

B – Marine and maritime economic activities (MEAs)

Overview of relevant maritime economic activities in SPAIN at NUTS-0 level (data)

Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
0. Other sectors						
0.1	Shipbuilding (excl. leisure boats) and ship repair	1.1 MD € (2011)(EUR OSTAT)	22.743 (2011)(EUR OSTAT)	2109 (2011)(EUR OSTAT)	Various others at EUROSTAT (see provided link) such as Number of employees = 21472 people, etc...	EUROSTAT. Annual detailed enterprise statistics for industry (NACE Rev. 2, B-E). Code sbs_na_ind_r2. 2011 data. (link)
0.2	Water projects	0.8 MD € (2011)(EUR OSTAT)	17.680 (2011)(EUR OSTAT)	589 (2011)(EUR OSTAT)	Various others at EUROSTAT (see provided link)	EUROSTAT. Annual detailed enterprise statistics for construction (NACE Rev. 2, F). Code sbs_na_con_r2. 2011 data. (link)
1. Maritime transport						
1.1	Deep-sea shipping	1.4 MD € (2011)(EUR OSTAT)				
1.2	Short-sea shipping (incl. Ro-Ro)	1.4 MD € (2011)(EUR OSTAT)		35 (Atlantic port)(2013) (SPC, 2014)	SSS of goods in Atlantic Sea: 33.9 M tonnes (2012) (EUROSTAT) Ro-Ro capacity in the Atlantic: 1.7 M meters (MEDDE, 2013) container transportation capacity in the Atlantic: 280 000 (74% of which may be viewed as an alternative to road haulage) (MEDDE, 2013) Spanish port traffic transported by short sea shipping: 194 M tonnes (2011) (MEDDE, 2013) 44 SSS lines (Atlantic port) (2013) SPC, 2014)	MEDDE/SEEIDD/MA. 2013. Bulletin of the Observatory of Transport policies and strategies in Europe. Short sea shipping in Europe. Numéro 33 – Janvier 2013 (link) SPS.2014. Asociación Española de Promoción del Transporte Marítimo de Corta Distancia. Observatorio estadístico del transporte marítimo de corta distancia en España 2009 – 2013. 36p (link)

Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
1.3	Passenger ferry services In EUROSTAT : SUM (H5010 Sea and coastal passenger water transport ; H5030 Inland passenger water transport)	161.7M € (2011)(EUROSTAT)	3.146 (2011) (EUROSTAT)	250 (2011)(EUROSTAT)	Maritime transport of passengers: 12 829 000 passengers (2012)(EUROSTAT)	EUROSTAT. Annual detailed enterprise statistics for services (NACE Rev. 2 H-N and S95). Code sbs_na_1a_se_r2. 2011 data. EUROSTAT. Maritime transport of passengers by NUTS 2 regions. Code: tran_r_mapa_nm. 2012 data.
1.4	Inland waterway transport In EUROSTAT: SUM (H5040 Inland freight water transport; H5030 Inland passenger water transport)	12.3M € (2011)(EUROSTAT)	443 (2011)(EUROSTAT)	73 (2011)(EUROSTAT)		EUROSTAT. Annual detailed enterprise statistics for services (NACE Rev. 2 H-N and S95). Code sbs_na_1a_se_r2. 2011 data.
2. Food, nutrition, health and ecosystem services						

Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
2.1	Fish for human consumption	VAB sea fishing : 583.80 M € (2010) Value of the first sale of sea fishing for human consumption: 1.883 MD € (2008)	sea fishing : 31.39 (2010) processing and preserving of fish and fish-based products: 22.798 (2007)	processing and preserving of fish and fish-based products: 620 (2007)	weight of sea fishing for human consumption: 886811 Tm (2008)	Ministerio de medio ambiente, y medio rural y marino. Estadísticas pesqueras. Publicación elaborada por la Secretaría General Técnica Subdirección General de Estadística. Abril 2010. 147p. link
2.2	Fish for animal feeding	Value of the first sale of sea fishing for non-human consumption: 0.332 M € (2008)			weight of sea fishing for non-human consumption: 101 Tm (2008)(Ministerio, 2010)	Ministerio de medio ambiente, y medio rural y marino. Estadísticas pesqueras. Publicación elaborada por la Secretaría General Técnica Subdirección General de Estadística. Abril 2010. 147p. link
2.3	Marine aquaculture (Seawater & Brackish water)	377.521M € (2007) (EUROSTAT) cultivation of marine species: 89.3% of the total aquaculture	Fishing & Aquaculture : 37.1 (2013) (EUROSTAT) Marine aquaculture : 2.2 (2004) (Labarta, 2007) ;	272 companies (excl. mussel industry), of which 63% corresponded to marine aquaculture (2004)(Caja	Structure of the aquaculture sector: 10111 ha (EUROSTAT)	EUROSTAT. Aquaculture production in values (1984-2007) - 1 000 euro. Code fish_aq_v. 2007 data. EUROSTAT. Employment by sex, age and detailed economic activity (from 2008 onwards, NACE Rev. 2 two digit level) - 1 000. Code lfsq_egan22d. 2013 data. EUROSTAT. Data on the structure of the aquaculture sector (from 2008 onwards). Code fish_aq5.

Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
		production (2003)(FAO)	1.862 (excl. mussel & oyster industries) (2011)	mar, 2006) = 168 (2004)(Labarta, 2007) 144 farms (2007) (APROMAR, 2012); 110(2011)(APROMAR, 2012)		FAO. National Aquaculture Sector Overview – Spain (link) Instituto de Estudios Cajamar. 2006.: La acuicultura en España, situación y retos para el futuro, Almería, Caja de Ahorros Mediterránea. Labarta. 2007. El desarrollo de la acuicultura en España. ARBOR Ciencia, Pensamiento y Cultura CLXXXIII 727 septiembre-octubre (2007) 669-685 ISSN: 0210-1963 APROMAR. 2012. La acuicultura marina en España. 83p (link)
2.4	Blue biotechnology	Sales for pharmaceutical industry (main customer of marine biotechnology) : 126 000M € (Bioemprende, 2010) macroeconomic impact of Spanish biotechnology : 8189M € (0.8% of	Spanish researchers in Biotechnology and Applied Microbiology: 0.299 (GENOMA, 2005) Spanish staff in biotechnology (public and private): ~21.210	Patents holders: 24 (8 University, 1 CSIC, 1 other, 12 firms, 1 private holder)(GENOMA, 2005) 58 private entities or companies with activities in marine sciences	Number of patents: 39 Spanish ownership patents (all type of biotechnologies) in the period 2000-2003 (GENOMA ESPAÑA, 2005) Number of Spanish publications in marine biotechnology & microbiology : 306 (1994-2004) (Duarte, 2006)	GENOMA ESPAÑA. 2005. La biotecnología española: impact económico, evolución y perspectivas - Estudio sobre la Biotecnología en el Sistema Público Español de I+D. Indicadores de actividad básica y de transferencia de tecnología. 61p. Bioemprende, 2010 (link) Duarte, C. M. 2006. Las Ciencias y Tecnologías Marinas en España. Informes CSIC, Madrid. 292p. GENOMA. 2009. Relevancia de la Biotecnología en España 2009. 94p (link)

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		GDP 2007; 1.6% of GDP in 2012) (Genoma, 2009)	(2008)(Genoma, 2009) Direct and indirect job positions in Spanish biotechnology: 63.3000 (2007)(Genoma, 2009); 160.500 (2012)(Genoma, 2009)	and technologies (Duarte, 2006)		
2.5	Agriculture on saline soils		Employment in Crop and animal production, hunting and related service activities: 676.0(2013) (EUROSTAT)		Surface of saline soils: 180 000 ha (0.35% of the country's surface area)(Moreno, 2005)	EUROSTAT. Employment by sex, age and detailed economic activity (from 2008 onwards, NACE Rev. 2 two digit level) - 1 000. Code lfsq_egan22d. 2013 data. Moreno Rodríguez, J.M. 2005 Preliminary General Assessment of the Impacts in Spain due to the Effects of Climate Change. Impacts on soil resources. ECCE PROJECT - FINAL REPORT 40p (link)
3. Energy and raw materials						



Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
3.1	Offshore oil and gas	Total oil and gas sector: 38.5M € (EUROSTAT) Offshore oil and gas: 4.0 M€ (2014) (Blue growth, 2014)	Total oil and gas sector: 0.280 (2011)(EUROSTAT)	Total oil and gas sector: 6 (2011)(EUROSTAT)	Offshore prospective production of conventional oil: 1789 MBO (2012)(ACIEP, 2012) Offshore prospective production of conventional gas: 369 BCM (2012)(ACIEP, 2012) Primary energy production – crude oil: 108.52 TOE (2009)(EUROSTAT) Primary energy production – natural gas: 12 TOE (2009)(EUROSTAT)	EUROSTAT. Annual detailed enterprise statistics for industry (NACE Rev. 2, B-E). Code sbs_na_ind_r2. 2011 data. EUROSTAT. Energy: primary production and final consumption by NUTS 2 regions - 1 000 tonnes of oil equivalent code: env_rpep. 2010 data. ACIEP. 2012. Perspectivas económicas en la exploración y producción de Hidrocarburos en España. Evaluacion preliminar de los recursos prospectivos de hidrocarburos convencionales y no convencionales en Espana. Madrid, 14 de Marzo de 2013. 16p (link) Blue Growth Infographic. 2014. (link)
3.2	Offshore wind				Total production of domestic primary energy (Wind, solar and geothermal): 9.614 M Ktep (2012)(INE) Wind energy production: 11 600 MW (5.5% of total electricity consumption) (2004)(EC) The first offshore wind turbine in Spain was installed in July 2013 in Arinaga (Canarias). It has a power of 5 MW	INE. Domestic primary energy production by type of energy and period. 2012 data. EC. Politica maritima de la UE. Cifras y datos – España. KL-78-07-376-ES-C. 2p.
3.3	Ocean renewable energy				Total production of domestic primary energy (Wind, solar and geothermal + Bio-mass, biofuel and waste): 17.299M Ktep (2012)(INE) renewable energy: 13.2% of total energy consumption; 32.3% of of electricity production (2011)(tecnalia) Share of renewable energy consumption in final energy	INE. Domestic primary energy production by type of energy and period. 2012 data. Tecnalia. 2011. Ocean Energy Activities in Spain (link)

Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
					consumption:	
3.4	Carbon capture and storage				Carbon storage in Harvested Wood Products (particleboard and fiberboard): around 1000 Gg C (2006)(Canals, 2014) Spain's CO2 storage capacity (offshore capacity excl.): on 103 studied structures, 55 have capacities higher than 50 million tonnes, with a combined capacity of around 12 gigatonnes (ZeroCO2NO) pre-combustion carbon dioxide capture plant (ELCOGAS in Puertollano): capture 35 000 tons of CO ₂ /year; 100tons/day (Bellona)	Canals, G.G., Valero, E., Picos, J.,Voces, R. 2014. Carbon storage in HWP. Accounting for Spanish particleboard and fiberboard. Forest Systems (2014) 23(2): 225-235 (link) ZeroCO2NO (link) Bellona (link)
3.5	Aggregates mining (sand, gravel, etc.)	869.0M € (2011)(EUROSTAT)	16.737 (2011) (EUROSTAT)	2.165 (2011) (EUROSTAT)	Production of sand and gravel, silica sand : 134 000 000 tons (2010)(USGS, 2012)	EUROSTAT. Annual detailed enterprise statistics for industry (NACE Rev. 2, B-E). Code sbs_na_ind_r2. 2011 data. USGS. 2012. 2010 Minerals Yearbook Spain. U.S. Department of the Interior U.S. Geological Survey. October 2012. 10p (link)
3.6	Marine minerals mining	Total (marine & terrestrial) minerals mining : 956.1M € (2011) (EUROSTAT)	Total (marine & terrestrial) minerals mining : 8.903	Total (marine & terrestrial) minerals mining : 169 (double counting possible)	Production of marine mineral commodities: 4 600 000 tons (2010)(USGS, 2012)	EUROSTAT. Annual detailed enterprise statistics for industry (NACE Rev. 2, B-E). Code sbs_na_ind_r2. 2011 data. USGS. 2012. 2010 Minerals Yearbook Spain. U.S. Department of the Interior U.S. Geological Survey. October 2012. 10p (link)

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3.7	Securing fresh water supply (desalination)		Number of persons employed in the water collection, treatment and storage sector: 38.330 (2011)(EUROSTAT)	900 desalination plants (IPF, 2009)	<p>Capture carried out: 105 968 000m³ (2010)(INE)</p> <p>Capacity of Spanish desalination plants : 1.45 M m³/day (IPF, 2009)</p> <p>Costs of desalination: 0.516€/m³ (Sanchez)</p> <p>Amount allocated to freshwater shortage: 3784M € (EC)</p>	<p>INE. Capture carried out by the own company by Autonomous Community and Cities and type of appeal. 2010 data.</p> <p>IPF. 2009. Las desalinizadoras y plan de empresa. 49p (link)</p> <p>Sanchez, J.M. la desalacion de aguas : su estado actual. 11p (link)</p> <p>EUROSTAT. SBS data by NUTS 2 regions and NACE Rev. 2 (from 2008 onwards) (sbs_r_nuts06_r2). 2012 data.</p> <p>EC (link)</p>
4. Leisure, working and living						
4.1	Coastal tourism	All (coastal and terrestrial) tourism: 10,1% of GDP (2009)(INE) Coastal and maritime tourism: 12.986 M€ (2014) (Blue growth,	All (coastal and terrestrial) tourism: 700.000 (direct) & 500.000 (indirect); 2267.1 (2009)(INE) Coastal and maritime tourism:	Number of coastal establishments: 15 835(2012)(EUROSTAT)	<p>Number of tourists (coastal and terrestrial): 57.7M international tourists (2012)(PWC, 2013)</p> <p>Number of coastal tourists: 44M (EC, 2012)</p> <p>Night spent by residents and non-residents tourists in the coastal area: 303 005 138 (2012)(EUROSTAT)</p> <p>Number of bed places : 2 399 797 (2012)(EUROSTAT)</p>	<p>http://www.colsagrcorazon-granada.es/ArchivosColegiosSSC_ColegioSgdoCorazon/Archivos/Mar%C3%ADa%20Jos%C3%A9%20Ortega/Bachillerato/el%20turismo%20de%20Espa%C3%B1a.pdf</p> <p>http://www.usal.es/webusal/node/440</p> <p>PWC. 2013. Temas candentes del turismo para 2013 Soluciones innovadoras para retos ambiciosos. 52p (link)</p> <p>INE. Ingresos y pagos por turismo. Serie 1997-2012. 2012 data</p> <p>EC. 2012. Annual report on Tourism to the EC, Spain, 2012.</p>



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		2014)	351.304 (2014) (Blue growth, 2014)			27p (link) EC. Politica maritima de la UE. Cifras y datos – España. KL-78-07-376-ES-C. 2p EUROSTAT. Nights spent at tourist accommodation establishments by coastal and non-coastal area and by NUTS 2 regions (from 2012 onwards) (tour_occ_nin2c). 2012 data EUROSTAT. Number of establishments, bedrooms and bed-places by coastal and non-coastal area and by NUTS 2 regions (from 2012 onwards) (tour_cap_nuts2c). 2012 data Blue Growth. 2014. (link)
4.2	Yachting and marinas	Nautical sector: 0.7% of national GVA (Garcia Reche et al. 2010) Net income : 543,77€/month Net income of the Spanish marinas:	28.751 (direct and indirect) (Garcia Reche et al. 2010)		355 marinas (2009)(Garcia Reche et al. 2010) 107772 mooring places; 186136 boats; 38% of marinas in Atlantic ocean (fondhear)	Fondhear (link) Garcia Reche, A., marco-Serrano, F., Corredera, D.N. 2010. Los Puertos Deportivos en España: Estructura, Modelos de Gestión y Resultados Económico-financieros. Valencia y Madrid, Junio 2010. 67p (link)

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		62M € (Garcia Reche et al. 2010)				
4.3	Cruise tourism	Cruise industry direct expenditures: 1186M € (2010) (BREA, 2011)	Total employment generated by cruise industry: 25.220 (2010) (BREA, 2011)		total number of cruise passengers having visited Spanish ports : 4.911 million (2010)(BREA, 2011) Passengers having embarked on cruises from Spanish ports: 1.155 million (2010) (BREA, 2011)	EC. 2004. Tourism industry sub-sectors. COUNTRY REPORT.SPAIN. March 2014. 9p (link) BREA. 2011. Contribution of Cruise Tourism to the Economies of Europe 2010 Country Report Spain.4p (link)
5. Coastal protection						
5.1 – 5.2	Coastal protection against flooding and erosion	N/A	N/A	N/A	Total coastal protection investments: 935M € (1998-2015)(EC) Flood risk indicators (Atlantic ocean): medium (EC) coastal zone below 5 m elevation : <5% (2006)(EC) Coastline subject to erosion : 757 km (11.5%)(2006)(EC) GDP in 50 km zone: 418 026 (2006) (EC) Population in 50 km zone : 22 866 485 (2006)(EC)	EC. Country overview and assessment. Spain (link)



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Maritime economic activity		Gross Value Added	Employment (*1000)	Number of enterprises	Other indicators	Source & Reference year
5.3	Protection of habitats	N/A	N/A	N/A	<p>Terrestrial and marine areas protected to total territorial area : 7.63% (2010)(Index Mundi)</p> <p>Terrestrial and marine areas protected: 47661 km² (2010)(Index Mundi)</p> <p>Marine areas protected to territorial waters: 3.5% (2010) (Index Mundi)</p> <p>Marine areas protected: 4094 km²(Index Mundi)</p> <p>Total marine surface area of N2000 sites: 5145.1km²(2012)</p> <p>Number of N2000 Sites: 96 (2012)(MedPAN, 2012)</p> <p>Environmental protection of landscape and biodiversity expenditure: 1868.28 M €(2010)(EUROSTAT)</p>	<p>Index Mundi (link1)(link2)</p> <p>MedPAN. 2012. The Status of Marine Protected Areas in the Mediterranean Sea 2012 A study done by MedPAN in collaboration with the RAC/SPA. MedPAN & RAC/SPA. Ed: MedPAN Collection. 256 pp (link)</p> <p>EUROSTAT. Environmental protection expenditure by NUTS 2 regions code: env_ac_exp4r2. 2010 data</p>

Breakdown of maritime economic activities in the Atlantic (NUTS2) regions of SPAIN.

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
0. Other sectors			
0.1 Shipbuilding (excl. leisure boats) and ship repair	The whole shipbuilding industry produced 3.199 M€ in 2009 and employed 39000 people. Due to relationship with other sectors, the total impact of the production	No regional information found	ICEX. 2009. Spain: Shipbuilding Sector ICEX sector notes. Madrid. 8p (link)



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Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	of the sector is 13.581M €, representing 0.70% of the total domestic production (InnovaMAR, 2012). In 2008, Spain had 24 new construction shipyards (ICEX, 2009).		InnovaMar. 2012. El Sector de la construcción Naval Español: Análisis de Escenarios. 15p (link)
0.2 Water projects	Traded volumes of water represented less than 1% of all annual consumptive uses since 2005. Examples of water markets: - In the Guadiana basin a plan was approved in order to solve the environmental problems affecting groundwater bodies due to aquifer overexploitation: a public water bank was established to acquire rights to reduce pumping rates by 250 hm ³ by 2027. - In the Jucar basin, compensation was offered to farmers in order to reduce extractions by 100hm ³ in the upper aquifer (2006-2007). - In the Segura basin, two public offers were established in 2007 and 2008 to encourage rice farmers to lease their surface water (De Stefane, 2013).	No regional information found	De Stefano, L. Llamas, M.R. 2013. Water, Agriculture and the environment in Spain: can we square the circle. Taylor & Francis Group, London, UK.
1. Maritime transport			
1.1 Deep-sea shipping	Although Galicia, Asturias, Cantabria and Pais Vasco regions do not have large commercial ports it does host a number of medium-sized ports. Energy products – gas, oil and coal - account for the majority of traffic.	See text description for details	MEDDE/SEEIDD/MA. 2013. Bulletin of the Observatory of Transport policies and strategies in Europe. Short sea shipping in Europe. Numéro 33 – Janvier 2013 (link)
1.2 Short-sea shipping (incl. Ro-Ro)	Other commercial traffic includes metal products, chemicals, soy, pulp and paper and containers. The general traffic in Bilbao (medium sized port) is 40 M tonnes, 22 M tonnes for Huelva, 20M tonnes for Gijon, 75 M tonnes for Algeciras, 57 M tonnes for Valencia		EC. Sea Basins. Bay of Biscay and the Iberian Coast. 02/07/2014 link EC. Sea Basins. Mediterranean. 02/07/2014 link

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	<p>and 51 M tonnes for Barcelona. The container traffic is 0.55M TEU for Bilbao and 2.6 TEU for Gijon (EC, 2014).</p> <p>Container traffic is experiencing particular expansion in Algeciras, a large hub at the entrance to the Mediterranean that now faces competition from Tanger-Med (Morocco)(EC, 2014).</p>		
1.3 Passenger ferry services	<p>A number of car ferry routes connect the Spanish coast (Bilbao, Santander, Gijón and Vigo) with British and French ports. The Bilbao-Portsmouth and Santander-Plymouth routes transport between 140 000 and 150 000 passengers a year each (EC, 2014).</p> <p>Barcelona and Alicante ports transport 5 million passengers to the Balearic Islands (2006). The main route for link between the north and south shores is Spain-Morocco (6.5 million)(EC, 2014).</p>	<p>Maritime transport of passengers:</p> <p>Galicia : 0 passenger ; Asturias : 52 000 passenger ; Cantabria: 181000 passenger ; Pais vasco: 77000 passenger ; Andalucia: 5891000 passenger ; Canarias: 3356000 passenger ; (2012)(EUROSTAT)</p>	<p>EUROSTAT. Maritime transport of passengers by NUTS 2 regions. Code: tran_r_mapa_nm. 2012 data.</p> <p>EC. Bay of Biscay and the Iberian Coast. 02/07/2014 link</p>
1.4 Inland waterway transport	<p>Spain has an important maritime waterway, the Guadalquivir, in the south, used by deep-sea ships up to the port of Sevilla. Small boats can continue up to Cordoba depending on the water level. The most important waterway for boating is the river Ebro, which is being developed for tourism from its mouth in the Mediterranean south of Barcelona to Mequinensa, 160 km inland. However, some studies considered Spain as having virtually no inland freight water transport (EuroFound, 2010) in comparison with other European countries.</p>	No regional information found	Eurofound. 2010. Representativeness of the European social partner organisations: Inland water transport. European Foundation for the Improvement of Living and Working Conditions, 2010. 38p.

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
2. Food, nutrition, health and ecosystem services			
2.1 Fish for human consumption	Half of the fleet, both in terms of vessels and tonnage is registered in Galician ports, along the Atlantic Ocean. The Basque Country is the second region of importance for fisheries. The Galician fishing port of Vigo is the first fishing harbour in Europe with 700.000 tons landed. Pasajes in the Basque Country is the second fishing harbour in Spain and the fourth in Europe The four regions of Galicia, Andalusia, Canarias and Pais Vasco are the four regions most dependent on fisheries in Spain. They are also among the most important regions for fishing in Europe.	Andalusia - fleet: 2049 units - total capacity : 62.369 GT - power: 77.132 kW - Employment: 6.919 - number of firms: 1.842 - value: 148 million euros - processing sector : 1950 jobs, 94 firms, 35.000 tons of production for a value of 184,6 million euros Asturias - fleet: 411 units - total capacity : 12.138 GT - power: 30.095 kW - Employment: 1.302 - number of firms: 390 - value: 47,1 million euros - processing sector : 198 jobs, 18 firms, 5.443 tons of production for a value of 29 million euros Galicia - fleet: 6.597 units - total capacity : 205.809 GT - power: 372.700 kW - Employment: 17.527	Spanish Operational Programme EMFF, 2014 (link)
2.2 Fish for animal feeding			

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
		<p>- number of firms: 6.089 - value: 357 million euros - processing sector : 10.850 jobs, 192 firms, 507.540 tons of production for a value of 1.622,4 million euros</p> <p>Canarias - fleet: 1.161 units - total capacity : 35.825 GT - power: 73.561 kW - Employment: 1.929 - number of firms: 1.023 - value: 3,12 million euros - processing sector : 139 jobs, 13 firms, 4.964 tons of production for a value of 9,7 million euros</p> <p>Cantabria - fleet: 185 units - total capacity : 11.537 GT - power: 28.116 kW - Employment: 1.042 - number of firms: 178 - value: 22,6million euros - processing sector : 2.181 jobs, 81 firms, 33.079 tons of production for a value of 178,2 million euros</p> <p>Pais Vasco - fleet: 314 units - total capacity : 78.770 GT</p>	

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
		- power: 144.627 kW - Employment: 2.940 - number of firms: 272 - value: 125,69 million euros - processing sector : 2.062 jobs, 91 firms, 87.540 tons of production for a value of 367,1 million euros	
2.3 Marine aquaculture	<p>In Andalucía, 75 institutions generated 596 jobs full time for a production of 9 726.23 tons and 44 749 240€ in 2002.</p> <p>In Asturias, continental aquaculture produces mainly trout. Marine aquaculture produces oysters and turbot.</p> <p>The Galicean marine aquaculture created 4276 jobs (full-time eq.) in 2002.</p> <p>According to the APROMAR study (2006), Canary has the third position in the production of seabream and seabass (13.7% of the total aquaculture production area). The main production of marine species in the Canary Islands is bass (1326.38 t) and gold (2563.21 t) for a total aquaculture production of 3889.59 tons. Canary aquaculture corresponds to 232 UTA.</p> <p>Cantabria produces 616.6 tonnes of aquaculture products for a value of 2 095 000 euros. Cantabria ranks first in volume of fry production in hatcheries, reaching a production of 118 900 00 units, and a value</p>	<p>See text description for more information</p> <p>Asturias: 1 874. 97TM; 4 029 370€; 86 enterprises;</p> <p>Galicia: 223 256.982TM 182 177 370€</p>	<p>FAO. National Aquaculture Sector Overview – Spain (link)</p> <p>APROMAR. 2012. La acuicultura marina en Espana. 83p (link)</p> <p>Programa Operativo FEP 2007-2013 Propuesta modificación junio 2012 v2 - octubre 2012 (link).</p>

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	<p>of 6 492 657€. This activity created 111 UTAs.</p> <p>Pais Vasco produced 775.7 tons in 2012 (3.858 million euros) divided between the turbot with 393.2 tons and rainbow trout with 382.5 tonnes. The employment generated by aquaculture enterprises is 42 UTAs. (Programme Operativo, 2012).</p>		
2.4 Blue biotechnology	No detailed information on the regional activities found for this activity	No information found	
2.5 Agriculture on saline soils	<p>According to the soil map of Spain, by the IGN 1992, saline soils occupy around 180 000 ha, 0.35% of the country's surface area. In the EU, salination of the soil affects 1 million hectares, mainly in the Mediterranean countries. The problem of soil salination seriously affects 3% of the 35,000 km² of irrigated land in Spain, and 15 % is at great risk, especially in the Guadalquivir, Ebro, Guadiana, Tajo and Southern basins and along the East coast. In some cases, natural saline soils have been subjected to recovery projects for agricultural use. One example of this is the Guadalquivir marshes, where an area of 50 000 ha was recovered with the installation of a drainage and irrigation system and which is currently used for cotton and sugar beet crops with good results (Moreno, 2005).</p>	No regional information found	<p>Moreno Rodríguez , J.M. 2005 Preliminary General Assessment of the Impacts in Spain due to the Effects of Climate Change. Impacts on soil resources. ECCE PROJECT - FINAL REPORT 40p (link)</p>

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
3. Energy and raw materials			
3.1 Offshore oil and gas	Prospective production in Spanish offshore domains (2012) (ACIEP, 2012): - Gulf of Valencia, differing from the Delta del Ebro, Valencia-Ibiza Norbaleárica / Gulf of Lion: Oil :272 MBO; and Gas : 110 BCM - Southern Mediterranean: Gas: 4.25 BCM - Alboran Sea: Gas: 6.50 BCM - Gulf of Cádiz: Gas: 7.20 BCM - Atlantic Margin: Oil: 3.7 MBO - Bay of Biscay, Asturias and differentiating Bay of Biscay: Oil: 313 MBO; Gas: 15 BCM - Canarias: Oil :1200 MBO ; and Gas :226 BCM	Primary energy production – crude oil: Galicia : N/A Asturias : N/A Cantabria : N/A Pais vasco : N/A Andalucía : N/A Canarias : N/A (2009)(EUROSTAT) Primary energy production – natural gas: Galicia : N/A Asturias : N/A Cantabria : N/A Pais vasco : N/A Andalucía : 12 TOE Canarias : N/A (2009)(EUROSTAT)	ACIEP. 2012. Perspectivas económicas en la exploración y producción de Hidrocarburos en España. Evaluacion preliminar de los recursos prospectivos de hidrocarburos convencionales y no convencionales en Espana. Madrid, 14 de Marzo de 2013. 16p (link)
3.2 Offshore wind	Spain is the world’s fourth largest producer of wind power; wind power produced 5.5% of electricity consumption in Spain in 2004. In Tarifa (Andalusia), more than 5000 wind turbines are settled at 10 km from the coast. Currently, no offshore wind farms are installed but the Spanish government has recently taken actions to accelerate and promote the installation of wind farms (EC). A production of 150MW from offshore wind is expected by 2015 (Tecnolia, 2011). The Environmental Strategic Study for the Spanish coast analysed the environmentally	No of farm: 1 Power: 5 MW	EC. Política marítima de la UE. Cifras y datos – España. KL-78-07-376-ES-C. 2p. Tecnolia. 2011. Ocean Energy Activities in Spain (link) EC (link)

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Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	<p>suitable areas for offshore wind farms along the entire coastline of Spain.</p> <p>At present, offshore developers have submitted 32 offshore wind farm projects along the Mediterranean Sea basin (EC). The first offshore wind turbine in Spain was installed in July 2013 in Arinaga (Canarias). It has a power of 5 MW</p>		
3.3 Ocean renewable energy	<p>The first 10MW from Ocean Power (wave and tidal) is expected by 2016 with a cumulative capacity of 100MW by 2020 and an annual growth rate of 20-25MW between 2016 and 2020 (tecnolia, 2011). Spain provides tariffs for wave and marine current-generated electricity which are more generous than for wind energy. At present it offers 90% of a set price called the TMR, for the first 20 years of operation, which is for 2005 equivalent to approximately €0.066/kWh. OPT has recently signed agreements to deploy their technology in Spanish waters with Iberdrola S.A. to develop a commercial wave power station. TOTAL have recently joined that partnership (Scottish enterprise, 2005).</p>	See description text for details	<p>Tecnolia. 2011. Ocean Energy Activities in Spain (link)</p> <p>Scottish enterprise. 2005. Marine Renewable (Wave and Tidal) Opportunity Review. December 2005. Introduction to the Marine Renewable Sector. (link)</p>
3.4 Carbon capture and storage	<p>The CCS directive is in its early stages in Spain. CIUDEN is the Spanish Government's principal instrument for developing CO2 capture, transport and storage technologies, through the construction and operation of the Technology Development Centre for CO2 Capture located in León, in north west Spain with an investment of €128.4 million. The plant test injection and monitoring techniques for supercritical CO2 (at</p>	See description text for details	ZeroCO2NO (link)

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Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	<p>1500m depth in Lower Jurassic carbonate formations) in the underground structure at Hontomín - considered one of the best options for geological storage in the country. There are only two identified projects to date in Spain. Compostilla, in El Bierzo, has won European Commission funding to demonstrate the full CCS chain on a new pilot 30-MW coal plant. The pilot will then be upscaled to 320MW by 2015. ELCOGAS' capture pilot at the Puertollano IGCC plant is capturing CO2 from 14MW of generation, with plans to eventually extend CCS to the full 335MW capacity. Spain is also part of the European DECARBit project to fast-track the development of pre-combustion carbon capture technologies for fossil fuel power plants. A preliminary study of Spain's CO2 storage capacity was carried out from 2006 to 2007 by the Spanish Geological Survey (IGME) and national research centre CIEMAT. This identified saline aquifer structures within Tertiary sedimentary basins of the Iberian Peninsula as having greatest potential and capacity. A second, more detailed study has since been carried out by IGME, which investigated 103 structures, mostly in the Cantabrian mountains and the Duero basin, the Iberian mountains and Tajo and Almazan basins, the Pyrenees and Ebro basin and the Baetic mountains and Guadalquivir basin. Of these, 55 have capacities higher than 50 million tonnes, with a combined capacity of around 12 gigatonnes (ZeroCO2NO).</p>		

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Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
3.5 Aggregates mining (sand, gravel, etc.)	In 2010, Spain was a significant European producer of mineral commodities, including sand and gravel (industrial) (sixth after the United States, Italy, Germany, the United Kingdom, and Australia for sand and gravel) (USGS, 2012)	No regional information found	USGS. 2012. 2010 Minerals Yearbook Spain. U.S. Department of the Interior U.S. Geological Survey. October 2012. 10p (link)
3.6 Marine minerals mining	Spain encompasses almost 90% of the Iberian Peninsula and has some of the most mineralized territory in Western Europe. Spain has a long history of mining and has attracted interest from many large gold and base-metal mining companies. Several factors have contributed to this interest, including the highly prospective geology. International mineral investment interest has also been encouraged by the country's transparent legislative framework and positive fiscal environment for the extraction of natural resources; its well-developed infrastructure and skilled workforce; its long mining tradition and past successes in exploration and mine development; and the availability of non-refundable Government grants for both exploration and mine development. In 2010, Spain's most valuable mineral products included, in order of value, alumina, cement, coal, steel, gold, zinc, and copper. The mineral sector contributed 1% of Spain's GDP and employed about 0.5% (82,500) of the services total of 16.5 million. The country's industrial minerals output had decreased by 50% since 2008 owing to the global economic crisis that affected major end markets for construction materials and ceramics. In 2010, the Government of Spain was focused on increasing the	No regional information found	USGS. 2012. 2010 Minerals Yearbook Spain. U.S. Department of the Interior U.S. Geological Survey. October 2012. 10p (link)



Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	<p>country's trade and investment, modernizing its industrial base, improving its infrastructure, and revising its laws to conform to European Union (EU) guidelines. In terms of the value of its mine output of metallic and nonmetallic minerals and quarry products, Spain continued to be one of the leading EU countries (USGS, 2012).</p>		
<p>3.7 Securing fresh water supply (desalination)</p>	<p>The first desalination factory was created in 1964 in the Canarias on the island of Lanzarote. A prototype seawater greenhouse was constructed in Tenerife in 1992.</p> <p>In Andalucia, Bajo Almanzora a desalination plant produces 65.000 m³/day.</p> <p>In Barcelona metropolitan region, a desalination plant inaugurated in July 2009 and currently supplying drinking water to about 1.3M inhabitants in the region, catering to almost 20% of the population. The base of the tower is located 2,200m from the shoreline and 31m below sea level. The Barcelona desalination plant is located next to the mouth of river Llobregat in the municipality of El Prat del Llobregat, Barcelona. With a drinking water output of 200,000m³/day, it is the largest reverse osmosis-based desalination plant in Europe. It was awarded the "Desalination Plant of the Year" award by the Global Water Awards 2010. The project was cofinanced by the EU, which contributed €150M. The Spanish Ministry of Environment contributed €52M, while €28M was contributed by</p>	<p>Number of persons employed in the water collection, treatment and storage sector:</p> <p>Galicia : 1140 ; Asturias : 826 ; Cantabria : 406 ; Pais vasco : 822 ; Andalucia : 8624 ; Canarias : 2 930</p> <p>38.330 (2011)(EUROSTAT)</p>	<p>Water technology website (link)</p> <p>EUROSTAT. SBS data by NUTS 2 regions and NACE Rev. 2 (from 2008 onwards) (sbs_r_nuts06_r2). 2012 data.</p>

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	ATLL, the public utility that is responsible for the supply of water to the city of Barcelona and the surrounding eight districts (water technology website).		
4. Leisure, working and living			
4.1 Coastal tourism	<p>Spain is the second tourists' destination (59M of tourists) in 2007 after France. The Spanish coastal tourism industry accounted for more than 11% of the country's GDP in 2004. Along the Mediterranean coastline, the regions of Catalonia, Valencia, Andalusia and the Balearic Islands attract most visitors. Tourism (as a whole) is a major source of employment: 700 000 direct jobs and 500 000 indirect jobs. Spanish tourism has been mainly developed in coastal regions. The main products – and source of revenues - in the Blue tourism sector in Spain are coastal tourism followed by cruising.</p>	<p>Night spent by residents and non-residents tourists in the coastal area: Galicia : 4 974 821 ; Asturias : 2 412 724 ; Cantabria : 3 443 607 ; Pais vasco : 2 732 538 ; Andalusia : 37 358 591 ; Canarias : 87 549 896 (2012)(EUROSTAT)</p> <p>Number of establishments : Galicia : 1 435; Asturias : 1 199; Cantabria : 821; Pais vasco : 528; Andalusia : 2 087; Canarias : 2 591 (2012)(EUROSTAT)</p> <p>Number of bed places : Galicia : 89 288; Asturias : 48 719;</p>	<p>link</p> <p>EUROSTAT. Nights spent at tourist accommodation establishments by coastal and non-coastal area and by NUTS 2 regions (from 2012 onwards) (tour_occ_nin2c). 2012 data</p> <p>EUROSTAT. Number of establishments, bedrooms and bed-places by coastal and non-coastal area and by NUTS 2 regions (from 2012 onwards) (tour_cap_nuts2c). 2012 data</p>

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Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
		Cantabria : 61 034; Pais vasco : 25 932; Andalucia : 336 321; Canarias : 435 947 (2012)(EUROSTAT)	
4.2 Yachting and marinas	The lack of place is the major problem of the yachting and marinas industries. In 2007, Spain had 323 coastal marinas and 107 772 mooring zones while the total fleet counted 186136 boats. Nearly two-thirds of the national marinas were located in the Mediterranean sea. The Balearic Islands concentrated 21% of the national marinas (68 ports). Then Valencia, with 47 ports, and Catalonia, with 46 marinas. These three cities corresponded to almost half of all Spanish ports. During the next 10 years, the number of marinas may increase by 44% (Fondear, 2007).	No regional information found	Fondear (link)
4.3 Cruise tourism	In the cruising sector Spain ranks as the second country of destination (port of calls) all over Europe, with leading ports Barcelona and Valencia. In 2011 the port of Barcelona accounted as the leading cruise port in Europe and the Mediterranean by total number of passengers (2 657) (EC, 2004). In total, in 2010, 4.9M cruise passengers visited Spanish ports and 1.15M passengers embarked on cruises from Spanish ports. Other major cruise ports are : Balearics (Palma Majorca, Port Mahon, Ibiza), Alicante, Cartagena, Malaga, Cadiz, Vigo, A Coruna, Canary Islands (Las Palmas, Santa Cruz, Arrecife. Cruise tourism generated €1.19 billion in direct expenditures in Spain in 2010, nearly 8% of the	No regional information found	EC. 2004. Tourism industry sub-sectors. COUNTRY REPORT.SPAIN. March 2014. 9p (link) BREA. 2011. Contribution of Cruise Tourism to the Economies of Europe 2010 Country Report Spain.4p. http://sete.gr/fileuploads/entries/Online%20library/GR/11112_8_European%20Cruise%20Council_Spain%20Country%20Report.pdf Eurostat. 2012. Eurostat regional yearbook 2012. Focus on coastal regions. 192p (link)

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	industry's direct expenditures throughout Europe and an increase of 6.0% over 2009. These expenditures were broadly distributed across the major source segments: passengers, shipbuilding, cruise line purchases and compensation of cruise line employees (BREA, 2011). The largest number of cruise passengers was reported for the coastal region of Barcelona, with 1.3 million passengers in 2009 (Eurostat, 2012).		
5. Coastal protection			
5.1 – 5.2 Coastal protection against flooding and erosion	Spain has a high overall vulnerability to flooding and erosion. However, vulnerability varies depending on the region. Ten regions on 17 are located along the coast (3 regions are vulnerable to climate change in terms of flooding and erosion: Andalucía, País Vasco and Asturias). In the case of a widespread Sea Level Rise (SLR), the most vulnerable areas are the deltas and enclosed beaches. Research studies have indicated that without beach nourishments, a 0.5 m SLR, which is considered to be a reasonable scenario for Spain by 2100, could result in the disappearance of 40% of the beaches in the east of Cantabria. Such rise in sea level would also result in the disappearance of about 50% of the Ebro Delta in the region of Cataluña. In addition, significant increases in wave height have been observed along the Cantabrian and Galician coasts over the past 50 years as well as	No regional information found	EC. Country overview and assessment. Spain. 15p (link)

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
	<p>changes in the direction of the waves particularly in northern Cataluña, leading to an increased risk of flood events along these areas. As to the problem of erosion, the Mediterranean coast is said to be most at risk. The total coastline subject to erosion is 11.5% or 757 km³. The most vulnerable regions in this respect are Andalucía with erosion along 41% of its coastline, Cataluña with 33% and Valencia with 26% despite these regions having defenced works and artificial beaches along 25% their coastline. When taking different factors into account (e.g. SLR, erosion, wave height and direction) the regions with the highest exposure to flooding and erosion due to climate change are considered to be Andalucía and Valencia followed by Cataluña, the Baleares and Cantabria. In 2008, Spain spent a total amount of € 62.71 million to protect its coastal zones against flooding and erosion. Some 84% of the measures undertaken are mixed and soft measures. The indirect expenditure includes the studies carried out under the responsibility of the Spanish Climate Change Office (EC). The Ministry of Environment and Rural and Marine Affairs (Ministerio de Medio Ambiente y Medio Rural y Marino - MARM) and its Directorate General for the Sustainability of the Coast and the Sea are responsible for all aspects of the marine and coastal environment within the Maritime Public Domain. The Spanish Climate Change Office (Oficina Española de Cambio Climático – OECC), is the responsible body for developing the national climate change policy.</p>		

Maritime economic activity	Overview	Socio-economic indicators	Source & Reference year (ex. Eurostat 2010)
5.3 Protection of habitats	53% of MPAs (without N2000) are concentrated in Italy, Spain and France. In Spain, 4.45% of the 12 mile zone is covered by MPAs (array of different levels of protection). Spain has two Marine-Terrestrial National Parks, ten Marine Fishery Reserves and 38 other marine areas with some type of protection under regional governments covering 3.5% of territorial waters. Of the coastal and marine protected areas in the Mediterranean Sea basin in Spain: – 9 are recognised as Specially Protected Areas of Mediterranean Interest (SPAMI); – 87 are recognised as marine and coastal NATURA 2000 sites; – 21 areas are recognised as marine Important Bird Areas (IBA) by BirdLife. One Intercontinental Biosphere Reserve of the Mediterranean is between Spain and Morocco. There are 223 collaborations within the regional and sub-regional programmes between Spain and other Mediterranean countries. A majority of Spanish MPAs do not have management plan. (MedPAN, 2012).	1) Environmental protection (of landscape and biodiversity) expenditure: Galicia: 11.89M€ ; Asturias : 2.39M€ ; Cantabria : 0.37M€ ; Pais vasco : 2.26M€ Andalucia : 0.32M€ Canarias : 0M€ (2010)(EUROSTAT)	MedPAN. 2012. The Status of Marine Protected Areas in the Mediterranean Sea 2012 A study done by MedPAN in collaboration with the RAC/SPA. MedPAN & RAC/SPA. Ed: MedPAN Collection. 256 pp (link) EC. Country report. Spain. European Commission study. 18p (link)

Description of the most relevant marine and maritime economic activities (selected on the basis of their potential in terms of employment growth, sustainability, competitiveness.

Fishing

Spain is one of the world’s top ten importers of fish and fishery products, importing 1 666 450 tonnes worth over 5 billion € in 2006. In the same years Spain exported 914 503 tonnes, valued 2.28 MDE ([link](#)). The Spanish fishing fleet consists of close to 11 420 fishing vessels (2009), representing the EU’s largest fishing fleet in terms of tonnage (capacity of 461,071 gross tonnage). In 2012, 96.0% of vessels operate in the national waters. In 2008, 82 percent of the EU fleet was less than 12 metres long; in Spain it was 71 percent. Spain’s top fish in 2008 (tonnes) were skipjack tuna (174 536 tons), Mackerel (87 137 tons), Yellowfin tuna (64 885 tons), sardine (55 569 tons) and jack mackerel (44 610 tons)([link](#)). There are also landings from deep-sea fishing, the largest centres of which are found in Vigo Europe’s leading fishing port (700 000 tonnes) and Pasajes.

Galicia, with 78 ports, is the most important ports activity area, then the Canary Islands with 56 ports, followed with Catalonia with 39 ports and Andalusia with 38 ports ([link](#)).



The employment of the Spanish fisheries along the Atlantic coast amounts 96.217 jobs, including processing and marketing (in 2003, 27% were women). The value of fisheries on this coast is of 2.769 million euros ([link](#)). In 2012, 45% of jobs in the fishing sector were located in Galicia and 17% in Andalusia ([link](#)).

About 99% of the fishery production is dedicated to human consumption: Spain remains one of the largest consumers of fish, reaching a per capita consumption of 36.5 kg per year, an amount twice the European average, which is around 15 kg / person / year in 2012 ([link](#)).

Short-Sea Shipping

There are two motorways of the sea in the Atlantic Ocean and five in the Mediterranean Sea, from Spanish ports. Spanish SSS operates in three zones:

- Mediterranean (in majority with Italy),
- Atlantic (particularly with France, Belgium and the United Kingdom),
- Southern Europe-Northern Africa, with Morocco, Algeria and Tunisia.

Ro-Ro capacity amounts to 8.8 million metres in the Mediterranean and 1.7 million in the Atlantic. The container transportation capacity is 780 000 in the Mediterranean (24% of which may be viewed as an alternative to road haulage) and 280 000 in the Atlantic (74% as an alternative to road haulage). In 2011, out of 431 million tonnes of Spanish port traffic, 194 million tonnes were transported by SSS. The tonnage of this international traffic breaks down into 39% liquid bulk, 18% dry bulk, 26% container traffic, 10% Ro-Ro and 8% other traffic.

Short-sea shipping is clearly integrated into port strategies, which are seeking to establish and strengthen multimodal and intermodal transport chains combining maritime short sea shipping with overland -and possibly rail - connections. Spanish subsidies for SSS will be renewed in the new Infrastructure, Transport and Housing plan for the 2012-2024 period (PITVI: Plan de Infraestructuras, Transporte y Vivienda).

An association dedicated to the promotion of SSS has been created by the main shipping companies, in cooperation with the Spanish State and road hauliers (CETM: Confederación Española de Transporte de Mercancías) to assist with the drafting of charter parties (maritime charter agreements). The Port of Barcelona has created a European School of Short Sea Shipping with the ports of Rome and Genoa (MEDDE, 2013, [link](#)).

Aquaculture

The National production of aquaculture products represents 272 596 tons and its value amounts to € 388 862 970 (mussels incl.). By species, the main production in tons is mussels with 209 315 t, followed by rainbow trout with 26 078 t (continental aquaculture), the gilded trout with 14 181 t., seabass with 6 208 t, turbot with 5 511 tons turbot and tuna with 3 700 tons. In value, the first position is also occupied by mussels with 102 291 970 €, followed by the gold trout with € 58 581 690, the rainbow trout with € 57 090 260, tuna with a value of 3 110 360 €, the turbot with 45 270 390€ and sea bass with 33 739 160€.

In 2012, clam production represented 1 907 tons and 16 631 430 €; oyster production represented 3 960 tons and 11 363 180 €. The national production of fry in hatcheries reached 334 262 837 units, with a value of 31 825 028 75 € (2005). These production correspond to the activity of 3 060 companies, owners of 5 710 facilities (5 345 are located in marine areas and 287 in inland waters) (Programa Operativo FEP 2007-2013-Propuesta modificación junio 2012 v2 - octubre 2012, [link](#)).

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Shellfishing has an impact mainly in the north of Spain. According to ISM (2006), Galicia has 4 789 enterprises in shellfishing (5 453 in Spain). Andalusia offers 223 jobs, then Cantabria with 177, Asturias with 114, and Catalonia with 89 workers.

In 2002, aquaculture represented 7 062 jobs, increasing from 7 758 in 2003 to 7 447 in 2004 and down to 6 586 in 2005.

The organisational structure of the marine aquaculture sector is made up by a single national association, the Asociación Empresarial de Productores de Cultivos Marinos (APROMAR) and several autonomous associations. APROMAR also integrates individual entrepreneurs and associations such as ASEMA, ACEAC, and AROGA. On the other hand, there are some businesses not associated to any organisation, and that operate independently (FAO).

The number of farms production units of marine aquaculture fish in operation in Spain shows declining numbers in recent years. After 144 farms in 2007, it was reduced to 120 in 2010 and 110 in 2011. Under this evolution lies a sectoral response to maturation and restructuring of the business rationalizing viable farm sizes, correcting an intervention from government grants via size, which led to the creation, at the time, an excessively fragmented sector in some regions (APROMAR, 2012).

