorities and others. The strategy is aimed at strengthening the development of a sustainable aquaculture sector including simplifying the administration and the environmental legislation of the aquaculture sector and fulfilling the Baltic Sea Action Plan (HELCOM, 2007). Work on a plan of action to implement the strategy was initiated in December 2012. The strategy aims for production increases through improved competition, i.e. competency development (education and professional training) at all levels, product development, investments and specialisation.

Offshore wind

The Swedish government wants to reduce the dependency on oil and there is substantial discussion in Swedish society on the fate of the remaining three nuclear power stations (with 10 reactors). There are good opportunities for sea-based windmill production. Offshore wind will be one of the leading axes in the maritime strategy to be presented by the government in spring 2014. The government also banks on collaboration between wind energy and wave energy, i.e. facilities for the production of wind energy at sea that are combined with wave energy produced on pylons used for wind power production.

Several offshore wind farms are planned and have been authorised. In the beginning of 2013 the Swedish Land and Environmental Court approved the wind power project being developed in the south of Sweden by Blekinge Offshore, close to Karlshamn. This farm will have 700 offshore wind turbines with a capacity of 2,5 thousand MW (more than 15 times the total capacity currently installed in Swedish waters). Construction should start in 2014 or 2015. In Kårehamn (Öland island) a 48 MW farm is under construction: eight of the 16 planned turbines are near completion (as of June 2013). The owner of the project is E.ON.

Short-sea shipping (incl. Ro-Ro)

The number of merchant vessels has strongly decreased in the last years and Swedish shipping currently faces considerable challenges regarding competitiveness as well as environmental and safety requirements.

This is why an action plan for improved competitiveness was launched by the Swedish government in January 2013. This plan includes transport policy measures (better land infrastructure to and from ports, changed regulations for municipal co-financing of state infrastructure), jobs and education measures (more training positions in maritime programmes, continued international educational programmes in the World Maritime University in Malmö), environmental measures (measures to facilitate the implementation of the stricter sulphur standards, measures against pollution from ships, measures to reduce emissions of nitrogen oxides in the Baltic Sea), R&D measures (increased funding to shipping research) and maritime safety actions. Swedish stakeholders and institutions (Chalmers, SSPA, Swedish Maritime Administration, SAB) are also widely involved in the continuous improvement and development of efficient, safe and environmentally friendly maritime transport in the EU (MONALISA project). It appears that potential exists for much more shipping as soon as environmental ways to do it are found. New shipping lines are also planned, e.g. Karlskrona-Klaipeda.

5.3 Regulatory environment of the maritime economic activities

Coastal tourism

- Förordningen om miljöfarlig verksamhet och hälsoskydd SFS 1998:899: relates to permissions and registration of private sewers.
- Naturvårdsverkets allmänna råd om små avloppsanordningar NFS 2006:7: specifies requirements for private sewers connected to less than or equal to 25 persons.
- Lagen om allmänna vattentjänster SFS 2006:412: concerns the water supply and sewage responsibilities of municipalities.
- Anläggningslagen SFS 1973:1149: stipulates the creation of jointly owned facilities such as private sewers connected to a group of holiday houses.
- The regulations for shoreline protection are found in Miljöbalken SFS 1998:808, chapter 7. They were recently modified based upon Government Bill 2008/09:119.

Cruise tourism

- IMO MARPOL 73/78 Annex IV on prevention of pollution from sewage from ships, see also TSFS 2010:96 (changed by TSFS 2011:1).
- IMO MARPOL 73/78 Annex V on prevention of pollution by garbage from ships, see also TSFS 2010:96 (changed by TSFS 2011:1).
- HELCOM agreement on ban on sewage discharge, covered by MARPOL Annex IV.
- See also policy instruments for shipping in general, listed in IVL and Enveco.

Passenger ferry service

Passenger ferry service is mostly regulated by the above-mentioned regulations.

Marine Aquaculture

- According to environmental legislation, Swedish aquaculture is regulated as an “environmentally hazardous activity” in the sense that aquaculture activities may imply a risk of environmental impact. Environmental permission is required by the County Administrative Board (Lansstyrelsen) if more than 40 tonnes of feed are expected to be used annually.
- The permission to run an aquaculture activity is also regulated by the ordinance of fishery and aquaculture and is applied for at the County Administrative Board.
- The Board of Agriculture and Fish Health Authorities are also involved (SOU, 2009).

Offshore wind

- Law (2011;1200) om elcertifikat.

- Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure.
- North Seas Countries Offshore Grid Initiative.

Short-sea shipping (incl. Ro-Ro)

- Short-sea shipping is mostly regulated by international law, e.g. SOLAS (International Convention for the Safety of Life at Sea).
- At Member State level, the bill presented by the government to the Swedish Parliament on the possibility of allowing armed security personnel on board Swedish ships is of relevance.

6. Growth drivers and barriers to growth for the 6 most promising marine and maritime economic activities

Table 10 - Strengths and weaknesses analysis of most promising maritime economic activities

Coastal tourism

(Benchmark instance: Sardinia)

	Drivers for Growth		Barriers for Growth	
	from SWOT analysis	from Benchmark analysis	from SWOT analysis	from Benchmark analysis
Maritime research	Survey launched by the Swedish Agency for Economic and Regional Growth (Tillväxtverket) to increase knowledge on inbound tourism (foreign visitors)		Absence of clear definition and delimitation of coastal tourism	No specific research on coastal tourism. No specialised body
Development and innovation	Tillväxtverket disseminates knowledge about the development of tourism and its effects on the Swedish economy.	Environmental protection policies	Many small companies with limited resources to develop market knowledge and innovation	
Access to finance			Substantial resources allocated to direct and indirect promotion of the tourism industry in a number of different sectors at national and regional levels. But need to be coordinated to be effective.	Difficult access to credit
Smart infrastructure	Tillväxtverket tries to develop enterprise policies for the promotion of tourism initiatives and entrepreneurship.	Effective port and airport system. Good general infrastructures	Tourism still underdeveloped. In the planning and design of infrastructure it is still the needs of production industry and public transport that are given priority.	
Maritime clusters	Coastal tourism involved in several clusters (Västra Götaland, Stockholm)			
Education	Good standard of schooling	Good standard of schooling		
Training and skills	Several universities teach tourism management (Gothenburg, Umeå, Kalmar, Lund).	Widespread presence of vocational schools and universities for tourism.		
Maritime spatial planning	Commission on MSP at work since January 2010. All territorial waters covered by municipal comprehensive plans.		Regional planning rather weak and not legally binding	
Integrated local development		Advanced urban development planning		High environmental pressure in some areas

Public engagement	The Maritime Strategy of the Region "Västra Götaland" has for objective to develop sustainable coastal tourism		Potential for development not really taken into account	
--------------------------	--	--	---	--

Cruise tourism

(Benchmark instance: Italy)

	Drivers for Growth		Barriers for Growth	
	from SWOT analysis	from Benchmark analysis	from SWOT analysis	from Benchmark analysis
Maritime research	Indirect research activity	Indirect maritime related research on economic, social and environmental impacts of cruise activity	Limited resources	Limited resources
Development and innovation	Collective action within Baltic Cruise network and European Cruise Council. Touristic appeal of Stockholm city and archipelago.	Social innovation (modern governance with strong stakeholder participation)	Norwegian fjords are usually the decisive destination of round trips calling in Swedish ports, not Stockholm or Gothenburg.	
Access to finance			Limited resources	Limited resources
Smart infrastructure	Cruise ports located in the biggest cities with high infrastructure level	Application of green technology		
Maritime clusters	Cruise tourism covered by Stockholm, Gothenburg and Kalmar clusters			
Education	Good network of universities with maritime-oriented education programs			Limited dedicated cruise programs at higher level of education
Training and skills			Limited dedicated cruise programs at higher level of education	Limited training programs
Maritime spatial planning	Creation in 2011 of a new central administrative authority (Swedish Agency for Marine and Water Management) to cover all maritime issues	Planning in regional level		Under-developed national ICZM
Integrated local development	7 out of the 27 ports members of the Baltic Cruise network are Swedish			Environmental pressures
Public engagement	Involvement in clusters (e.g. Gothenburg region)			Some local questioning on the sustainability of the sector's performance

Passenger ferry services

(Benchmark instance: Greece)

	Drivers for Growth		Barriers for Growth	
	from SWOT analysis	from Benchmark analysis	from SWOT analysis	from Benchmark analysis
Maritime research	Also concerned with maritime research in shipping (see table Short-sea shipping)	Extensive involvement and experience of universities in maritime research	Lack of knowledge on the needs and circumstances of passenger transport	
Development and innovation	Innovation in LNG-fuelled ferries	Innovation promoted through university research	Limited funding	Limited funding
Access to finance	Research programmes related to green shipping funded by EU FP7 (passenger ships concerned)		Difficult access to finance	Difficult access to financing or loaning. EU restrictions on passenger ferry services funding
Smart infrastructure	Good port and road infrastructure	Good general infrastructures	Functionality and technical requirements prioritised at the expense of aesthetic design	
Maritime	Clusters interested in green			No organised maritime

clusters	shipping (Gothenburg, Trelleborg), which affects both freight and passenger transport			clusters directly linked to passenger ferry services
Education	Good standard of schooling	Good standard of schooling		
Training and skills	Good network of universities with maritime-oriented education programs	Widespread presence of universities with marine oriented faculties		
Maritime spatial planning		Advanced maritime management		Some conflicts of interests
Integrated local development	Link of ferry passenger services with coastal tourism as well with living/working conditions	EU Cohesion Policy 2014-2020		High local pressures for preferential interventions by the state on the arrangements of ship routes
Public engagement	The Maritime Strategy of the Region "Västra Götaland" has for objective to exploit the potential for clean and safe maritime transport.	New central authority (Swedish Agency for Marine and Water Management) to cover all maritime issues		

Marine aquaculture

(Benchmark instance: Greece)

	Drivers for Growth		Barriers for Growth	
	from SWOT analysis	from Benchmark analysis	from SWOT analysis	from Benchmark analysis
Maritime research	Aquaculture Centre West coordinates research in Western Sweden. Aquaculture Centre North focuses on Arctic char and rainbow trout. Chalmers works on recirculation systems and wastewater treatment.	Significant number of research programs focused on aquaculture		
Development and innovation	Development of salmonid farming sped up by the Salmon Research Institute established by the hydro-power industry to compensate the missing recruitment of fry linked to building of dams, obstructing the migration of salmonids	Significant number of applied research projects in the field of aquaculture. Involvement of the private sector in pilot projects	Permissions needed to run aquaculture activity are quite heavy. Many authorities involved.	Difficulties to obtain licences
Access to finance	EFF (European Fisheries Fund) funding (especially for mussels and oysters). Swedish government funding. Hydropower industry funding.	Possibility of public funding through the EFF		Red tape for financial public support
Smart infrastructure	New farming techniques being developed. Genetic material of high quality			
Maritime clusters		No related maritime cluster	Poor coverage of aquaculture by clusters	No related maritime cluster
Education	Competency development (education and professional training) included in the National Strategy		Limited formal education opportunities	
Training and skills	Competency development (education and professional training) included in the National Strategy			
Maritime spatial planning	A majority of the municipalities identify and allocate relevant places for aquaculture in their master			No clear line regarding the integration of aquaculture in maritime spatial planning

	plans.			
Integrated local development	Good level of cooperation between producers, researchers, NGOs and public authorities			Not included in integrated local development initiatives
Public engagement	Recent launching of a Strategy for Swedish Aquaculture 2014-2020, which relies on the public vision of a growing, sustainable and ethical production towards 2020	Swedish aquaculture perceived as a safe, long term and prosperous sector by politicians		

Offshore wind

(Benchmark instance: Denmark)

	Drivers for Growth		Barriers for Growth	
	from SWOT analysis	from Benchmark analysis	from SWOT analysis	from Benchmark analysis
Maritime research	Swedish Wind Power Technology Centre (SWPTC) conducts some research on wind turbines for offshore energy. Linnaeus University: research on wind power technology ("materials technology for sustainable growth"). The Swedish Energy Agency has been commissioned to create a National Network of Wind farms for knowledge and research	High level knowledge of offshore wind farming in Swedish universities	Most research focuses on wind energy, not on offshore wind	
Development and innovation	R&D collaboration in progress between Sweden and UK in offshore renewables	Presence of SWPTC (Swedish Wind Power Technology Centre)	Sweden has a rather complicated permitting process	
Access to finance	Investment support for renewables		EU funding difficult to handle. Wind energy cheaper on land (no land scarcity in Sweden).	
Smart infrastructure	Combination of wind energy and wave energy in wind power installations (in project)	Varying electricity production of wind turbines (cross-border connections between Sweden, Norway, Germany and Denmark). Smart Grid-Intelligent energy system (in development).	Competition with onshore wind energy	
Maritime clusters	SWPTC ((Swedish Wind Power Technology Centre) is part of Västra Götaland cluster			
Education		Good capacity in training programs relevant for wind farms	Available university programmes focus on renewable energy but do not always give significant room to offshore energy	
Training and skills		Good capacity in training programs relevant for wind farms		
Maritime spatial planning	New agency for Marine and Water Management in charge of MSP. Good consultation and conflict management mechanisms		Only 4 of Sweden's 80 coastal municipalities have made planning efforts for offshore areas. No overall comprehensive MSP for all Territorial Seas.	
Integrated local development	The Maritime Strategy of the Region "Västra Götaland" has for objective to realise opportunities for offshore production of renewable energy. Support of Region "Västra		Potential areas of conflict: fishing, shipping, defence	

	Götaland" to SWPTC.			
Public engagement				

Short-sea shipping (incl. Ro-Ro)

(Benchmark instance: The Netherlands)

	Drivers for Growth		Barriers for Growth	
	from SWOT analysis	from Benchmark analysis	from SWOT analysis	from Benchmark analysis
Maritime research	Lighthouse Maritime Competence Centre conducts research on ship construction, maritime safety and hydrodynamics. Works in close collaboration with the shipping industry.	Extensive involvement and experience in maritime research; many Universities and R&D institutions involved in maritime research	Activity of TFK (Transport Research Institute) only marginally linked to maritime transport	
Development and innovation	Special public funds allocated to shipping research. University research	Innovation is promoted through a multitude of means	Increase of costs due to implementation of Sulphur Directive	Strong competition from the Far East
Access to finance	Banks involved in the shipping cluster (Danske Bank, Nordea Shipping Offshore & Oil, Svenska Skeppshypotek)	Better than in other country members of the EU		Difficulties in obtaining shipbuilding credit
Smart infrastructure	Important effort on clean shipping/green shipping (ECO SHIP project). Safety culture in shipping.	First class general infrastructures. Modern operating environment	Connections to and from ports, both on land and at sea, can be improved	
Maritime clusters	Gothenburg, Kalmar and Gävle clusters involved in shipping. Shipping cluster (Maritime Forum)	First class maritime cluster with high quality products and services		
Education	High level specialised schools (Chalmers University of Technology, Linnaeus University / Centre of International Maritime Education and Training, World Maritime University)	Very high level		
Training and skills		Good professional training at all levels		High cost of salaries and social security contributions
Maritime spatial planning	New central authority (Swedish Agency for Marine and Water Management) to cover all maritime issues	The European integrated maritime policy concept has been incorporated in policy		Conflicting policy goals
Integrated local development		Long tradition in integrated policies. EU Cohesion Policy 2014-2020		Reduced public funding
Public engagement	Shipping Action Plan launched by the Swedish Government in 2013. The first objective of the Maritime Strategy of the Region "Västra Götaland" is sustainable growth through prioritising shipping and logistics.	Modern and non-intrusive		

7. List of existing clusters

The main cluster is the Marine Cluster of Västra Götaland (Gothenburg Region), which brings together key stakeholders and academia from the various maritime sectors and relies on a sound regional strategy. The

Västra Götaland cluster is Sweden's most advanced maritime cluster and with the broadest coverage. It gathers public agencies (Swedish Agency for Marine and Water Management, Swedish Institute for the Marine Environment), universities (Chalmers University of Technology, University of Gothenburg), research centres (Ocean Energy Centre, Centre for Marine Research, Lighthouse Maritime Competence Centre), industry organisations (Swedish Ship-owners Association), the Port of Gothenburg and large companies (STENA Line, Volvo Penta, SK, SAAB, among others). The sea is one of West Sweden's core assets and entrepreneurship linked to marine environment goes way back. The Maritime Forum, based in Stockholm, is a member of the European Network of Maritime Clusters and focuses predominantly on the shipping industry.

Table 11 - List and analysis of clusters

Cluster	Member State(s)	Maritime economic activities covered	Status	Strengths	Weaknesses
Göteborg	Sweden	Cruise tourism Ferries Short-sea shipping Coastal tourism Boating industry Fisheries Maritime policy and public management	Mature	Maritime strategy of the region. Full coverage of maritime activities. Research. Swedish Wind Power Technology Centre. Number of companies competitive in the maritime sector	
Stockholm	Sweden	Cruise tourism, Ferries Coastal tourism	Mature	Touristic appeal of Stockholm city and archipelago.	
Trelleborg	Sweden	Offshore oil and gas (equipment) Water projects	Early development	Green shipping. Biogas	Small-scale
Kalmar	Sweden	Shipping Cruise tourism Port services	Growing	Safety culture in shipping Education	
Gävle	Sweden	Fishing Shipbuilding (yachts) Sand and gravel extraction Shipping Wind power	Mature		Small-scale
Maritime Forum	Sweden	Shipping (predominantly)	Growing	Shipping National coverage Member of European Network of Maritime Clusters	

8. Analysis of maritime strategies at regional and national level, as well as those under preparation and their links with Smart Specialisation Strategies

Maritime Strategies

Five strategies are analysed in this chapter:

- At the national level: the Action plan for Swedish shipping, the Strategy for Swedish Aquaculture, the Swedish Maritime Policy and the Swedish Innovation Strategy
- At regional level: the Maritime Strategy for Västra Götaland

The Swedish Shipping Action Plan for improved competitiveness was launched by the Swedish government in January 2013. It aims at promoting the competitiveness of Swedish shipping and strengthening its cooperation with other modes of transport. It supports the MEAs of Short-sea shipping (incl. Ro-Ro), Passenger ferry services and Coastal and Cruise tourism.

Issued in July 2012, the Strategy for Swedish Aquaculture 2012-2020 was developed in cooperation with a broad range of stakeholders (universities, organisations, NGOs, public authorities, etc.) and aims to strengthen the development of a sustainable aquaculture sector including simplifying the administration and the environmental legislation of the sector and fulfilling the Baltic Sea Action Plan. It envisages a significant growth in aquaculture production towards 2020. This Strategy contributes to support of the Marine aquaculture MEA.

In October 2008 the Government Bill 2008/09:170 established a “coherent Swedish Maritime Policy”. This policy, which prioritises the marine environment and includes strong measures against eutrophication, is based on the view that seas are an indispensable resource for society.

Issued in October 2012, the Swedish Innovation Strategy has the purpose to contribute to an innovation climate with the best possible conditions for innovation in Sweden aiming at 2020. This strategy does not have any sectoral objectives and no maritime-specific goals. All sectors of the economy are concerned but offshore wind and short-sea shipping are the two MEAs most likely to be addressed by the implementation of this strategy.

The Maritime Strategy for Västra Götaland (Gothenburg Region) was approved by the Regional Council of Västra Götaland in February 2008. It includes 13 objectives (See Table 12) and contributes to supporting Coastal tourism, Passenger ferry services, Marine aquaculture, Offshore wind and Short-sea shipping (incl. Ro-Ro).

The Swedish government intends to present a maritime strategy by spring 2014. The Action Plan for Swedish Shipping recently launched by the Ministry of Enterprise, Energy and Communications, is the first step of this strategy.

Table 12 - Policies/interventions towards maritime economic activities, their objectives and links to the most relevant and promising maritime economic activities (see Table 13 for links between most relevant and promising maritime economic activities and blue growth focus areas and objectives)

Level	Strategies	Objectives	Most relevant and promising maritime economic activities
National	Swedish shipping: Action plan for improved competitiveness	Promoting the competitiveness of Swedish shipping Strengthening cooperation with other modes of transport	Coastal tourism
			Cruise tourism
			Passenger ferry services
			Short-sea shipping (incl. Ro-Ro)
National	Swedish aquaculture strategy 2017-2020	Increase of farmed fish production Development of sustainable aquaculture	Marine aquaculture
National	Swedish Maritime Policy	Improving the marine environment Strengthening actions against eutrophication Develop a fee system for emissions of phosphorus and nitrogen Limit farmyard manure Develop mussel farming Introduce a ban on the discharge of human waste from leisure craft and merchant ships Strengthening international and regional cooperation on marine resource issues Develop a sustainable fisheries sector Reduce environmental impact of Swedish shipping Stimulate networks between companies in environmental sectors that focus on the marine environment	Short-sea shipping
			Passenger ferry services
			Marine aquaculture
National	Swedish Innovation Strategy	Maintain and further develop Sweden’s leading position in terms of innovation climate and innovation capacity in order to address the global societal challenges, increase competitiveness and renew public services of the future	Short-sea shipping
			Offshore wind
Regional	Maritime strategy for Västra Götaland	Sustainable growth through prioritising shipping and logistics Preserve marine biodiversity and the marine ecosystem’s status Monitor and analyse the condition of the marine environment and	Coastal tourism

	initiate improvement measures Recruitment of new generations to the marine sector Exploit the potential for clean and safe maritime transport Strengthen the development of maritime suppliers and the boating industry Sustainable fishery through stronger focus on quality, environmental objectives and cluster collaboration Improve knowledge of the sea, strengthen research and translate maritime opportunities into sustainable growth and development Realise opportunities for offshore production of renewable energy Measure the climate effects in maritime and coastal environments Develop sustainable coastal tourism and the marine experience industry Efficiency and collaboration in the boating industry Preserve and develop Västra Götaland's maritime identity	Passenger ferry services Marine aquaculture Offshore wind Short-sea shipping (incl. Ro-Ro)
--	--	---

Table 13 – Most relevant and promising maritime economic activities and ties to blue growth focus areas (top) / Blue growth focus areas and objectives

Most relevant and promising maritime economic activities	Blue growth focus area
Coastal tourism	Maritime, coastal and cruise tourism
Cruise tourism	Maritime, coastal and cruise tourism
Passenger ferry services	Maritime, coastal and cruise tourism
Marine aquaculture	Aquaculture
	Maritime, coastal and cruise tourism
	Marine and mineral resources
	Blue technology
Offshore wind	Blue energy
Short-sea shipping (incl. Ro-Ro)	Maritime, coastal and cruise tourism
	Marine and mineral resources
Blue growth objectives	
Blue energy:	Enhance the efficiency of harvesting the European energy resources Minimise land-use requirements of the power sector Reduce the European greenhouse gas emissions
Aquaculture:	Contribution to an overall improvement in human diet and more quality merchandise Diversification of coastal communities activities Preservation of fish stock sustainable aquaculture Promote aquaculture based on binding strategic guideline, multiannual national strategic plans and the exchange of best practices
Maritime, coastal and cruise tourism:	Healthy environment Increase the growth potential of activities Increase the attractiveness of coastal areas
Marine and mineral resources:	Advances in technology Security of supply
Blue technology:	Provider of mass-market products High added value specialised products

Smart Specialisation Strategies

In Sweden, “smart specialisation” has really started to receive attention in relation to the implementation of the Europe 2020 strategy. It has been addressed by both national authorities and regional stakeholders.

In 2011, the Government initiated a broad process to develop a Swedish innovation strategy. During this process, the concept of “smart specialisation” was introduced. But, when the strategy was launched in October 2012, “smart specialisation” was not formally introduced, even if some elements of a “smart specialisation” strategy are present, including a broad definition of innovation, an analysis and prioritisation based on global challenges and broad stakeholder involvement.

At the regional level many aspects of “smart specialisation” have been implemented in regional policies, even though the concept has not been applied before. The most advanced region in this regard is the Region Skåne in its “International Innovation Strategy 2012-2020”. Among the five sectoral priorities identified in this strategy, three include Blue Growth related MEAs: food industry (includes fishing), life science (includes blue biotechnology) and clean tech (includes renewable energy).

9. References

EUROSTAT

The 2012 Annual Economic Report on the EU Fishing Fleet (JRC/STECF, 2012)

The 2011 Annual Economic Report on the EU Fishing Fleet (JRC/STECF, 2011)

The 2010 Annual Economic Report on the EU Fishing Fleet (JRC/STECF, 2010)

Economic Performance of the EU Aquaculture sector (JRC/STECF, 2013)

Report of the Working Group on the Effects of Extraction of Marine Sediments on the Marine Ecosystem (ICES-WGEXT, 2012)

Contribution of Cruise Tourism to the Economies of Europe (European Cruise Council, 2012)

Vision och strategi för det maritima klustret (Sjöfartsforum, 2010)

Marine tourism and recreation in Sweden (Swedish Agency for Marine and Water Management, 2012)

Water transport 2011 (Trafikanalys, 2013)

Shipping goods 2012 (Trafikanalys, 2013)

Swedish sea fisheries 2011 (SCB, 2012)

Aquaculture in Sweden in 2011 (SCB, 2012)

Background Paper on Aquaculture Research (Swedish Foundation for Strategic Environmental Research, 2013)

Energy in Sweden 2012 – Facts and Figures (Swedish Energy Agency)

An ecosystem service approach for analyzing marine human activities in Sweden (Swedish Agency for Marine and Water Management, 2012)

The Swedish National Action Plan for the promotion of the use of renewable energy in accordance with Directive 2009/28/EC and the Commission Decision of 30.06.2009 (Regeringskansliet)

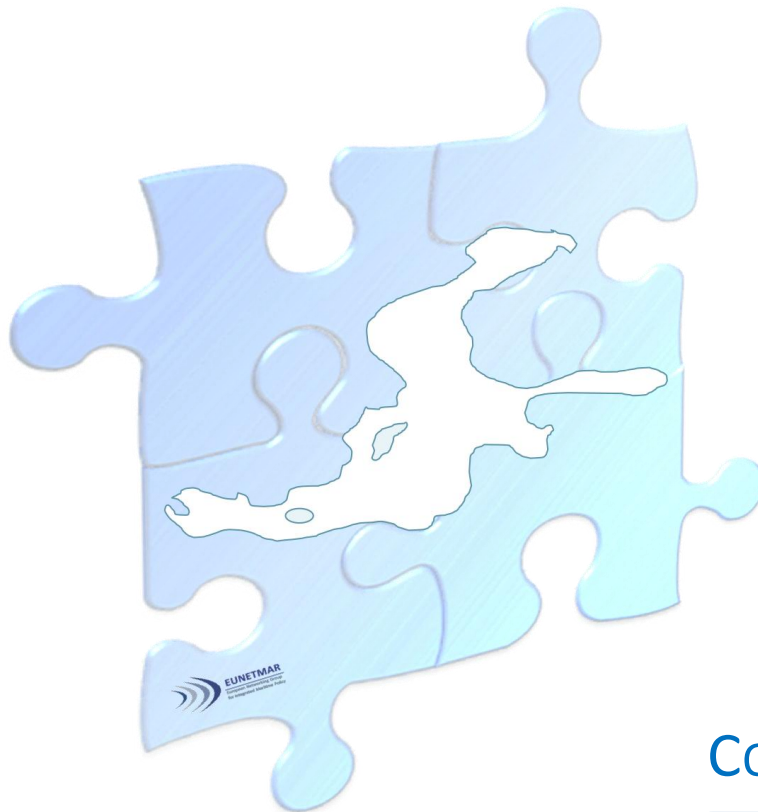
Sveriges sjöfartssektor : en viktig del i en svensk maritim strategi (Tillväxtanalys, 2010)

Maritime Strategy for Västra Götaland (Region Västra Götaland, 2011)

Boating Industry Statistics 2007-2012 (SweBoat, 2013)



STUDY ON BLUE GROWTH, MARITIME POLICY AND EU STRATEGY FOR THE BALTIC SEA REGION



CONTRACT NUMBER
MARE/2012/07 - REF. NO 1

COUNTRY FICHE ANNEX

SWEDEN

DECEMBER 2013



Contents

1. General overview.....	3
2. Marine and maritime economic activities (MEAs)	4
3. Breakdown of maritime economic activities at regional level (NUTS 2) and selection of most relevant region(s) for the study	8
4. List of the 7 largest, fastest growing and with most future potential marine and maritime economic activities	12
4.1 Ranking order of the 7 largest marine and maritime economic activities	12
4.2 Ranking order of the 7 fastest growing marine and maritime economic activities over the 3 past years.....	13
4.3 Ranking order of the marine and maritime economic activities with most future potential	13
5. Growth scenarios for 6 of the most relevant and promising marine and maritime economic activities	14
5.1 Description of the nature of each of the 6 maritime economic activities and value chains.....	15
5.2 Description of economic and infrastructural scenario	16
5.3 Regulatory environment of the maritime economic activities	18
6. Growth drivers and barriers to growth for the 6 most promising marine and maritime economic activities	19
7. List of existing clusters	23
8. Analysis of maritime strategies at regional and national level, as well as those under preparation and their links with Smart Specialisation Strategies	24
9. References.....	27
1. Selection of the most important regions	3
2. 7 Largest maritime economic activities: indicative size of all activities	3
3. 7 Fastest growing maritime economic activities: relative growth of all activities	4
4. 7 maritime economic activities with most future potential: indicators for all activities	5
5. Maritime strategies.....	6

1. Selection of the most important regions

Table 1 - Ranking order of coastal NUTS 2

NUTS 2	Water transport	Coastal tourism	Fishing	AQUA	Score
Stockholm	3,84	0,99	0,09	0,2	5,12
Östra Mellansverige	0,13	1,00	0,16	0,3	1,59
Småland med öarna	0,16	1,57	0,7	0,6	3,03
Sydsverige	1,44	1,37	1,22	1,7	5,73
Västsverige	4,22	3,02	7,34	6,3	20,88
Norra Mellansverige	0,08	0,36	0,2	0,2	0,84
Mellersta Norrland	0,04	0,35	0,03	0,1	0,52
Övre Norrland	0,09	1,32	0,27	0,8	2,48

2. 7 Largest maritime economic activities: indicative size of all activities

Maritime economic activity		GVA (EUR, billion)	Employment (*1000)	Score	Source & reference year
0. Other sectors					
0.1	Shipbuilding (excl. leisure boats) and ship repair	0,19	3,43	2,67	Eurostat (2013) – Data 2008-2010
0.2	Water projects	0,039	0,55	0,47	Eurostat (2013) – Data 2008-2010
1. Maritime transport					
1.1	Deep-sea shipping	0,05	0,74	0,62	Eurostat (2013) - Data 2008-2010; share in total shipping based on freight volumes
1.2	Short-sea shipping (incl. Ro-Ro)	0,52	8,92	7,06	Eurostat (2013) - Data 2008-2010; share in total shipping based on freight volumes
1.3	Passenger ferry services	0,43	10,34	7,32	Eurostat (2013) - Data 2008-2010
1.4	Inland waterway transport	0,01	0,15	0,13	Eurostat (2013) - Data 2008-2010
2. Food, nutrition, health and ecosystem services					
2.1	Fish for human consumption	0,60	14,25	10,14	Eurostat (2013), Data 2008-2010 ⁹ ; JRC Scientific and technical reports (2010; 2011; 2012): The 2010; 2011; 2012 Annual Economic Report on the EU Fishing Fleet
2.2	Fish for animal feeding	0,007	0,143	0,11	Eurostat (2013) - Data 2008-2010 ¹⁰ ; JRC Scientific and technical reports (2010; 2011; 2012): The 2010; 2011; 2012 Annual Economic Report on the EU Fishing Fleet
2.3	Marine aquatic products	0,0026	0,147	0,09	JRC Scientific and policy reports (2013): The Economic Performance of the EU Aquaculture Sector – 2012 exercise (STECF-13-03) - Data 2008-2010
2.4	Blue biotechnology	N/A	N/A	-	
2.5	Agriculture on saline soils	0	0	0	
3. Energy and raw materials					
3.1	Offshore oil and gas	0	0	0	
3.2	Offshore wind	0,0017	0,046	0,03	Eurostat (2013) – Data 2011 calculation ¹¹

⁹ Due to confidentiality, 2010 GVA and Employment data for NACE 10.2 (Processing and preserving of fish, crustaceans and molluscs) is taken from 2009.

¹⁰ Ibid.

¹¹ Capacity installed for offshore wind in 2010: 134 MW. Total capacity installed for electricity production: 35.699 MW (source: Swedish Energy Agency). Thus factor of 134/35.699 applied to Eurostat data for GVA and Employment in NACE 35.11

3.3	Ocean renewable energy	0	0	0	
3.4	Carbon capture and storage	0	0	0	
3.5	Aggregates mining (sand, gravel, etc.)	0	0	0	ICES 2010
3.6	Marine minerals mining	0	0	0	
3.7	Securing fresh water supply (desalination)	0	0	0	
4. Leisure, working and living					
4.1	Coastal tourism	0,81	23,98	16,00	Eurostat (2013) – Data 2010
4.2	Yachting and marinas	0,07	1,87	1,29	Eurostat (2013) – Data 2010
4.3	Cruise tourism	0,52	1,10	3,15	Contribution of Cruise Tourism to the Economies of Europe 2012 Edition
5. Coastal protection					
5.1	Coastal protection	0,133	1,326	1,33	Eurostat (2013) – Data 2010 (estimate)
5.3	Protection of habitats	Included in 5.1	Included in 5.1		
6. Maritime monitoring and surveillance					
6.1	Traceability and security of goods supply chains	N/A	N/A	-	
6.2	Prevent and protect against illegal movement of people and goods	N/A	N/A	-	
6.3	Environmental monitoring	N/A	N/A	-	

3. 7 Fastest growing maritime economic activities: relative growth of all activities

Maritime economic activity		GVA (CAGR, %)	Employment (CAGR, %)	Score	Source & reference year
0. Other sectors					
0.1	Shipbuilding (excl. leisure boats) and ship repair	8,66	-0,91	3,88	Eurostat (2013) – Data 2008-2010
0.2	Water projects	15,97	3,25	9,61	Eurostat (2013) – Data 2008-2010
1. Maritime transport					
1.1	Deep-sea shipping	-7,81	-3,42	-5,62	Eurostat (2013) - Data 2008-2010; share in total shipping based on freight volumes
1.2	Short-sea shipping (incl. Ro-Ro)	-6,88	2,11	-2,39	Eurostat (2013) - Data 2008-2010; share in total shipping based on freight volumes
1.3	Passenger ferry services	0,16	4,72	2,44	Eurostat (2013) - Data 2008-2010
1.4	Inland waterway transport	13,39	12,75	13,07	Eurostat (2013) - Data 2008-2010
2. Food, nutrition, health and ecosystem services					
2.1	Fish for human consumption	6,36	0,18	3,09	Eurostat (2013), Data 2008-2010; JRC Scientific and technical reports (2010; 2011; 2012): The 2010; 2011; 2012 Annual Economic Report on the EU Fishing Fleet
2.2	Fish for animal feeding	0	0	0	Eurostat (2013) - Data is confidential so no CAGR can be calculated.
2.3	Marine aquatic products	-4,20	2,60	-0,80	JRC Scientific and policy reports (2013): The Economic Performance of the EU Aquaculture Sector – 2012 exercise (STECF-13-03) - Data 2008-2010
2.4	Blue biotechnology	N/A	N/A	-	
2.5	Agriculture on saline soils	0	0	0	

3. Energy and raw materials					
3.1	Offshore oil and gas	0	0	0	
3.2	Offshore wind	N/A	N/A	N/A	
3.3	Ocean renewable energy	0	0	0	
3.4	Carbon capture and storage	0	0	0	
3.5	Aggregates mining (sand, gravel, etc.)	0	0	0	ICES 2010
3.6	Marine minerals mining	0	0	0	
3.7	Securing fresh water supply (desalination)	0	0	0	
4. Leisure, working and living					
4.1	Coastal tourism	4,19	0,86	2,53	Eurostat (2013); 2008-2010 data
4.2	Yachting and marinas	-18,24	-17,81	-18,03	Eurostat (2013); 2008-2010 data
4.3	Cruise tourism	5,13	5,13	5,13	Contribution of Cruise Tourism to the Economies of Europe 2012 Edition
5. Coastal protection					
5.1	Coastal protection	1,37	1,39	1,38	Eurostat (2013) – Data 2008-2010
5.3	Protection of habitats	Included in 5.1	Included in 5.1		
6. Maritime monitoring and surveillance					
6.1	Traceability and security of goods supply chains	N/A	N/A	-	
6.2	Prevent and protect against illegal movement of people and goods	N/A	N/A	-	
6.3	Environmental monitoring	N/A	N/A	-	

4. 7 maritime economic activities with most future potential: indicators for all activities

INDICATOR	DEFINITION / GUIDING QUESTIONS
Innovativeness	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?
Competitiveness	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.
Employment	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?
Policy relevance	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?
Spill-over effects	What impact does the given MEA have on other (including non-maritime) economic activities within the MS?
(Environmental) Sustainability	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?

Maritime Economic Activity		Innovativeness	Competitiveness	Employment	Policy relevance	Spill-over effects	Sustainability	Overall score
0. Other sectors	0.1 Shipbuilding (excl. leisure boats) and ship repair	0	0	+	+	0	0	0
	0.2 Water projects	0	0	0	+	0	0	0
1. Maritime transport	1.1 Deep-sea shipping	0	-	-	+	+	+	0
	1.2 Short-sea shipping (incl. Ro-Ro)	+	0	0	+	0	+	0
	1.3 Passenger ferry services	0	0	+	+	0	+	0

	1.4 Inland waterway transport	0	+	+	+	0	+	++
2. Food, nutrition, health and ecosystem services	2.1 Fish for human consumption	0	0	-	+	0	0	0
	2.2 Fish for animal feeding	0	0	0	+	0	0	0
	2.3 Marine aquaculture	+	0	0	+	+	+	++
	2.4 Blue Biotechnology	+	0	+	+	+	+	++++
	2.5 Agriculture on saline soils	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3. Energy and raw materials	3.1 Offshore oil and gas	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3.2 Offshore wind	0	+	+	+	+	+	++++
	3.3 Ocean renewable energy (wave, tidal, OTEC, thermal, biofuels, etc.)	+	0	+	+	0	+	++
	3.4 Carbon capture and storage	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3.5 Aggregates mining (sand, gravel, etc.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3.6 Marine minerals mining	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3.7 Securing fresh water supply (desalination)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4. Leisure, working and living	4.1 Coastal tourism	0	+	+	0	+	+	++
	4.2 Yachting and marinas	+	0	0	0	+	+	0
	4.3 Cruise tourism	+	+	+	0	+	0	++
5. Coastal protection	5.1 – 5.2 Coastal protection	0	0	+	+	0	+	0
	5.3 Protection of habitats	0	0	+	+	0	+	0
6. Maritime monitoring and surveillance	6.1 Traceability and security of goods supply chains	+	0	0	+	0	+	0
	6.2 Prevent and protect against illegal movement of people and goods	+	0	+	+	0	0	0
	6.3 Environmental monitoring	+	-	+	+	0	+	++

5. Maritime strategies

Title of the official document	Level	Responsible body	Maritime strategy concerned	Kind of strategy document / Publishing date	URL
Swedish shipping – Action plan for improved competitiveness	National	Ministry of Energy and communications	Shipping	Action plan presented by the Swedish Government on 21 January 2013	http://www.regeringen.se/content/1/c6/20/74/53/d8ca96c1.pdf
Strategy for Swedish Aquaculture 2012-2020	National	Jordbruksverket (Swedish Board of Agriculture)	Marine aquatic products	Strategy document Action plan to follow at the end of 2013	http://www2.jordbruksverket.se/webdav/files/SJV/trycksaker/Pdf_ovrigt/ovr257.pdf
Maritime Strategy for Västra Götaland	Regional	Region Västra Götaland	Shipping Fisheries Marine aquatic products Offshore wind Ocean renewable energy Coastal tourism Coastal protection Traceability	Strategy document	http://www.vgregion.se/upload/Regionkanslierna/regionutveckling/Publikationer/2011/Maritime_Strategy_VastraGotaland-web1.pdf