European Commission

THE EU BLUE ECONOMY REPORT 2021

ANNEXES

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ANNEX 1
MEMBER STATE PROFILES

The following chapter provides an overview of the Blue Economy in the individual EU27 Member States. It does not include the emerging sectors and focuses purely on the established ones, as this ensures a comparable analysis across all MSs. A brief description specific to each MS is provided, complemented by a table illustrating the evolution of the Blue Economy for the seven established sectors in terms of employment and GVA. This year's edition of the Blue Economy Report supersedes the 2020 Blue Economy Report; in this edition, the 2018 data is final while in the previous edition, it was still provisional and estimated data. Additionally, last year's edition included the UK, and this current report is for the EU27 only. Further information, detailed by sub-sector and activity for the EU and each Member State is provided in Annex 2.

Belgium

Belgium's established Blue Economy sectors provide around 37 515 jobs and generates almost €4.2 billion in GVA.

The contribution of the established Blue Economy to the Belgium economy is at 1%, remaining stable compared to 2009 and outperformed the national economy: Blue Economy GVA increased by 40.7% while the national economy increased by 32.4% compared to 2009. In terms of jobs, the Blue Economy's share has increased by 0.8%. In absolute terms, Blue Economy jobs increased by 23.1% compared to 2009.

Port activities represent 38% of all Blue Economy jobs and 42.1% of the GVA. In fact, the second busiest (container) port in the EU is located in Belgium: the Port of Antwerp. Marine living resources (20.6%) and Coastal tourism (24.1%) are also important generators of employment while Maritime transport is also a key contributor to GVA (29.3%). Marine renewable energy is a vibrant and growing sector in Belgium.

Belgium **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	5.5	5.7	6.6	7.0	6.7	6.2	6.5	6.7	6.9	7.7
Non-living resources	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1
Ocean energy	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.3	0.3	0.9
Port activities	9.9	10.4	10.0	10.5	10.1	10.6	10.9	11.2	11.5	14.3
Shipbuilding and repair	2.9	1.9	1.8	1.8	1.7	1.6	1.5	1.4	1.3	1.4
Maritime transport	6.3	6.9	6.3	6.7	5.0	3.8	4.5	4.2	3.9	4.1
Coastal tourism	5.8	5.7	5.8	6.1	6.1	6.5	6.3	6.2	6.7	9.1
Blue economy jobs	30.5	30.7	30.7	32.2	29.8	29.0	30.1	30.1	30.9	37.5
National employment	4,389	4,451	4,470	4,479	4,485	4,497	4,499	4,541	4,587	4,699
Blue economy *(% of national jobs)*	0.7%	0.7%	0.7%	0.7%	0.7%	0.6%	0.7%	0.7%	0.7%	0.8%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	344	415	397	414	406	400	428	443	486	509
Non-living resources	3	10	6	4	8	6	6	8	7	7
Ocean energy	3	7	27	36	60	97	102	86	88	114
Port activities	1,531	1,565	1,429	1,605	1,621	1,561	1,886	1,566	1,962	1,780
Shipbuilding and repair	219	160	177	109	96	86	26	106	102	130
Maritime transport	651	757	734	1,169	905	819	1,265	1,268	1,351	1,237
Coastal tourism	249	239	254	267	279	299	294	277	320	446
Blue economy GVA	3,002	3,153	3,024	3,603	3,376	3,268	4,006	3,754	4,317	4,223
National GVA	309,512	324,347	336,110	345,069	350,969	360,582	373,302	384,171	398,134	409,856
Blue economy *(% of national GVA)*	1.0%	1.0%	0.9%	1.0%	1.0%	0.9%	1.1%	1.0%	1.1%	1.0%

Bulgaria

The Bulgarian Blue Economy (established sectors) employs 98 148 people and generates around € 979 million in GVA. The contribution of the Blue Economy to the national economy in terms of jobs is 3.2% and in GVA 2%, a significant decrease compared to 2009 (9% and 4.7% respectively). Overall, Blue Economy GVA decreased by 35.8%, compared to 2009, underperforming compared to the +49.7% of the national economy. In terms of jobs, the Blue Economy's share, at 3.2% in 2018, declined 64.6% compared to 2009.

Coastal tourism is by far the largest contributor to Bulgaria's Blue Economy. In 2018, the sector represented 79.6% of Blue Economy jobs and 68.2% of GVA. Even if already substantial, these are well below the figures reported for the period from 2009 to 2011: at around 90% for jobs and 80% for GVA. The significant drop in 2012, largely extending over the entire period analysed, may in part be due to the terrorist attacks on Israeli tourists at Burgas airport in July 2012, and in part due to the return of the traditionally popular destinations of Turkey, Egypt and Tunisia to the tourist market after the Arab uprising (2010-2012).

Marine living resources and Shipbuilding and repair are also important generators of GVA, at 9.1% and 9.8% respectively, both of which have been growing in recent years.

Bulgaria has a maritime cluster for the sustainable development of the Bulgarian maritime economy through partnerships and joint actions of all stakeholders and members[1]. Members include SMEs, NGOs, educational institutions, and research and development organisations. The association acts towards the creation of favourable conditions for development and enhancement of the competitiveness of the Blue Economy by introducing new organisational, product, market and technological solutions, training, implementation of best practices, as well as for its promotion at a national and an international level. Marine cluster Bulgaria is a full member of the European Network of Maritime Clusters and the Association of Business Clusters in Bulgaria.

Bulgaria **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	7.7	8.1	7.9	7.7	7.9	7.8	8.1	8.6	10.0	9.0
Non-living resources	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	7.2	5.9	5.0	4.8	4.0	5.5	5.8	4.7	4.3	3.9
Shipbuilding and repair	6.9	6.2	5.7	5.1	4.9	4.9	5.1	5.5	4.9	5.3
Maritime transport	2.1	2.1	2.0	1.9	1.5	1.8	1.7	1.8	1.8	1.8
Coastal tourism	265.5	183.9	191.6	63.9	62.5	46.9	47.8	74.1	53.3	78.1
Blue economy jobs	289.5	206.2	212.1	83.5	81.0	67.0	68.7	94.8	74.4	98.1
National employment	3,205	3,037	2,928	2,895	2,889	2,927	2,974	2,954	3,073	3,069
Blue economy *(% of national jobs)*	9.0%	6.8%	7.2%	2.9%	2.8%	2.3%	2.3%	3.2%	2.4%	3.2%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	43	45	49	63	62	60	67	78	87	89
Non-living resources	3	6	43	48	29	22	9	12	11	14
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	120	109	81	72	67	86	102	68	78	78
Shipbuilding and repair	63	46	38	48	62	66	52	76	91	96
Maritime transport	37	36	39	40	39	27	30	35	36	34
Coastal tourism	1,258	890	997	387	416	288	335	614	442	668
Blue economy GVA	1,525	1,133	1,245	656	675	548	595	883	747	979
National GVA	32,478	33,060	36,071	36,383	36,059	37,239	39,434	41,869	45,183	48,634
Blue economy *(% of national GVA)*	4.7%	3.4%	3.5%	1.8%	1.9%	1.5%	1.5%	2.1%	1.7%	2.0%

[1] https://www.marinecluster.com/en/

Czechia

Czechia is a landlocked country and the Blue Economy (established sectors) is not a major contributor to its economy as a whole (around 0.3%). However, Blue Economy jobs and GVA have increased in recent years. In absolute terms, the Blue Economy's employment increased by 41.6% between 2009 and 2018, and by 29.2% in terms of GVA. In terms of jobs, the Blue Economy's share has increased 33.7% since 2009.

Port activities is the most significant sector of the Blue Economy, contributing to 57.7% of the employment and 67.9% of the GVA. Shipbuilding and repair follow, representing 19.2% of the jobs and 18% of the GVA.

Czechia has no maritime ports. Hamburg has been one of the region's most important trading partners and a significant transhipment port for Czech and Slovakian foreign trade since the 14th century. In 2018, more than 480 000 containers were handled between the Port of Hamburg and Czech container terminals. Apart from goods for the Czech market, transit cargoes are also despatched via Czechia onwards into Slovakia, Austria and Hungary.

Czechia **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	2.2	2.7	2.7	2.6	2.5	2.6	2.7	2.7	2.7	2.3
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	4.6	4.9	5.3	5.8	5.6	5.4	5.8	6.4	6.7	7.5
Shipbuilding and repair	1.6	2.4	1.9	1.9	1.9	2.4	2.2	2.4	2.4	2.5
Maritime transport	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy jobs	9.1	10.8	10.5	10.9	10.6	11.1	11.4	12.0	12.4	13.0
National employment	4,857	4,810	4,796	4,810	4,846	4,883	4,934	5,016	5,094	5,147
Blue economy *(% of national jobs)*	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	26	38	36	37	37	34	35	36	40	39
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	224	224	223	233	226	184	195	200	227	257
Shipbuilding and repair	33	69	46	52	53	59	59	54	60	68
Maritime transport	10	9	10	9	9	9	10	11	13	15
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy GVA	293	340	315	331	325	287	299	300	340	378
National GVA	134,449	141,715	148,041	145,076	141,198	141,582	151,603	158,535	172,041	186,728
Blue economy *(% of national GVA)*	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Denmark

The Blue Economy's share in Denmark's national GVA was at its highest in 2011 (6.3%) over the reporting period. It has decreased since and is at slightly over 4.2%. In absolute terms, Denmark's Blue Economy GVA decreased by 0.7% compared to 2009. A different pattern emerges for employment. For the period analysed, the share of employment provided by the Blue Economy has grown by 36.2% compared to 2009 (and by 40.4% in absolute terms) and currently sits at around 4.6%; meaning that over 4% of all Danish jobs derive directly from the Blue Economy.

The Blue Economy (established sectors) employs around 127 201 people and generates over €10.9 billion in GVA. It is dominated by Coastal tourism in terms of jobs, contributing 62% of the total Blue Economy in 2018. In terms of GVA, Maritime transport is the largest contributor (36.2%), followed by Coastal tourism (28.1%) and then Marine non-living resources (15.1%).

Denmark's maritime cluster is referred to as Blue Denmark[2]. Denmark is the world's fifth largest maritime shipping nation[3] – surpassed only by Greece, Singapore, China and Japan. Currently, Danish shipping companies around the world control approximately 2 100 merchant ships. Maersk Line is Denmark's and the world's largest container shipping company, with more than 600 ships. Large Danish shipping companies, such as Norden, DFDS, Clipper, J. Lauritzen and Torm, are also strong players in areas such as product tankers, bulk carriers and service vessels for the offshore industry. The Danish government recently enacted a new bill to amend the rules on ship registration, under which ship owners from third countries are no longer required to satisfy the establishment criterion by primary or secondary establishment. The bill entered into force on 1 January 2018 and aims to increase transparency for ship owners seeking to enter ships into the Danish Ship Register.

Denmark **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	8.6	8.1	8.5	8.9	8.7	8.7	8.7	8.4	8.3	8.2
Non-living resources	2.6	2.6	3.0	4.6	3.0	3.0	2.7	2.2	2.0	2.8
Ocean energy	0.2	0.4	0.6	0.5	0.6	0.9	1.0	0.8	0.9	0.8
Port activities	3.4	3.3	4.0	4.3	5.5	5.9	5.7	5.4	5.7	5.6
Shipbuilding and repair	4.5	4.3	4.3	3.4	3.3	3.6	3.6	3.2	3.3	3.3
Maritime transport	27.1	26.9	31.2	32.1	32.7	33.7	34.2	28.6	27.7	27.6
Coastal tourism	44.0	60.3	46.2	42.4	55.2	59.5	64.0	66.8	82.5	78.9
Blue economy jobs	90.6	105.9	97.7	96.2	109.0	115.4	120.0	115.4	130.5	127.2
National employment	2,658	2,599	2,588	2,565	2,557	2,579	2,623	2,668	2,698	2,739
Blue economy *(% of national jobs)*	3.4%	4.1%	3.8%	3.7%	4.3%	4.5%	4.6%	4.3%	4.8%	4.6%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	645	749	712	682	698	733	834	862	844	817
Non-living resources	5,092	6,026	6,757	6,082	5,308	4,054	4,014	1,528	1,505	1,649
Ocean energy	38	100	124	136	219	269	309	429	518	468
Port activities	390	385	403	428	637	604	593	706	676	669
Shipbuilding and repair	293	271	279	199	199	238	256	281	300	284
Maritime transport	2,855	2,923	2,981	2,725	3,675	4,287	5,098	3,573	4,562	3,954
Coastal tourism	1,677	2,268	2,161	2,059	2,784	2,983	3,198	2,753	3,202	3,068
Blue economy GVA	10,989	12,722	13,417	12,311	13,519	13,169	14,303	10,133	11,608	10,909
National GVA	199,423	209,840	213,908	219,795	223,851	230,587	236,922	245,680	254,031	261,418
Blue economy *(% of national GVA)*	5.5%	6.1%	6.3%	5.6%	6.0%	5.7%	6.0%	4.1%	4.6%	4.2%

[2] Blue Denmark consists of ship owners, shipping companies and a wide range of businesses whose activities emanate from international and Danish shipping. They are, for example, shipbrokers, ports and logistics companies as well as shipyards and industrial and service companies that supply equipment, components and service to ships (https://www.dma.dk/Presse/temaer/DetBlaaDanmark/Sider/default.aspx).

[3] Measured by the number of merchant ships operated by country.

Germany

The German Blue Economy (established sectors) provides about 534 607 jobs and generates around €29.6 billion in GVA. The national GVA has been on the rise over the whole period, increasing 37.4% compared to 2009. However, the same cannot be said of Blue GVA, which showed some variability throughout the same period, with its contribution to national GVA at its lowest in 2014-2016. In absolute terms, Blue GVA increased by 18.5% compared to 2009 while its share towards the national GVA decreased by 13.7%. On the other hand, the Blue Economy's share of employment has remained relatively steady at around 1.3%. In absolute terms, Blue jobs increased 19.1% compared to 2009 values, outperforming the national employment, which increased by 7.5% over the same period; indicating that Blue job's share increased by 10.8%.

According to the data available, Germany's Blue Economy is dominated by Maritime transport, contributing 37.8% to the overall Blue GVA in 2018. In fact, Germany ranked first in terms of GVA for Maritime transport, generating 37% of the EU total in 2018. Port activities (18.8%) and Coastal tourism (18.6%) are also important contributors. In terms of employment, Coastal tourism produced 35.8% of all Blue jobs, followed by Maritime transport (25.9%) and then Port activities (17.33%). Marine living resources has grown the most: +30.1% in jobs and +58.5% in GVA compared to 2009. Germany is split over two sea-basins: the North Sea and the Baltic Sea. The Port of Hamburg is Europe's third busiest port. German ports are important high-tech hubs and also a service provider for the offshore wind power sector. Although data are currently unavailable, Marine renewable energy (offshore wind) is a rapidly growing sector in Germany; the second largest producer in the EU[4].

Germany **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	44.7	45.1	44.7	46.9	42.3	42.7	46.4	46.7	49.4	58.2
Non-living resources	0.3	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3
Ocean energy	-	0.1	0.2	0.2	0.3	0.5	2.8	4.2	5.9	6.6
Port activities	74.4	74.3	58.2	63.2	67.0	99.2	104.4	112.2	123.8	92.5
Shipbuilding and repair	39.6	36.1	35.7	35.1	39.4	39.9	40.0	42.1	40.6	47.5
Maritime transport	109.4	115.7	126.1	117.6	120.6	117.7	122.3	125.3	132.6	138.2
Coastal tourism	180.5	186.9	171.4	155.8	161.0	152.9	157.6	156.2	159.4	191.3
Blue economy jobs	448.9	458.7	436.7	419.3	431.2	453.2	473.8	487.0	512.2	534.6
National employment	37,808	37,337	38,045	38,321	38,640	38,908	39,176	40,165	40,482	40,636
Blue economy *(% of national jobs)*	1.2%	1.2%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	1,940	1,724	2,018	2,729	2,047	1,911	2,284	2,315	2,543	3,075
Non-living resources	58	71	71	72	58	38	32	26	30	36
Ocean energy	-	8	28	34	45	71	387	588	825	912
Port activities	3,940	4,201	3,663	4,441	4,148	5,346	5,446	6,589	6,824	5,570
Shipbuilding and repair	2,250	2,289	2,373	2,412	2,608	2,651	2,283	3,104	3,236	3,338
Maritime transport	12,490	12,636	12,190	11,573	12,248	9,993	10,654	9,089	11,870	11,206
Coastal tourism	4,329	4,504	4,031	3,705	3,891	3,943	4,143	4,282	4,316	5,504
Blue economy GVA	25,008	25,433	24,372	24,965	25,045	23,953	25,229	25,993	29,645	29,641
National GVA	2,192,834	2,305,684	2,418,099	2,465,800	2,527,883	2,635,393	2,725,924	2,821,803	2,922,328	3,012,310
Blue economy *(% of national GVA)*	1.1%	1.1%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	1.0%	1.0%

[4] According to BWO (the Association of German Offshore Wind Farm Operators represents all organisations that develop, construct and operate wind farms in Germany), the expansion of offshore wind power capacity exceeded that of onshore capacity for the first time in 2019. The industry currently creates a revenue of nearly €9 billion and directly employs 27 000 people, almost half of which work in North Rhine-Westphalia, Baden-Württemberg and Bavaria. The comprehensive value chain (development, construction, operation) creates additional jobs in many businesses.

Estonia

The Estonian Blue Economy (established sectors) employs over 41 311 people and generates over €1 billion in GVA. The Blue Economy's contribution to the Estonian domestic GVA stands at around 4.4%, a 30.7% drop compared to 2009. In absolute terms, the Blue GVA increased 27.2% compared to 2009. Growth of the overall national economy (in GVA) outperformed the Blue Economy, increasing 83.6% compared to 2009, against 27.2%, respectively. In terms of employment, the Blue Economy share decreased 36.9% compared to 2009, from 10.4% to 6.6%. The Blue economy continues to be dominated by Coastal tourism, which contributed with 68.8% of the jobs and 49.2% to overall Blue GVA in 2018, while Port activities generate 22.3% of the GVA and 8.9% of the jobs.

The European Commission approved under EU state rules, five schemes to support maritime transport. One of the schemes, which encourages ship registration in Europe and contributes to the global competitiveness of the sector without unduly distorting competition, is in Estonia with the introduction of a tonnage tax and seafarer scheme.

There are about 10 000 active seafarers in Estonia, about half of whom sail under the flag of a foreign country. Reducing bureaucracy and simplifying requirements in joining the Estonian register will contribute towards bringing ships back under the Estonian flag and will develop the maritime sector further. The vessels will bring income to Estonia through the collection of registry fees and tonnage tax schemes. This is accompanied by an onshore sector with high growth potential. The companies in the sector will contribute towards creating jobs, which in turn will promote the Estonian economy.

Another important area is passenger shipping, which is directly linked to tourism. The return transport of about 8 million passengers a year in the ca 80 km route between Tallinn and Helsinki is profitable for Estonian companies. During the summer season a ferry or hovercraft departs every hour from Tallinn to Helsinki and back. Although a big part of the income of the transportation section comes from the transfer of goods and passengers, services connected with transportation are also important, especially logistics and warehouses.

Estonia **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	4.3	4.3	4.5	4.7	4.6	4.5	4.9	4.4	4.2	3.3
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	3.6	3.9	4.0	4.1	3.9	4.1	4.1	4.2	3.8	3.7
Shipbuilding and repair	2.3	2.4	2.5	2.6	2.6	2.6	3.0	2.8	3.2	3.4
Maritime transport	2.1	1.9	1.9	2.1	2.2	2.3	2.4	2.4	2.4	2.5
Coastal tourism	47.2	44.9	40.5	36.1	32.7	29.3	28.6	29.9	29.3	28.4
Blue economy jobs	59.6	57.5	53.4	49.5	45.9	42.8	42.9	43.7	42.9	41.3
National employment	573	548	582	591	597	600	613	612	626	630
Blue economy *(% of national jobs)*	10.4%	10.5%	9.2%	8.4%	7.7%	7.1%	7.0%	7.1%	6.8%	6.6%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	43	44	43	47	48	46	48	47	47	48
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	217	269	295	307	312	313	272	255	232	225
Shipbuilding and repair	46	49	50	54	58	72	73	68	82	110
Maritime transport	62	39	39	83	80	91	122	103	116	129
Coastal tourism	425	440	459	444	415	384	402	444	451	496
Blue economy GVA	792	840	886	936	914	906	918	916	928	1,008
National GVA	12,346	13,020	14,777	15,791	16,691	17,614	18,042	18,692	20,619	22,662
Blue economy *(% of national GVA)*	6.4%	6.4%	6.0%	5.9%	5.5%	5.1%	5.1%	4.9%	4.5%	4.4%

Ireland[5]

According to the data, the Irish Blue Economy (established sectors) employs around 69 594 people and generates over €3 billion in GVA. The share of the Blue Economy in the national Irish GVA is relatively low (around 1% over the reporting period), and has overall decreased by 5.4% compared to 2009. In absolute terms, Blue GVA increased by 88.3% while the national GVA increased by 99.2%. For employment, the share of Blue jobs is now at its highest level for the period under analysis (contributing 3.2% to all employment). In absolute terms, Blue jobs increased by 77.4% compared to 2009, against 10.7% for the national employment.

Overall, GVA increased in all the blue sectors apart from the Marine non-living resources and Port activities, which decreased by 29.3% and 6%, respectively. Likewise, total jobs increased, however, the number of jobs decreased in Marine living resources (-12.4%), Marine non-living resources (-6.2%), and maritime transport (-7.9%). Coastal tourism saw a significant increase in jobs, +133.8% compared to 2009. Ireland's Blue Economy is dominated by Coastal tourism, which contributed 79.3% to jobs and 60.1% to GVA in 2018, followed by the Marine living resources (contributing 13.9% to Blue jobs and 19.6% to the GVA).

Ireland **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	11.1	10.1	8.6	8.6	8.7	8.9	9.1	9.5	9.0	9.7
Non-living resources	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	2.6	2.5	2.5	2.5	2.4	2.4	2.5	2.6	2.7	2.8
Shipbuilding and repair	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.8
Maritime transport	1.2	1.2	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Coastal tourism	23.6	26.1	29.2	33.0	33.3	34.0	37.2	41.0	51.0	55.2
Blue economy jobs	39.2	40.7	42.4	45.8	46.2	47.0	50.6	55.0	64.6	69.6
National employment	1,970	1,879	1,840	1,831	1,885	1,933	1,995	2,066	2,125	2,180
Blue economy *(% of national jobs)*	2.0%	2.2%	2.3%	2.5%	2.5%	2.4%	2.5%	2.7%	3.0%	3.2%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	474	493	539	564	527	586	538	643	619	610
Non-living resources	5	- 3	1	- 7	11	4	4	8	4	4
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	225	208	197	200	205	202	204	229	226	212
Shipbuilding and repair	49	49	52	43	51	50	49	53	52	67
Maritime transport	174	193	198	187	209	209	263	274	277	348
Coastal tourism	721	741	845	951	1,019	1,051	1,180	1,457	1,694	1,864
Blue economy GVA	1,648	1,680	1,832	1,938	2,023	2,102	2,239	2,664	2,872	3,103
National GVA	152,177	152,147	154,883	158,399	164,565	178,572	244,490	254,011	277,246	303,076
Blue economy *(% of national GVA)*	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%	0.9%	1.0%	1.0%	1.0%

[5] National reporting by Ireland on its ocean economy differs due to differences in definitions and methodology. (E.g. basic prices instead at factor cost). In addition, due to confidentiality with data, the figures presented differ to national reporting (e.g. Eurostat data does not include data for some sectors such as shipping and oil & gas).

Greece

The Blue Economy established sectors in Greece employ around 574 102 people and generates over €7.9 billion in GVA. Overall, Blue Economy jobs decreased by 0.4% and GVA by 39.3% compared to 2009. Nonetheless, the share of the Blue Economy to the national economy continues to be substantial: in terms of jobs, the Blue Economy contributes 15.3% of all national jobs, the highest share in the EU. In terms of GVA, Greece ranks fourth with the Blue Economy contributing to 5.0%. Greece's Blue Economy is dominated by Coastal tourism, which contributed with 85.8% to Blue jobs and 66.6% to Blue GVA in 2018. Maritime transport[6] is also a large contributor, with 15.6% of the GVA and 4.1% of the employment, while Marine living resources generates around 6.1% of jobs and GVA.

According to the Union of Greek ship owners[7], 2016-2017 saw the first signs of improved market conditions for global shipping after a long and deep recession. However, the COVID-19 outbreak has sharply reduced the demand. Greek shipping continues to hold the first position internationally[8]. The Greek fleet represents around 20.7% of total world tonnage and 54% of the total EU fleet. The Greek-flagged merchant fleet ranks eighth internationally and second in the EU (in terms of dwt) after Malta. Moreover, Greek ship owners control 32.6% of the world oil tankers' fleet, 21.7% of the world bulk carriers and 8.9% of the world container vessels [9]. As such, Greek shipping plays an indispensable role in world seaborne trade including the EU's export - import trade and in particular in securing the EU's energy needs through the provision of reliable, efficient, green and safe sea transportation. The contribution of Greek shipping to the country is multifaceted and not limited to the receipts in the Services Balance of Payments from maritime transport services. It ranges from indirect economic investments, to employment opportunities and to raising the profile of the country internationally by being a strategic trade.

Greece **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	43.1	44.2	43.5	42.6	39.6	36.4	37.9	38.3	35.5	35.0
Non-living resources	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	6.8	6.7	6.1	5.7	6.3	14.0	15.6	15.5	14.9	14.7
Shipbuilding and repair	9.5	9.0	6.5	6.6	5.7	8.1	7.8	8.4	8.1	8.5
Maritime transport	23.6	21.1	20.9	19.2	18.1	21.9	20.7	20.3	20.1	23.4
Coastal tourism	493.3	396.4	283.7	178.9	225.9	293.7	243.0	315.8	361.5	492.4
Blue economy jobs	576.5	477.6	360.9	253.1	295.7	374.1	325.1	398.4	440.1	574.1
National employment	4,469	4,306	3,979	3,636	3,459	3,480	3,548	3,610	3,683	3,751
Blue economy *(% of national jobs)*	12.9%	11.1%	9.1%	7.0%	8.5%	10.8%	9.2%	11.0%	12.0%	15.3%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	237	301	332	223	182	283	262	649	530	495
Non-living resources	4	5	5	5	4	4	3	6	4	5
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	331	342	276	257	268	539	718	767	781	746
Shipbuilding and repair	441	265	235	200	175	196	218	186	175	165
Maritime transport	1,123	788	713	784	724	1,030	1,234	1,126	1,119	1,248
Coastal tourism	11,006	8,399	5,750	3,294	3,961	3,885	3,404	3,627	4,973	5,313
Blue economy GVA	13,142	10,101	7,310	4,761	5,314	5,937	5,838	6,361	7,582	7,972
National GVA	212,391	199,644	181,909	168,979	160,237	157,913	156,613	154,044	157,526	160,789
Blue economy *(% of national GVA)*	6.2%	5.1%	4.0%	2.8%	3.3%	3.8%	3.7%	4.1%	4.8%	5.0%

[6] According to a recent study (Deloitte) for the year 2019, the maritime transport sector alone generated €12.9 billion in GDP, contributing 6.6% to the Hellenic GDP.
[7] https://www.ugs.gr/en
[8] In ownership of world fleet ranked by dead-weight tonnage (17.8% of the global total), 2019. Source: UNCTAD.
[9] https://www.ugs.gr/en/greek-shipping-and-economy/greek-shipping-and-economy-2020/

Spain

The Spanish established Blue Economy sectors employ around 928 433 people and generates over €33 billion in GVA. The Blue Economy has had a positive impact on the Spanish economy and employment rates.

In Spain, the share of Blue GVA to the national economy increased by 12.5% compared to 2009, reaching its highest point in 2018 (3%) and growing at a faster pace than the overall national GVA (+22.1% compared to 2009 versus +8.6%). On employment, a similar pattern emerges. The share of Blue Economy jobs to national employment increased by 3.5% compared to 2009. Although national employment increased by 0.9% compared to 2009, Blue Economy jobs grew 4.5% and were at higher levels by 2018 than in 2009.

The Spanish Blue Economy is dominated by Coastal tourism, which contributed 78.6% to blue jobs and 72.3% to GVA in 2018. The Marine living resources sector is also an important contributor, with 12.5% of the Blue jobs and 11% of the GVA. Port activities also contribute with 10.6% to Blue GVA.

In fact, in the EU, Spain ranks first in terms of GVA for Coastal tourism and Marine living resources, generating 30% and 19% of the EU total, respectively.

Shipping, Marine living resources and Coastal tourism continue to be vital contributors to the Spanish national economy. Spain has the fourth-largest economy in the Eurozone, and the country is the second-most popular tourist destination in the world. Spain is split over two sea-basins: the North Atlantic and the Mediterranean Sea and is the largest capture fisheries producer in the EU (in landings weight and value).

Three of the top ten busiest container ports in the EU are in Spain, all located in the Mediterranean: Port of Valencia (5th), Port of Algeciras (7th) and Port of Barcelona (10th) in 2018. The country receives 80% of its imports and sends out over 50% of its exports through seaports, and has the third-largest fishing fleet in the world, meaning that ports play an important role in national prosperity.

Spain **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	134.9	134.4	126.8	119.5	115.3	114.6	114.0	113.8	116.5	115.9
Non-living resources	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	51.8	45.5	43.2	40.2	38.0	37.5	38.9	37.3	39.7	41.7
Shipbuilding and repair	28.5	25.6	24.3	23.6	21.0	21.5	22.7	23.8	24.9	26.5
Maritime transport	13.0	12.7	12.4	12.2	12.0	11.8	12.1	12.7	13.2	14.4
Coastal tourism	660.3	602.4	575.9	528.9	555.4	523.4	539.6	597.1	629.9	729.7
Blue economy jobs	888.6	820.7	782.7	724.5	741.9	708.9	727.4	784.8	824.3	928.4
National employment	18,957	18,574	18,271	17,477	17,002	17,211	17,717	18,183	18,649	19,136
Blue economy *(% of national jobs)*	4.7%	4.4%	4.3%	4.1%	4.4%	4.1%	4.1%	4.3%	4.4%	4.9%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	3,088	3,125	3,207	2,930	3,063	3,332	3,239	3,501	3,678	3,650
Non-living resources	10	13	13	18	40	27	14	14	14	10
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	3,596	3,428	3,346	3,236	3,015	2,990	3,116	3,060	3,278	3,518
Shipbuilding and repair	1,253	1,468	1,182	1,159	862	1,135	945	884	830	1,043
Maritime transport	783	826	728	744	727	757	872	949	978	930
Coastal tourism	18,370	16,971	16,510	14,855	16,065	15,506	17,037	18,537	20,263	23,940
Blue economy GVA	27,100	25,832	24,986	22,941	23,772	23,745	25,224	26,944	29,040	33,092
National GVA	1,002,045	985,479	980,239	948,339	932,448	939,949	978,469	1,010,688	1,053,191	1,087,968
Blue economy *(% of national GVA)*	2.7%	2.6%	2.5%	2.4%	2.5%	2.5%	2.6%	2.7%	2.8%	3.0%

France

The French Blue Economy (established sectors) employs around 369 350 people and generates over €21.7 billion in GVA. Overall, the percentage of the Blue Economy in terms of GVA has decreased compared to 2009 and in fact, was at its lowest during the period 2015-2018 (contributing a meagre 1% share). While in absolute terms Blue GVA has been quite volatile over the period analysed, it increased by almost 18.1% compared to 2009.

The significant GVA increase in Shipbuilding and repair (+107.5%) counterbalanced the 72.3% decrease in Marine non-living resources compared to 2009. In contrast, national GVA in France has increased over the entire period but increased by only two percentage points more than the Blue GVA (+19.5% compared to 2009). As for employment, at a national level it remained rather steady over the period of analysis, increasing only 2.4% compared to 2009, whereas Blue-based employment decreased by 7.9%. This reduction is largely the result of a 35% decrease in the number of jobs in Port activities and 62.7% in Marine living resources.

The Blue Economy in France is dominated by Coastal tourism, which contributed with 53.8% of the Blue jobs and 50.9% of the GVA in 2018. Marine living resources, Port activities and Shipbuilding and repair are also important contributors.

France **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	71.2	70.3	65.3	68.0	65.1	63.2	61.1	62.7	57.0	59.3
Non-living resources	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.2	0.2
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	58.9	58.9	59.4	65.6	62.9	59.0	63.8	59.9	42.4	38.3
Shipbuilding and repair	30.8	31.6	32.1	33.2	34.6	34.5	33.1	33.3	35.3	39.1
Maritime transport	32.7	32.0	29.6	29.5	31.1	33.7	34.4	26.4	32.5	33.8
Coastal tourism	206.7	196.6	202.1	181.7	190.9	198.8	169.5	181.5	191.2	198.7
Blue economy jobs	400.9	389.9	389.0	378.4	385.1	389.7	362.3	364.2	358.6	369.4
National employment	26,069	26,127	26,117	26,131	26,104	26,109	26,136	26,255	26,464	26,686
Blue economy *(% of national jobs)*	1.5%	1.5%	1.5%	1.4%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	2,524	2,718	2,718	2,758	2,799	2,760	2,903	3,043	2,871	2,919
Non-living resources	37	39	42	41	46	28	32	26	11	10
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	4,594	4,096	8,184	4,222	4,329	4,053	4,153	4,044	3,252	3,275
Shipbuilding and repair	1,461	1,852	2,117	2,189	2,257	2,100	2,146	2,373	2,618	3,030
Maritime transport	1,408	3,329	1,861	2,615	2,475	2,769	2,900	1,577	1,373	1,435
Coastal tourism	8,391	8,541	9,201	8,150	8,823	8,885	8,476	8,299	10,629	11,072
Blue economy GVA	18,415	20,575	24,124	19,975	20,730	20,595	20,610	19,362	20,754	21,742
National GVA	1,750,127	1,797,790	1,848,583	1,875,325	1,899,841	1,927,230	1,967,466	1,996,790	2,043,997	2,090,925
Blue economy *(% of national GVA)*	1.1%	1.1%	1.3%	1.1%	1.1%	1.1%	1.0%	1.0%	1.0%	1.0%

Mainland France is split over two sea-basins: the North Atlantic and the Mediterranean Sea. In addition, France possesses a string of overseas territories in the Caribbean, Indian and South Pacific oceans. Despite the extensive coastlines and abundant islands of Overseas France, the importance of the Blue Economy, although greater than for France as a whole, is still limited: 8 800 firms and 12 500 jobs (depending on the scope used) with significant variations between territories. Most firms are involved in fishing, aquaculture and the processing and marketing sectors: almost 70% in Martinique and French Guiana and up to 89% in French Polynesia. Maritime transport also provides fundamental support to the overseas economies. The cruise industry has enjoyed significant growth in the Pacific overseas departments and collectives since the early 2010s, rebounding in the overseas departments since 2011. The expansion in these sectors is the result of substantial investment in local port infrastructure against a backdrop of strong global growth in the transport of passengers and cargo. Yet, the French overseas territories face fierce regional competition in the sectors of maritime freight, tourism and aquaculture. The fishing and aquaculture industries suffer more specifically from a skills gap[10].

France has several maritime clusters[11]. The French Maritime Cluster (CMF) was created in 2006 and brings together all the actors of the maritime ecosystem, from industry to maritime services and activities of all kinds. Today, it is made up of more than 430 entities: companies of all sizes, competitiveness clusters, federations and associations, laboratories and research centres, schools and training organisations, local communities and economic players, as well as the French Navy[12].

10 Source: https://blocnotesdeleco.banque-france.fr/billet-de-blog/leconomie-bleue-dans-loutre-mer-quels-enjeux-pour-demain
11 http://www.clusterobservatory.eu/
12 https://www.cluster-maritime.fr

Croatia

The Croatian Blue Economy (established sectors) employs 159 378 people and generates around €3.4 billion in GVA.

The Blue Economy contributes 8.2% to the national economy in terms of GVA and 9.8% in terms of jobs. Overall, Blue-based GVA increased 24.5% compared to 2009 due solely to Coastal tourism and Marine living resources. Shipbuilding and repair, Port activities, Marine non-living resources and Maritime transport all saw decreases compared to 2009. Conversely, Blue Economy jobs decreased 11.6% compared to 2009, increasing only in Marine living resources and Maritime transport. Marine non-living resources and Shipbuilding have lost a significant amount of jobs compared to 2009 (83.8% and 41.1%, respectively).

The Blue Economy in Croatia is clearly dominated by Coastal tourism, which contributed with 78% to jobs and 82.2% of GVA in 2018. Marine living resources and Shipbuilding and repair are also important contributors in term of Blue jobs (7.2% and 6.5%, respectively).

Although in decline, the shipbuilding sector continues to be one of the most important industrial sectors in Croatia. The current Croatian shipbuilding industry is almost negligible in the context of global shipbuilding; however, it has a significant role within the national economy. The production portfolio consists of new buildings of various size(s), repair, conversion and offshore constructions. Currently however, several important shipyards are facing severe financial problems and an uncertain future.

Croatia **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	9.3	9.1	8.8	9.2	9.5	9.7	9.2	11.6	11.4	11.4
Non-living resources	7.5	5.6	4.9	6.5	5.7	6.4	6.6	1.3	1.2	1.2
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	5.5	5.2	5.9	5.5	5.5	5.3	5.3	5.2	4.8	4.7
Shipbuilding and repair	17.7	16.6	15.4	13.8	14.7	9.6	9.9	10.2	10.8	10.4
Maritime transport	6.9	7.1	7.3	7.1	6.8	6.8	6.9	7.1	7.5	7.3
Coastal tourism	133.9	193.0	149.6	127.9	112.0	123.0	102.3	98.7	125.3	124.3
Blue economy jobs	180.8	236.6	191.9	170.0	154.2	160.8	140.1	134.1	161.0	159.4
National employment	1,708	1,649	1,584	1,528	1,494	1,542	1,559	1,567	1,603	1,630
Blue economy *(% of national jobs)*	10.6%	14.3%	12.1%	11.1%	10.3%	10.4%	9.0%	8.6%	10.0%	9.8%

GVA *(€ million)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	53	59	64	67	85	56	124	119	163	158
Non-living resources	101	75	66	88	78	86	94	83	44	52
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	147	124	124	117	117	121	120	131	114	110
Shipbuilding and repair	277	292	237	157	117	103	139	103	148	89
Maritime transport	217	197	193	169	197	172	235	185	202	213
Coastal tourism	2,002	2,974	2,326	2,072	2,161	2,297	2,080	2,176	2,769	2,862
Blue economy GVA	2,797	3,721	3,009	2,670	2,755	2,835	2,791	2,797	3,441	3,483
National GVA	38,560	38,297	38,242	37,009	36,447	36,200	36,968	38,633	40,551	42,448
Blue economy *(% of national GVA)*	7.3%	9.7%	7.9%	7.2%	7.6%	7.8%	7.5%	7.2%	8.5%	8.2%

Italy

The Italian Blue Economy (established sectors) employs around 528 659 people and generates over €23.7 billion in GVA. In 2018, it contributed with 2.3% to national jobs and 1.5% to national GVA. The share of Blue GVA underwent a low period between 2011 and 2015 but has returned to 2009 figures. Blue jobs also appear to be recovering, albeit at a slower pace. In absolute terms, Blue jobs have decreased by 13.5% compared to 2009 while GVA has increased by 11.1%, exactly the same increase in national GVA. Apart from Maritime transport and, to lesser extent, Marine living resources, all other sectors have seen significant drops in employment compared to 2009. On the other hand, only Marine non-living resources has seen a substantial decrease in GVA (-60.5%) compare to 2009.

The Blue Economy in Italy is largely dominated by Coastal tourism, which contributed 58.1% to Blue jobs and 44.2% to GVA in 2018. Marine living resources and Maritime transport are also an important contributor to the Blue Economy, generating 14.1% and 13.1% of jobs and 11.2 and 20.1% of GVA, respectively. In fact, all established blue sectors are important contributors to Italy's economy, apart from Marine non-living resources and Marine renewable energy. At the EU level and in terms of GVA generation, Italy ranks second in Maritime transport, producing 16% of the EU total, third in Coastal tourism (13%), Marine non-living resources (19%) and Shipbuilding and repair (19%), fourth in Marine living resources (14%) and Port activities (9%).

Further deterioration in Marine non-living resources is expected as the Italian parliament approved an 18-month moratorium on offshore oil and gas exploration permits, as well as a sharp increase in fees payable on upstream concessions. Even with the large potential for offshore gas deposits in southern Italy, the government intends to prioritise renewable energy developments and move towards decarbonisation instead. The moratorium, which could be extended, gives the government time to agree a new "plan for the sustainable energy transition of suitable areas", designed to define the geographical areas where exploration and production activities are to be allowed in future. The moratorium affects 73 existing exploration permits, of which 26 are offshore, as well as 79 pending applications for exploration permits (including 25 offshore). The 30MW offshore wind project off the port of Taranto, Italy's first offshore wind site and set to be the first in the Mediterranean Sea, is likely to be fully operational by this year[13]. Thus, the contribution of Marine renewable energy to Italy's Blue Economy is expected to increase in the new future.

Italy — **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	73.5	73.6	72.2	74.6	71.6	70.5	69.6	72.2	72.3	74.7
Non-living resources	11.2	11.1	10.8	10.3	9.6	9.6	9.5	6.3	2.0	2.2
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	38.9	37.1	35.2	34.3	34.5	33.5	33.8	35.2	34.9	35.2
Shipbuilding and repair	45.8	41.4	38.0	34.4	32.3	32.7	34.0	35.4	39.2	40.1
Maritime transport	45.3	42.9	41.7	43.0	41.8	60.7	63.3	63.8	67.9	69.0
Coastal tourism	396.6	331.2	261.5	235.4	222.0	199.6	204.9	227.7	244.2	307.3
Blue economy jobs	611.2	537.2	459.4	431.9	411.9	406.6	415.2	440.6	460.5	528.7
National employment	22,324	22,152	22,215	22,149	21,755	21,810	21,973	22,241	22,444	22,586
Blue economy *(% of national jobs)*	2.7%	2.4%	2.1%	1.9%	1.9%	1.9%	1.9%	2.0%	2.1%	2.3%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	2,380	2,380	2,523	2,195	2,231	2,156	2,548	2,621	2,623	2,666
Non-living resources	2,074	2,071	2,014	1,703	1,324	1,199	1,385	1,287	739	819
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	1,732	1,922	1,877	1,994	2,047	1,983	2,142	2,194	2,222	2,229
Shipbuilding and repair	1,894	1,664	1,848	1,457	1,489	1,736	1,694	2,092	2,555	2,785
Maritime transport	3,175	4,310	3,595	3,443	3,595	4,118	4,741	4,534	4,768	4,772
Coastal tourism	10,158	9,978	8,040	6,939	6,621	6,290	6,902	7,918	8,551	10,524
Blue economy GVA	21,413	22,326	19,896	17,730	17,307	17,482	19,412	20,646	21,457	23,795
National GVA	1,425,157	1,449,430	1,480,875	1,458,007	1,451,514	1,462,745	1,488,049	1,522,917	1,557,833	1,583,358
Blue economy *(% of national GVA)*	1.5%	1.5%	1.3%	1.2%	1.2%	1.2%	1.3%	1.4%	1.4%	1.5%

[13] https://www.portseurope.com/taranto-port-set-for-offshore-wind-farm/

Cyprus

The Blue Economy established sectors in Cyprus employ around 39 982 people and generate over €1.1 billion in GVA, representing a 6.1% share of the national economy measured in GVA and 10.3% of the jobs. The Blue Economy's contributions to both national GVA and employment have remained relatively stable throughout the period of analysis (2009-2018). While Blue GVA (in absolute terms) has increased 7.6% compared to 2009, its share has decreased by 3.3%; i.e., the national economy increased more than the Blue Economy.

As an island state, it is not surprising that the Blue Economy in Cyprus is dominated by Coastal tourism, which represents 84.6% of Blue-based jobs and 79.3% of the GVA in 2018. Port activities and Shipbuilding and repair contribute a further 7% in terms of GVA.

The EU Commission, under EU state aid rules, has approved the prolongation of Cyprus's tonnage tax scheme, which applies to ship ownership, ship management and ship chartering activities. Cyprus was the first open registry to have a Tonnage Tax System (TTS) approved by the EU and this system was extended in 2019 for another ten years. The system's prolongation provides stability and certainty for current and future shipping companies flagged or operating in Cyprus. The prolongation is also expected to encourage ship registration in Europe, as well as the presence and growth of shipping companies and maritime operations in the EU. The system contributes to the competitiveness of the EU Maritime transport sector while supporting Europe's high environmental and safety standards.

Cyprus **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	1.7	2.1	2.1	2.0	2.2	2.1	2.2	2.2	2.2	2.3
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	1.1	1.3	1.4	1.2	0.9	0.8	0.9	0.9	1.1	1.2
Shipbuilding and repair	0.1	0.2	0.2	0.3	0.5	0.6	0.9	1.2	1.3	1.6
Maritime transport	4.3	4.7	4.6	4.3	4.2	4.0	3.8	1.0	1.0	1.0
Coastal tourism	29.5	29.9	27.7	25.8	27.4	27.2	23.2	28.9	32.0	33.8
Blue economy jobs	36.7	38.2	36.0	33.6	35.2	34.8	31.0	34.1	37.5	40.0
National employment	371	382	386	375	357	355	350	354	370	390
Blue economy *(% of national jobs)*	9.9%	10.0%	9.3%	9.0%	9.8%	9.8%	8.9%	9.6%	10.1%	10.3%

GVA *(€ million)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	18	18	26	18	26	25	25	31	38	30
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	85	96	101	91	80	77	80	82	64	77
Shipbuilding and repair	5	6	8	15	15	22	32	43	67	78
Maritime transport	172	182	148	128	118	109	99	28	43	46
Coastal tourism	755	752	741	712	762	730	619	797	851	884
Blue economy GVA	1,036	1,054	1,023	963	1,001	962	854	981	1,063	1,114
National GVA	16,420	17,109	17,594	17,239	15,992	15,249	15,609	16,517	17,373	18,261
Blue economy *(% of national GVA)*	6.3%	6.2%	5.8%	5.6%	6.3%	6.3%	5.5%	5.9%	6.1%	6.1%

Latvia

The Latvian Blue Economy (established sectors) employs around 40 698 people and generates over €653 million in GVA. Overall, Blue GVA increased by 69.7% compared to 2009 and jobs by 22.8%. Jobs increased in the Port activities sector (34.6%), Coastal tourism sector (54.1%), and Maritime transport sector (15.6%) while decreasing in all other Blue Economy sectors analysed.

The share of the Blue Economy towards national GVA increased by 13.5% between 2009 and 2018. The same trend can be observed for employment (23.4%). The percentage of Blue Economy employment in terms overall employment levels increased by 22.8% during the reporting period. Latvia's Blue Economy is dominated by Coastal tourism, which contributed to 62.5% to jobs and 47.6% to Blue GVA in 2018. Port activities is also an important contributor, generating 15% of jobs and 32.7% of GVA.

While no maritime cluster in Latvia is yet defined in any official policy document, the building blocks exist, i.e., sectors according to the European Cluster Observatory[14]. However, links between these maritime sectors and activities are weak. Latvia has three major sea ports and seven smaller ports. Riga is the biggest port in Latvia and second biggest in the Baltic States reaching 32.8 million tonnes in cargo turnover in 2019. The port of Ventspils is one of the leading deep-water ports of the EU on the East coast of the Baltic Sea, servicing the largest vessels entering the Baltic Sea throughout the whole year and with an annual turnover of around 30 million tonnes. Liepaja is the third biggest city in Latvia with old manufacturing traditions. Shipbuilding and repair and Maritime transport are also noticeable sectors but have remained rather stagnant over the period analysed. The development of a Latvian maritime cluster could help foster cooperation and integration between the maritime sectors may help boost the Blue Economy as a whole.

Latvia **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	7.8	7.9	7.3	7.8	8.1	7.6	6.2	5.8	5.5	5.2
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	4.5	4.4	5.2	5.5	5.7	6.2	6.5	6.2	6.2	6.1
Shipbuilding and repair	3.1	2.5	2.5	2.8	2.7	2.4	2.4	2.7	2.6	2.5
Maritime transport	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.4	1.5
Coastal tourism	16.5	15.4	14.5	16.7	32.3	24.9	23.0	20.1	22.5	25.4
Blue economy jobs	33.1	31.3	30.7	34.0	50.1	42.4	39.2	35.8	38.3	40.7
National employment	877	829	841	852	867	859	868	862	862	873
Blue economy *(% of national jobs)*	3.8%	3.8%	3.7%	4.0%	5.8%	4.9%	4.5%	4.2%	4.4%	4.7%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	61	67	64	79	91	80	75	66	64	76
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	128	118	174	201	199	212	225	224	212	214
Shipbuilding and repair	35	29	31	32	33	32	32	32	32	25
Maritime transport	28	21	15	12	13	21	24	22	24	28
Coastal tourism	133	136	138	158	347	265	251	226	257	311
Blue economy GVA	385	371	422	482	682	611	607	570	590	653
National GVA	16,919	15,843	17,965	19,557	20,126	20,831	21,467	21,867	23,387	25,311
Blue economy *(% of national GVA)*	2.3%	2.3%	2.4%	2.5%	3.4%	2.9%	2.8%	2.6%	2.5%	2.6%

[14] The Cluster Observatory is an online, free and user-friendly platform that provides a single access point to data and analysis of clusters.

Lithuania

The Lithuanian Blue Economy (established sectors) employs around 25 099 people and generates over €668 million in GVA. Overall, Blue GVA increased 77.2% compared to 2009 while its share to the national economy increased by 5.8%. In 2018, the Blue GVA contributed 1.6% to the national economy (measured in GVA), same value registered in 2009. In terms of employment, Blue jobs increased by 0.7% in absolute terms (around 181 jobs) compared to 2009, while its share to national employment increased by 2.6%, from 1.9% in 2009 to 1.9% in 2018. That is, national job growth was higher than jobs in the Blue Economy.

The Blue Economy in Lithuania is dominated by the Marine living resources, which accounted for 32.7% of Blue jobs and 29.4% of GVA in 2018. Port activities and Shipbuilding and repair are also large contributors, generating 26% and 21% of GVA, respectively while providing 14.4% and 24.6% of jobs, respectively.

The Lithuanian fishing fleet (Capture fisheries) is composed of a Baltic Sea and distant-water or high-sea fleet, the latter being more important in terms of employment and GVA generated. The aquaculture sector, which is dominated by carp (to a much lesser degree by European eel and sturgeon), produced around 14% of the total primary sector. There are around 95 fish processing firms employing over 4 200 employees, and together with wholesale, generate around 94% of the total GVA generated by the Marine living resources, up from 80% in 2009.

A maritime cluster is concentrated around the Port of Klaipeda, Lithuania's only seaport and an important transport hub. The shipbuilding sector is mainly specialised in the building and repair of smaller and specialised ships, such as fishing boats and vessels used in oil and gas production. The Port of Butinge Marine (oil) Terminal is a small port close to the border with Latvia, which handles crude oil through an SPM[15] system.

Lithuania **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	6.8	7.0	6.8	7.0	7.5	7.9	8.4	8.1	7.8	8.2
Non-living resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	3.9	3.5	3.9	3.8	4.0	4.0	3.9	4.0	4.0	3.6
Shipbuilding and repair	6.0	4.3	4.4	4.3	4.7	4.6	4.5	4.8	4.9	6.2
Maritime transport	2.1	2.2	2.1	2.0	2.0	1.9	1.9	1.6	1.6	1.7
Coastal tourism	6.2	5.9	5.6	5.5	4.9	5.5	4.5	5.3	5.3	5.4
Blue economy jobs	24.9	22.9	22.9	22.5	22.9	24.0	23.1	23.8	23.7	25.1
National employment	1,290	1,224	1,226	1,244	1,264	1,288	1,301	1,318	1,306	1,324
Blue economy *(% of national jobs)*	1.9%	1.9%	1.9%	1.8%	1.8%	1.9%	1.8%	1.8%	1.8%	1.9%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	84	76	97	95	103	135	121	138	168	196
Non-living resources	0	0	0	0	0	0	0	0	0	0
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	113	106	129	145	130	149	148	144	166	174
Shipbuilding and repair	77	79	56	40	53	68	85	96	108	140
Maritime transport	62	65	66	45	45	46	56	45	71	82
Coastal tourism	41	42	50	48	46	50	51	68	70	76
Blue economy GVA	377	368	397	374	377	447	461	490	581	668
National GVA	24,300	25,137	28,119	30,148	31,715	33,044	33,604	35,001	37,975	40,678
Blue economy *(% of national GVA)*	1.6%	1.5%	1.4%	1.2%	1.2%	1.4%	1.4%	1.4%	1.5%	1.6%

[15] Single-point mooring.

Luxembourg

As a land-locked country with no direct sea access, Luxembourg's Blue Economy (established sectors) employs just 407 persons but generates around €33 million in GVA, mainly due to Maritime transport and, to a lesser extent, Port activities. As is to be expected, the direct contribution of the Blue Economy to the national economy, in GVA and jobs, is minimal (0.1%).

According to Luxembourg Trade & Invest[16], Luxembourg's venture into the shipping sector is a remarkable success story. Approximately 1 000 jobs in Luxembourg are linked directly or indirectly to the maritime sector. Ship owners established in Luxembourg provide jobs to around 400 highly-skilled employees on shore and around 4 000 at sea; and a further (approx.) 600 maritime related jobs are located in insurance companies, banks, law firms, consultancy groups and maritime logistics operators.

In the 1980s, Luxembourgish authorities created a national shipping register and today, more than 240 vessels with a gross tonnage of around 2 million tonnes fly the Luxembourg flag. Luxembourg is connected to the North Sea by way of rail, rivers and roads to three world-leading ports: Rotterdam, Antwerp and Zeebrugge, all located less than 300 km away from Luxembourg City.

The Luxembourg Maritime Cluster[17] contributes to the development of the maritime sector and maritime related services in Luxembourg through the implementation and promotion of communication strategies both in Luxembourg and abroad. Forty-one firms and organisations currently take part in the project.

Luxembourg **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Shipbuilding and repair	-	-	-	-	-	-	-	-	-	-
Maritime transport	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy jobs	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.4
National employment	215	219	222	234	236	243	255	259	270	278
Blue economy *(% of national jobs)*	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

GVA *(€ million)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	0	0	0	0	0	0	0	0	0	0
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	6	6	6	5	5	5	5	5	5	5
Shipbuilding and repair	-	-	-	-	-	-	-	-	-	-
Maritime transport	16	19	20	17	15	19	22	20	27	27
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy GVA	22	25	26	23	21	25	27	26	32	33
National GVA	33,135	36,137	38,739	39,386	41,527	44,396	47,057	49,771	51,599	54,378
Blue economy *(% of national GVA)*	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

[16] https://www.tradeandinvest.lu/business-sector/maritime/
[17] An active member of the European Network of Maritime Clusters

Hungary

As Hungary is a landlocked country, the Blue Economy is not a main contributor to its economy as a whole. In terms of GVA, its share was around 0.6% in 2018, a 49.7% increase since 2009. In absolute terms, Blue GVA increased by 110.9% compared to 2009. The Blue Economy established sectors account for 0.5% of jobs, a 43.6% increase since 2009. It is worth mentioning that Blue Economy jobs have outperformed national levels compared to 2009: Blue Economy jobs grew 70.4% against 18.7% for national employment, as well as in terms of GVA growth, with Blue GVA growing 110.9% against 40.9 % of domestic GVA compared to 2009.

The Blue Economy in Hungary is dominated by Port activities, contributing to 43.1% of the Blue jobs and 34.1% of GVA. Marine living resources and Shipbuilding and repair are also important contributors.

The Port of Hamburg plays a significant part as a transhipment, storage and distribution centre for Hungary's seaborne foreign trade. Hungary is set to invest in a port and logistics base in the Italian city of Trieste. The port will become Hungary's sea exit in the Adriatic for international trade.

Hungary stopped commercial fishing in inland waters in 2016. As a result, the bulk of the domestic fish supply is from aquaculture. In 2017, the sector employed 1 805 person and total aquaculture production was around 1 257 tonnes, an 11-12% increase compared to 2016. Common carp remains the most important cultured species, with 82% of the total food fish production. Fish processing is relatively underdeveloped and many fish producers have on-site fish processing units as a way of adding value to their products and meeting market demand. Most of these do primary processing, such as filleting. There are a limited number of processing plants producing more sophisticated products such as boneless, kitchen-ready products. Several enterprises repackage imported seafood. Foreign trade in fish products has been increasing, however, Hungary mostly exports raw material (live fish), while it imports highly processed value-added products. The export value was €19.4 million in 2017, while the import value was a little over €90 million; i.e., a trade deficit of €70.6 million.

Hungary **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	3.7	3.4	3.4	3.8	3.8	4.3	4.5	5.1	5.8	5.7
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	6.2	6.1	9.2	11.1	8.4	10.5	9.3	8.7	8.7	8.8
Shipbuilding and repair	0.9	0.8	0.6	0.5	0.7	1.8	3.3	3.5	3.6	4.9
Maritime transport	1.2	1.2	1.1	1.2	1.2	1.0	1.0	1.0	1.0	1.0
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy jobs	11.9	11.5	14.3	16.6	14.1	17.7	18.2	18.4	19.3	20.4
National employment	3,717	3,701	3,724	3,793	3,860	4,070	4,176	4,309	4,373	4,411
Blue economy *(% of national jobs)*	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	49	47	48	49	57	60	70	83	94	110
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	243	274	277	258	262	284	225	180	214	228
Shipbuilding and repair	14	15	11	9	13	35	72	72	72	313
Maritime transport	12	12	11	21	22	19	21	23	23	19
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy GVA	318	348	346	337	353	397	388	357	403	670
National GVA	80,130	83,830	86,246	83,808	86,069	89,362	94,382	97,556	106,292	112,914
Blue economy *(% of national GVA)*	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%

Malta

The Maltese Blue Economy (established sectors) employs around 25 432 people and generates almost €713 million in GVA. As an island state, it is clearly dominated by Coastal tourism, contributing 87.5% to Blue Economy jobs and 81.4% to GVA in 2018. Marine living resources is also a contributor to Blue jobs (7.9%) and GVA (5.2%).

Although the percentage that the Blue Economy contributes to national GVA grew by 36.2% compared to 2009, the Blue Economy GVA has increased by 177.4%, hitting its highest point in 2018 for the reporting period. In addition, Malta's national GVA rose sharply between 2009 and 2018 by 103.7%. Similar trends are observed in employment where overall, national employment has risen by 48.1% while Blue jobs increased by 59.6% compared to 2009.

Malta **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	1.9	2.0	1.7	1.9	1.9	2.1	2.2	2.0	1.9	2.0
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Shipbuilding and repair	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Maritime transport	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
Coastal tourism	13.0	11.6	11.5	13.3	16.5	16.2	15.0	18.5	17.5	22.3
Blue economy jobs	15.9	14.7	14.3	16.4	19.6	19.4	18.3	21.6	20.6	25.4
National employment	158	160	164	171	179	187	194	205	217	234
Blue economy *(% of national jobs)*	10.1%	9.2%	8.7%	9.6%	11.0%	10.4%	9.4%	10.5%	9.5%	10.9%

GVA *(€ million)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	- 1	33	35	20	39	34	40	38	- 3	37
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	37	34	34	34	34	34	34	34	34	50
Shipbuilding and repair	12	9	9	9	9	9	9	9	9	9
Maritime transport	7	10	10	10	10	10	35	35	36	37
Coastal tourism	201	205	202	236	286	285	318	428	443	580
Blue economy GVA	257	292	292	309	378	373	436	544	520	713
National GVA	5,357	5,791	5,952	6,281	6,722	7,476	8,551	9,180	10,025	10,910
Blue economy *(% of national GVA)*	4.8%	5.0%	4.9%	4.9%	5.6%	5.0%	5.1%	5.9%	5.2%	6.5%

Netherlands[18]

According to the data, the Dutch Blue Economy (established sectors) directly employs around 174 834 people and generates over €11.8 billion in GVA. Although the Dutch Blue GVA has seen a 6.3% increase compared to 2009, its contribution to national GVA was 13.9% lower in 2018. In terms of employment, national employment has remained relatively stable over the reporting period (+3.9% compared to 2009), whereas Blue jobs increased by 31%, peaking in 2018. Furthermore, the number of Blue jobs' share increased by 26.1% when compared to 2009.

Port activities, Maritime transport and Coastal tourism are the main contributors, generating 36.1%, 16.1% and 18.8% of the GVA respectively. Employment is more evenly distributed among the sectors, apart from Marine non-living resources and Marine renewable energy, which provide only 1.1% and 0.4% of the Blue jobs, respectively.

The Netherlands has four major seaports: the ports of Rotterdam, Amsterdam, Zeeland Seaports, and Groningen Seaports. The Port of Rotterdam has a broad range of amenities has almost every port facility imaginable, including cruise, container, general cargo, oil and gas terminals, as well as bulk terminals and a liquefied natural gas (LNG) terminal. It is the busiest seaport in Europe and has a thriving petrochemical industry and several oil refineries. Crude oil arrives by sea to be processed and delivered to areas in the Netherlands, Germany, and Belgium. The port of Amsterdam, Europe's fifth largest port, is another major asset for logistics and distribution operations.

Netherlands **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	17.3	17.7	17.5	17.8	17.9	18.3	19.0	19.8	20.5	21.2
Non-living resources	2.4	1.8	1.8	1.7	1.7	1.9	2.2	2.1	2.0	2.0
Ocean energy	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.5	0.7	0.8
Port activities	26.7	27.1	28.6	29.1	29.8	30.9	31.2	32.1	32.6	34.5
Shipbuilding and repair	17.6	16.9	17.4	17.4	17.5	17.6	18.0	18.0	17.8	17.3
Maritime transport	32.5	29.6	30.0	33.4	34.3	31.9	31.9	30.0	29.8	29.9
Coastal tourism	36.8	36.2	34.8	32.7	35.4	33.0	31.2	36.8	35.5	69.2
Blue economy jobs	133.4	129.5	130.2	132.4	136.8	133.8	133.8	139.4	139.0	174.8
National employment	8,220	8,145	8,152	8,174	8,104	8,028	8,115	8,223	8,376	8,543
Blue economy *(% of national jobs)*	1.6%	1.6%	1.6%	1.6%	1.7%	1.7%	1.6%	1.7%	1.7%	2.0%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	819	942	894	913	943	985	1,035	1,177	1,020	1,122
Non-living resources	3,708	2,955	2,874	3,141	2,727	2,692	2,793	1,661	1,505	1,596
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	3,307	3,439	3,591	3,647	3,713	3,987	4,163	4,066	4,161	4,297
Shipbuilding and repair	787	1,228	987	884	1,053	1,039	997	731	936	724
Maritime transport	1,719	1,468	1,424	1,493	1,835	2,025	2,376	1,932	2,087	1,917
Coastal tourism	856	879	889	846	909	912	899	1,091	1,119	2,241
Blue economy GVA	11,197	10,911	10,659	10,923	11,180	11,639	12,263	10,659	10,828	11,898
National GVA	561,185	574,280	585,953	590,316	595,709	604,814	620,835	634,824	661,566	692,777
Blue economy *(% of national GVA)*	2.0%	1.9%	1.8%	1.9%	1.9%	1.9%	2.0%	1.7%	1.6%	1.7%

Notes: The total value of the Dutch Blue Economy is underestimated – significant amount of data at Eurostat are unavailable for several sub-sectors and activities

[18] National reporting by Netherlands on its ocean economy differs due to the lack of EUROSTAT data stemming from confidentiality issues.

Austria

The Austrian Blue Economy (established sectors) employs around 6 510 people and generates almost €452 million in GVA. The Blue Economy in Austria only represents 0.1% of the national GVA, and its share increased by 1.3% compared to 2009. In fact, Blue GVA increased 36% compared to 2009 against 34.3% for the national economy. In terms of employment, the share of Blue jobs stands at 0.2% but has increased 13.4% compared to 2009 against 8.5% for national jobs overall.

The main Blue sectors in Austria are Marine living resources, Port activities and Shipbuilding. Marine living resources produced €171 million in GVA and provided 2 925 jobs in 2018. Port activities produced 1 582 jobs and generated €186 million in GVA. Shipbuilding and repair accounted for a further 1 316 jobs and €84 million in GVA.

Despite being a landlocked country[19], Austria has established a modest but competitive maritime industry, focusing on high quality aquaculture production and related value-added activities, as well as seaborne shipping and trade with block trains operating to two cargo gateways, one in the north (Port of Hamburg) and another in the Adriatic (Port of Trieste). This covers shipbuilding and repair, yachts and cruise ships, engines, shipyards, environmental and safety systems, and systems for port management and logistics – for a range of seaward and inland waterways uses.

The seafood industry in Austria is limited to freshwater – mainly aquaculture and processing. Currently, about 4 thousand tonnes of freshwater fish, valued at 26.4 million euro, are produced annually, mainly carp (natural ponds) and trout (flow-through systems, raceways). Other important species are char, pike-perch and various catfish. Aquaponics are a growing industry in Austria.

Austria **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	2.3	2.4	2.4	2.7	2.7	2.9	2.9	2.9	3.1	2.9
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	1.2	1.2	1.1	1.2	1.3	1.5	1.5	1.5	1.6	1.6
Shipbuilding and repair	1.1	1.1	1.2	1.1	1.1	1.1	1.1	1.2	1.3	1.3
Maritime transport	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy jobs	5.3	5.4	5.5	5.5	5.8	6.2	6.3	6.2	6.8	6.5
National employment	3,909	3,944	3,982	4,013	4,030	4,034	4,068	4,143	4,185	4,241
Blue economy *(% of national jobs)*	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	142	145	150	152	158	166	170	171	193	171
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	96	91	111	172	487	254	199	194	186	146
Shipbuilding and repair	49	72	67	69	68	71	80	82	85	84
Maritime transport	46	49	56	43	38	48	48	50	50	50
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy GVA	332	358	384	435	751	539	497	497	514	452
National GVA	256,671	263,634	276,404	283,548	288,624	297,230	307,038	318,645	330,333	344,659
Blue economy *(% of national GVA)*	0.1%	0.1%	0.1%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.1%

[19] The United Nations Convention of the Law of the Sea (UNCLOS) of 1982 recognises the right of "every state, whether coastal or land-locked to sail ships flying its flag on the high seas".

Poland

The Polish Blue Economy (established sectors) employs around 145 915 people and generates over €3.1 billion in GVA. It is dominated by Coastal tourism, which contributed 34.2% to Blue jobs and 28.6% to GVA in 2018.

Poland's national GVA growth has been rising by 54.1%, as has Blue Economy GVA, increasing by 38.9% since 2009. At 0.7% in 2018, the share of Blue Economy GVA to national GVA fell 9.8% compared to 2009. While national employment grew by 3.2%, Blue Economy jobs increased 18.2% compared to 2009.

Port activities, Marine living resources and Shipbuilding and repair are also important contributors to the Blue Economy, providing 19.6%, 26.5% and 17% of the jobs and 25.1%, 22.6% and 18.6% of the GVA in 2018, respectively.

The main ports in Poland are Gdańsk, Gdynia, Szczecin and Świnoujście. Gdansk is a major international transportation hub and Europe's fastest growing port, making plans to double its cargo volumes to 100 million tonnes a year. Gdansk is ideally situated as a gateway port, connecting Nordic countries to central, eastern and southern Europe.

Poland also has a considerable fish processing and trade sector, one of the largest in Europe. In fact, the activity 'Processing and preserving of fish, crustaceans and molluscs' contributed to 14% of overall Polish Blue GVA in 2018. It plays a major role in supplying the EU with processed fish products such as smoked salmon and trout, canned herring, mackerel, and sprat, and ready-to-eat fish products like salads and fish marinades. Other products include fresh and frozen cod fillets, ready-to-prepare frozen fish fillets, freshwater and diadromous fish such as pike-perch, as well as fresh and frozen whole fish like trout and sprat. In 2017, Poland exported 445 thousand tonnes of fisheries and aquaculture products valued at over €2 billion; 93% of which was exported to other EU countries. Around 54% of production is exported to Germany, with the majority of the remainder destined for the United Kingdom, France, and Denmark.

Poland — **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	33.2	31.4	29.9	31.3	31.9	35.8	36.4	37.6	38.3	38.7
Non-living resources	0.4	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.2	0.2
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	28.0	27.8	28.2	28.7	30.2	28.7	27.8	29.2	31.3	28.6
Shipbuilding and repair	29.4	23.7	22.0	21.2	21.1	21.2	22.1	23.4	24.4	24.8
Maritime transport	4.5	4.4	4.3	4.0	4.0	4.5	4.3	4.2	3.9	3.8
Coastal tourism	28.0	24.4	19.5	62.0	60.7	43.8	49.3	51.8	51.0	49.9
Blue economy jobs	123.4	112.3	104.4	147.6	148.4	134.3	140.1	146.5	149.0	145.9
National employment	15,629	15,233	15,313	15,340	15,313	15,591	15,812	15,902	16,079	16,133
Blue economy *(% of national jobs)*	0.8%	0.7%	0.7%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.9%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	507	511	500	512	508	638	634	565	732	718
Non-living resources	18	21	18	16	16	12	11	12	10	9
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	563	600	612	617	669	644	635	651	754	796
Shipbuilding and repair	713	574	553	447	534	565	602	550	602	592
Maritime transport	186	176	244	221	246	213	166	185	168	151
Coastal tourism	297	300	250	803	774	625	715	770	834	909
Blue economy GVA	2,285	2,182	2,177	2,617	2,747	2,696	2,764	2,733	3,099	3,175
National GVA	281,933	318,291	334,167	344,985	350,427	364,617	381,735	376,792	410,402	434,406
Blue economy *(% of national GVA)*	0.8%	0.7%	0.7%	0.8%	0.8%	0.7%	0.7%	0.7%	0.8%	0.7%

Portugal

The Portuguese Blue Economy (established sectors) employs around 258 613 people and generates over €5.8 billion in GVA. Blue Economy GVA increased by 73.5% compared to 2009 while jobs increased by 54.3%. The share of Blue GVA to national GVA also saw a significant increase of 53.1% and the share of Blue jobs by 54.3% compared to 2009. In comparison, the national GVA increased by 13.3% while national employment fell 0.6% on 2009 figures.

The Blue Economy in Portugal is primarily dominated by Coastal tourism, which contributed 82% to Blue jobs and 77% to GVA in 2018. Marine living resources is also an important contributor, providing 13.8% of jobs and 13.2% of GVA in 2018. Port activities bring in 6.3% of the Blue GVA but 1.7% of the jobs.

Portugal has the largest Exclusive Economic Zone (EEZ) in Europe and became the first EU Member state to prepare a Satellite Account for the Sea (see section 8.3).

Building on the BlueInvest Fund experience, the European Investment Fund (EIF) has launched a Blue Economy mandate called Portugal Blue in partnership with *Banco Português de Fomento*, the Portuguese NPI. Portugal Blue is a €50 million equity partnership between the EIF and the NPI to provide financial support to Portuguese start-ups, SMEs, and midcaps at every stage of development active in the area of blue economy. The programme was announced in October 2020 and the EIF is now receiving applications from fund managers.

Portugal **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	41.2	39.7	40.9	38.5	38.5	37.5	36.8	37.0	35.2	35.8
Non-living resources	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	4.5	4.5	4.4	4.2	4.2	4.3	4.3	4.2	4.1	4.5
Shipbuilding and repair	6.0	4.2	4.2	3.9	3.9	4.1	4.4	4.0	4.0	4.3
Maritime transport	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.7	1.7
Coastal tourism	114.1	113.4	86.1	95.9	109.2	116.3	117.8	123.2	156.5	212.2
Blue economy jobs	167.6	163.7	137.4	144.2	157.5	164.0	165.0	170.0	201.7	258.6
National employment	4,645	4,577	4,453	4,256	4,158	4,254	4,309	4,371	4,515	4,615
Blue economy *(% of national jobs)*	3.6%	3.6%	3.1%	3.4%	3.8%	3.9%	3.8%	3.9%	4.5%	5.6%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	640	642	672	623	605	626	662	756	736	766
Non-living resources	2	2	2	2	2	2	2	2	2	2
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	310	321	321	322	330	334	321	343	333	368
Shipbuilding and repair	145	110	100	97	109	115	141	135	132	124
Maritime transport	73	60	62	55	64	89	77	82	83	77
Coastal tourism	2,182	2,124	1,574	1,638	2,083	2,262	2,279	2,543	3,420	4,480
Blue economy GVA	3,351	3,259	2,732	2,737	3,193	3,428	3,483	3,859	4,705	5,815
National GVA	155,547	157,971	154,128	147,215	149,802	151,136	156,517	161,993	169,642	176,311
Blue economy *(% of national GVA)*	2.2%	2.1%	1.8%	1.9%	2.1%	2.3%	2.2%	2.4%	2.8%	3.3%

Romania

The Romanian Blue Economy (established sectors) employs around 66 470 people and generates over €1 billion in GVA. The national GVA has seen a significant increase in recent years (+62.5% compared to 2009), however the Blue Economy GVA has been more volatile. Increasing by 18.6% compared to 2009. Employment has decreased nationally (-4.8%) and in terms of the Blue Economy (-19.9%). The share of Blue Economy to national jobs and GVA is not very significant, less than 1%, and has decreased over the period analysed (-15.9%).

Shipbuilding and repair and Coastal tourism are the largest contributor, with 33.5% and 34.4% of Blue jobs and 33.4% and 26.8% of GVA.

Romania's shipbuilding industry underwent some strong development in the 1960s, when the country moved from building small vessels to large cargo ships, to later specialising in the construction of vessel hulls that are then outfitted at other shipyards.

Romania **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	7.0	8.0	6.3	6.6	6.1	6.4	7.3	6.1	6.4	6.2
Non-living resources	9.1	8.5	7.4	5.3	5.6	5.5	4.8	4.3	3.8	1.6
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	19.9	19.4	20.2	18.3	14.7	14.0	13.7	12.4	11.5	10.8
Shipbuilding and repair	31.4	23.8	23.2	23.0	24.3	25.8	26.8	24.7	22.8	22.3
Maritime transport	3.7	3.7	3.2	3.0	2.9	2.7	2.8	2.7	2.8	2.8
Coastal tourism	12.0	8.4	9.6	14.6	13.9	13.4	13.6	15.5	15.5	22.9
Blue economy jobs	83.0	71.8	69.9	70.7	67.6	67.8	69.0	65.6	62.8	66.5
National employment	8,805	8,307	8,139	8,222	8,179	8,254	8,235	8,166	8,363	8,382
Blue economy *(% of national jobs)*	0.9%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	71	54	42	46	64	80	95	78	68	85
Non-living resources	72	29	20	23	30	39	21	14	21	26
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	315	332	319	268	239	195	300	255	242	251
Shipbuilding and repair	293	364	329	245	297	275	327	322	294	356
Maritime transport	67	62	60	57	55	62	52	55	53	61
Coastal tourism	79	58	70	102	98	114	119	163	172	286
Blue economy GVA	898	899	840	740	784	766	913	887	850	1,064
National GVA	113,846	111,912	115,988	116,971	126,843	133,177	140,928	152,853	169,988	184,952
Blue economy *(% of national GVA)*	0.8%	0.8%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.6%

Slovenia

Although a coastal state, Slovenia has a coastline of only 47 km. The Slovenian Blue Economy (established sectors) employs around 8 252 people and generates over €313 million in GVA. The Blue Economy represents 0.8% share of the national economy and 0.9% of employment. In absolute terms, Blue GVA increased by 35.1% while Blue jobs increased by 0.2% compared to 2009. While the national GVA remained relatively stable over the first part of the period analysed, it grew towards the end of the reporting period. In terms of employment, national jobs increased 0.7% compared to 2009.

Slovenia's Blue Economy is dominated by Coastal tourism in terms of employment and Port activities in terms of GVA. Coastal tourism generated 47.4% of the Blue jobs and 32.3% of the GVA, while Port activities, contributed 30% to Blue jobs and 48.7% to GVA.

Slovenia **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.8
Non-living resources	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	2.7	2.5	2.5	2.3	2.1	2.0	2.2	2.2	2.3	2.5
Shipbuilding and repair	0.8	0.9	0.8	0.7	0.7	0.7	0.8	0.9	0.6	0.7
Maritime transport	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Coastal tourism	3.4	3.3	3.1	2.9	2.5	2.9	2.5	3.0	2.9	3.9
Blue economy jobs	8.2	8.1	7.8	7.4	6.7	7.0	6.9	7.4	7.0	8.3
National employment	955	942	915	906	888	892	902	902	943	962
Blue economy *(% of national jobs)*	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.7%	0.9%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	20	18	23	19	20	17	19	19	19	21
Non-living resources	2	4	5	3	4	4	3	3	4	4
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	109	129	138	130	117	117	126	135	143	153
Shipbuilding and repair	14	31	25	23	25	25	32	38	17	19
Maritime transport	14	16	13	26	13	14	17	17	14	16
Coastal tourism	73	74	73	70	53	62	59	75	73	101
Blue economy GVA	232	273	278	270	231	240	255	288	270	313
National GVA	31,725	31,694	32,266	31,475	31,509	32,532	33,592	34,953	37,350	39,839
Blue economy *(% of national GVA)*	0.7%	0.9%	0.9%	0.9%	0.7%	0.7%	0.8%	0.8%	0.7%	0.8%

Slovakia

As a landlocked country, the Blue Economy is not a main contributor to Slovakian national economy as a whole. However, while national GVA grew steadily throughout the reporting period, overall increasing 38.8% compared to 2009, Blue GVA increased by 425%.

On employment, Blue-based jobs (established sectors) also increased more than national jobs, 81% against 7.5% compared to 2009, respectively. Port activities saw substantial growth for the period, with Blue GVA increasing over 425% and jobs by 81%.

Slovakia **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	2.3	2.0	2.0	1.9	1.8	1.8	2.0	2.0	2.2	2.0
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	1.5	1.9	1.8	1.8	2.9	3.0	3.2	3.8	4.6	6.0
Shipbuilding and repair	0.8	1.0	1.1	0.6	0.6	0.6	0.5	0.5	0.6	1.2
Maritime transport	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.5	0.5	0.5
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy jobs	5.4	5.6	5.6	4.8	5.8	5.9	6.3	6.8	7.9	9.7
National employment	2,357	2,307	2,303	2,317	2,318	2,349	2,405	2,472	2,502	2,533
Blue economy *(% of national jobs)*	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%

GVA *(€ million)*	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Living resources	23	22	16	22	14	13	11	- 0	21	14
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	- 12	8	4	2	31	71	59	70	76	120
Shipbuilding and repair	6	9	9	6	7	8	7	7	9	22
Maritime transport	16	15	15	20	11	16	17	18	18	16
Coastal tourism	-	-	-	-	-	-	-	-	-	-
Blue economy GVA	33	53	43	50	64	109	93	94	124	172
National GVA	57,994	61,659	64,088	66,775	67,265	68,843	71,777	72,948	75,786	80,495
Blue economy *(% of national GVA)*	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.2%	0.2%

Finland

The Finnish established Blue Economy sectors employ around 52 222 people and generates over €2.9 billion in GVA.

Finland has seen a fall in how much the Blue Economy contributes to its national GVA: from around 1.6% in 2009 to 1.5% in 2018. Finland's national GVA increased by 27.2% compared to 2009 while Blue GVA increased by only 15.7%. Similarly, the share of Blue jobs to the national employment has also decreased. While national jobs increased by 1.7%, Blue jobs decreased by 4.2% compared to 2009.

The Blue Economy in Finland is dominated by Coastal tourism, which contributed 44.7% to Blue jobs and 33.8% to GVA in 2018. Most employment is also concentrated in Coastal tourism. In fact, it is the only blue sector that saw an increase in employment (+28% compared to 2009). It is also the sector that saw the highest increase in terms of GVA (+56.2% compared to 2009).

Finland **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	4.8	5.0	5.0	4.7	5.0	5.2	4.9	5.0	4.9	4.8
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	8.4	8.4	8.4	8.4	8.5	10.2	7.6	7.6	6.2	6.2
Shipbuilding and repair	11.3	10.4	10.0	10.0	8.5	8.7	8.3	8.0	8.3	8.0
Maritime transport	11.2	11.0	11.0	10.9	10.8	11.2	10.7	10.4	10.0	10.1
Coastal tourism	18.4	24.9	25.1	25.9	24.2	23.0	22.1	23.4	22.8	23.5
Blue economy jobs	54.0	59.7	59.5	59.8	57.0	58.3	53.5	54.5	52.2	52.6
National employment	2,423	2,410	2,428	2,431	2,403	2,386	2,368	2,380	2,403	2,465
Blue economy *(% of national jobs)*	2.2%	2.5%	2.4%	2.5%	2.4%	2.4%	2.3%	2.3%	2.2%	2.1%

GVA *(€ million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	202	215	218	204	209	210	181	214	241	247
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	537	582	579	580	588	672	546	569	554	569
Shipbuilding and repair	545	466	547	514	362	416	424	456	434	450
Maritime transport	648	719	688	675	714	775	834	786	747	709
Coastal tourism	646	920	966	1,000	884	826	851	964	975	1,008
Blue economy GVA	2,578	2,903	2,997	2,973	2,758	2,900	2,837	2,991	2,952	2,984
National GVA	159,066	164,663	171,583	173,661	175,985	178,410	182,599	187,394	195,242	202,334
Blue economy *(% of national GVA)*	1.6%	1.8%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%

Sweden

The Swedish established Blue Economy sectors employ around 118 961 people and generates over €6 billion in GVA.

Both Blue GVA and national GVA have substantially increased in Sweden, by 42.7% and 51% compared to 2009, respectively. The share of Blue GVA to national GVA decreased by 5.5% compared to 2009. In terms of employment, national jobs increased by 11.8% compared to 2009, while Blue jobs decreased by 3.2%; translating in a 13.4% decrease in the share of Blue jobs to the overall national employment in Sweden.

The Blue Economy is dominated by Coastal tourism, which contributed 68.4% to Blue jobs and 59.8% to GVA in 2018. Maritime transport is also an important contributor, providing almost 15.1% of the Blue jobs and 21.5% of the GVA. Marine living resources comes in third with 6.7% of the Blue jobs and 7.1% of the GVA.

Sweden **Evolution of the Blue Economy established sectors**

Persons employed *(thousand)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	8.0	8.1	8.1	8.2	8.1	8.3	8.0	8.3	8.2	8.0
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	4.0	4.1	4.0	3.8	3.7	3.7	3.7	3.9	3.9	4.1
Shipbuilding and repair	7.0	6.5	6.8	7.1	7.0	7.0	7.0	6.8	7.2	7.6
Maritime transport	21.6	20.7	19.8	19.3	18.1	17.2	17.3	17.0	17.2	18.0
Coastal tourism	82.3	95.3	91.2	54.6	51.2	57.4	59.8	68.7	73.7	81.3
Blue economy jobs	122.9	134.7	129.9	93.0	88.1	93.7	95.8	104.7	110.1	119.0
National employment	4,391	4,403	4,498	4,510	4,554	4,597	4,660	4,736	4,834	4,910
Blue economy *(% of national jobs)*	2.8%	3.1%	2.9%	2.1%	1.9%	2.0%	2.1%	2.2%	2.3%	2.4%

GVA *(•• million)*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Living resources	322	361	382	418	408	444	403	435	420	429
Non-living resources	-	-	-	-	-	-	-	-	-	-
Ocean energy	-	-	-	-	-	-	-	-	-	-
Port activities	241	296	307	303	300	337	333	353	332	363
Shipbuilding and repair	287	346	384	443	452	433	471	434	469	514
Maritime transport	825	1,050	958	1,019	926	947	1,165	1,020	1,020	1,293
Coastal tourism	2,543	3,284	3,361	2,188	2,036	2,234	2,420	2,843	2,958	3,418
Blue economy GVA	4,218	5,336	5,392	4,371	4,122	4,395	4,791	5,085	5,198	6,017
National GVA	276,539	330,236	364,847	380,288	390,462	388,879	403,707	413,117	425,157	417,621
Blue economy *(% of national GVA)*	1.5%	1.6%	1.5%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.4%

ANNEX 2
SUMMARY TABLES

Table A1 Persons employed by Member State and sector, 2018

Persons Employed	Marine living resources		Marine non-living resources		Marine renewable energy		Port activities		Shipbuilding and repair		Maritime transport		Coastal tourism	
	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09
AT	2,925	30%	0		0		1,582	30%	1,316	17%	686	-2%	0	
BE	7,712	41%	52	132%	872	10889%	14,272	44%	1,444	-51%	4,105	-35%	9,057	57%
BG	8,960	16%	60	-22%	-		3,929	-45%	5,283	-24%	1,820	-12%	78,096	-71%
CY	2,330	39%	-		-		1,179	12%	1,632	1127%	1,002	-77%	33,840	15%
CZ	2,261	3%	-		-		7,477	63%	2,481	51%	731	2%	-	
DE	58,169	30%	323	-8%	6,567		92,522	24%	47,532	20%	138,227	26%	191,268	6%
DK	8,186	-5%	2,765	6%	785	218%	5,574	62%	3,350	-26%	27,629	2%	78,912	79%
EE	3,270	-24%	-		-		3,677	2%	3,407	47%	2,546	19%	28,412	-40%
EL	34,968	-19%	118	60%	-		14,700	115%	8,504	-10%	23,427	-1%	492,386	0%
ES	115,947	-14%	101	14%	-		41,746	-19%	26,493	-7%	14,443	11%	729,702	11%
FI	4,783	0%	-		-		6,249	-25%	8,016	-29%	10,071	-10%	23,490	28%
FR	59,314	-17%	163	-63%	-		38,301	-35%	39,127	27%	33,779	3%	198,666	-4%
HR	11,421	23%	1,207	-84%	-		4,740	-13%	10,424	-41%	7,283	5%	124,303	-7%
HU	5,684	53%	-		-		8,784	43%	4,899	462%	994	-18%	-	
IE	9,691	-12%	38	-6%	-		2,779	9%	810	3%	1,086	-8%	55,190	134%
IT	74,746	2%	2,250	-80%	-		35,234	-9%	40,111	-12%	68,992	52%	307,326	-23%
LT	8,216	21%	0	-69%	-		3,612	-6%	6,168	3%	1,682	-20%	5,421	-12%
LU	11	-15%	-		-		58	-49%	-		338	21%	-	
LV	5,215	-33%	-		-		6,087	35%	2,483	-19%	1,495	16%	25,417	54%
MT	1,997	7%	-		-		542	7%	373	28%	268	5%	22,253	71%
NL	21,154	22%	2,003	-15%	752	487%	34,491	29%	17,323	-2%	29,888	-8%	69,223	88%
PL	38,711	17%	211	-50%	-		28,554	2%	24,823	-15%	3,755	-16%	49,861	78%
PT	35,797	-13%	122	0%	-		4,519	0%	4,323	-28%	1,694	-1%	212,159	86%
RO	6,170	-12%	1,582	-83%	-		10,781	-46%	22,265	-29%	2,818	-24%	22,855	91%
SE	7,961	0%	-		-		4,140	3%	7,553	7%	17,998	-17%	81,311	-1%
SI	788	-19%	120	48%	-		2,475	-7%	662	-19%	296	-20%	3,911	17%
SK	1,968	-15%	-		-		6,038	302%	1,240	49%	503	-32%	-	
EU-27	**538,355**	**-3%**	**11,114**	**-68%**	**8,976**	**2246%**	**384,039**	**1%**	**292,043**	**-5%**	**397,557**	**11%**	**2,843,058**	**1%**

Table A2 Turnover by Member State and sector, € million, 2018

Turnover	Marine living resources		Marine non-living resources		Marine renewable energy		Port activities		Shipbuilding and repair		Maritime transport		Coastal tourism	
	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09
AT	1,157	2%	0		0		448	73%	292	64%	189	-3%	0	
BE	4,214	61%	25	135%	818	4191%	5,699	68%	317	-65%	4,330	9%	1,283	86%
BG	582	53%	17	347%	-		222	-40%	202	19%	102	-24%	2,467	-50%
CY	156	69%	-		-		186	51%	121	923%	221	-55%	2,495	23%
CZ	144	25%	-		-		1,664	5%	247	111%	63	6%	-	
DE	21,442	33%	95	-33%	8,431		14,751	68%	12,408	36%	58,631	59%	14,183	30%
DK	5,334	48%	3,505	-45%	1,457	767%	1,382	50%	979	-23%	35,792	29%	8,737	82%
EE	303	32%	-		-		454	17%	343	117%	1,190	47%	2,073	4%
EL	2,857	-9%	16	23%	-		1,163	82%	374	-47%	2,690	6%	21,113	-35%
ES	21,913	19%	24	19%	-		7,570	-11%	3,863	-29%	3,244	20%	62,796	31%
FI	1,476	44%	-		-		1,237	5%	2,235	-12%	2,486	-14%	3,097	46%
FR	13,752	6%	35	-70%	-		8,280	-16%	9,069	32%	18,534	27%	29,776	27%
HR	481	92%	149	-35%	-		266	-16%	508	-48%	619	3%	7,855	34%
HU	653	40%	-		-		593	-17%	1,069	2346%	109	17%	-	
IE	2,518	6%	16	-73%	-		424	-28%	148	18%	1,280	52%	5,229	117%
IT	17,717	19%	3,364	-92%	-		4,858	-14%	9,493	11%	15,332	11%	31,439	-1%
LT	1,225	157%	0	-50%	-		360	73%	360	29%	293	41%	251	20%
LU	2	21%	-		-		11	-6%	-		201	102%	-	
LV	403	17%	-		-		522	41%	81	-8%	128	38%	1,137	116%
MT	417	114%	-		-		82	18%	27	36%	68	268%	1,977	188%
NL	8,208	63%	6,022	-59%	-		9,514	35%	5,010	6%	9,129	36%	6,076	147%
PL	4,952	63%	22	-49%	-		2,251	18%	2,121	10%	546	-11%	3,484	221%
PT	4,249	11%	4	0%	-		870	40%	452	-1%	506	26%	14,092	110%
RO	494	4%	243	-73%	-		639	-26%	847	-28%	235	8%	1,017	186%
SE	2,220	34%	-		-		785	54%	1,620	51%	3,980	-23%	9,642	18%
SI	159	87%	14	1%	-		348	46%	59	-19%	46	-32%	360	25%
SK	403	161%	-		-		507	373%	79	104%	88	19%	-	
EU-27	**117,431**	**26%**	**13,552**	**-80%**	**10,706**	**5621%**	**65,085**	**18%**	**52,325**	**11%**	**160,030**	**31%**	**230,579**	**20%**

Table A3 Value added at factor costs (GVA) by Member State and sector, € million, 2018

GVA	Marine living resources		Marine non-living resources		Marine renewable energy		Port activities		Shipbuilding and repair		Maritime transport		Coastal tourism	
	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09
AT	171	21%	0		0		146	53%	84	73%	50	8%	0	
BE	509	48%	7	117%	114	3788%	1,780	16%	130	-41%	1,237	90%	446	79%
BG	89	107%	14	358%	-		78	-35%	96	51%	34	-10%	668	-47%
CY	30	66%	-		-		77	-10%	78	1392%	46	-73%	884	17%
CZ	39	47%	-		-		257	15%	68	108%	15	45%	-	
DE	3,075	58%	36	-39%	912		5,570	41%	3,338	48%	11,206	-10%	5,504	27%
DK	817	27%	1,649	-68%	468	1143%	669	72%	284	-3%	3,954	38%	3,068	83%
EE	48	14%	-		-		225	4%	110	139%	129	107%	496	17%
EL	495	109%	5	22%	-		746	126%	165	-63%	1,248	11%	5,313	-52%
ES	3,650	18%	10	5%	-		3,518	-2%	1,043	-17%	930	19%	23,940	30%
FI	247	22%	-		-		569	6%	450	-17%	709	9%	1,008	56%
FR	2,919	16%	10	-72%	-		3,275	-29%	3,030	107%	1,435	2%	11,072	32%
HR	158	197%	52	-48%	-		110	-25%	89	-68%	213	-2%	2,862	43%
HU	110	123%	-		-		228	-6%	313	2127%	19	59%	-	
IE	610	29%	4	-29%	-		212	-6%	67	37%	348	100%	1,864	159%
IT	2,666	12%	819	-61%	-		2,229	29%	2,785	47%	4,772	50%	10,524	4%
LT	196	133%	0.01	-58%	-		174	54%	140	81%	82	33%	76	86%
LU	0.4	33%	-		-		5	-11%	-		27	70%	-	
LV	76	25%	-		-		214	67%	25	-30%	28	2%	311	133%
MT	37	-5617%	-		-		50	34%	9	-28%	37	434%	580	188%
NL	1,122	37%	1,596	-57%	-		4,297	30%	724	-8%	1,917	12%	2,241	162%
PL	718	42%	9	-52%	-		796	41%	592	-17%	151	-19%	909	207%
PT	766	20%	2	0%	-		368	19%	124	-14%	77	4%	4,480	105%
RO	85	20%	26	-64%	-		251	-20%	356	21%	61	-10%	286	261%
SE	429	33%	-		-		363	51%	514	79%	1,293	57%	3,418	34%
SI	21	8%	4	68%	-		153	40%	19	34%	16	14%	101	38%
SK	14	-41%	-		-		120	-1095%	22	270%	16	3%	-	
EU-27	**19,100**	**29%**	**4,243**	**-62%**	**1,495**	**3582%**	**26,481**	**15%**	**14,654**	**30%**	**30,047**	**12%**	**80,049**	**21%**

Table A4 Gross operating surplus (gross profit) in tangible assets by Member State and sector, € million, 2018

Gross profit	Marine living resources		Marine non-living resources		Marine renewable energy		Port activities		Shipbuilding and repair		Maritime transport		Coastal tourism	
	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09	2018	Δ 2018-09
AT	49	-6%	0		0		84	57%	13	670%	26	26%	0	
BE	198	47%	3	44%	37	1684%	680	-14%	69	19%	1,005	214%	177	105%
BG	47	121%	6	261%	-		38	-42%	34	52%	16	19%	281	-48%
CY	13	146%	-		-		38	-13%	21	696%	17	-78%	376	75%
CZ	12	25%	-		-		119	-18%	31	118%	4	87%	-	
DE	1,141	50%	14	-54%	507		1,886	41%	438	208%	5,964	-31%	1,886	28%
DK	321	49%	1,311	-73%	412	1900%	287	52%	75	763%	2,306	98%	806	107%
EE	16	5%	-		-		130	-15%	38	132%	64	182%	129	158%
EL	128	-156%	0	-47%	-		69	-54%	30	-86%	319	-29%	1,706	-60%
ES	1,280	38%	5	-17%	-		1,720	11%	- 15	-109%	479	22%	8,668	76%
FI	106	29%	-		-		262	43%	82	-13%	250	67%	306	99%
FR	832	23%	4	-75%	-		927	-50%	773	-943%	- 302	94%	2,555	44%
HR	71	-1695%	20	-56%	-		32	-49%	- 66	-274%	108	4%	1,314	91%
HU	56	158%	-		-		117	-34%	235	4186%	9	-7609%	-	
IE	307	36%	2	-46%	-		82	2%	38	77%	298	232%	598	-2177%
IT	1,282	20%	629	-46%	-		850	67%	1,077	234%	2,365	90%	4,269	42%
LT	90	155%	0	-47%	-		107	65%	44	563%	46	60%	29	369%
LU	-	#DIV/0!	-		-		3	136%	-		8	146%	-	
LV	27	-2%	-		-		117	56%	1	-91%	13	6%	96	165%
MT	13	-138%	-		-		35	26%	4	-54%	34	847%	311	328%
NL	454	29%	1,365	-61%	-		2,106	29%	15	-94%	982	-8%	941	241%
PL	312	11%	4	-59%	-		368	39%	218	-40%	89	-29%	433	211%
PT	333	31%	0	0%	-		199	26%	24	-48%	38	33%	1,886	177%
RO	41	-4%	8	-82%	-		116	-23%	70	33%	30	-23%	126	292%
SE	160	22%	-		-		117	110%	151	1291%	435	1353%	909	71%
SI	6	-26%	1	450%	-		75	66%	8	-871%	7	80%	40	90%
SK	- 7	-183%	-		-		16	-148%	8	-491%	6	10%	-	
EU-27	**7,286**	**43%**	**3,371**	**-65%**	**956**	**4114%**	**10,580**	**8%**	**3,415**	**93%**	**14,617**	**5%**	**27,842**	**44%**

able A5 Gross investments in tangible assets by Member State and sector, € million, 2018

Gross investment	Marine living resources		Marine non-living resources		Marine renewable energy		Port activities		Shipbuilding and repair		Maritime transport		Coastal tourism	
	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09	2018	Δ2018-09
AT	10	-10%	-		-		14	-57%	14	156%	5	-68%	0.000	
BE	84	-22%	3	221%	51	3741%	728	19%	27	15%	2,319	167%	-	
BG	14	50%	7	9%	-		28	-28%	4	-83%	5	-72%	-	
CY	2	-19%	-		-		19	51%	11	980%	2	-73%	-	
CZ	2	-17%	-		-		38	-54%	14	58%	3	-5%	-	
DE	312	151%	8	-74%	206		982	26%	572	185%	2,739	25%	-	
DK	78	-19%	739	29%	209	279%	358	153%	33	75%	4,358	28%	-	
EE	11	59%	-		-		60	-58%	9	27%	64	335%	-	
EL	11	-65%	1	48%	-		32	-39%	3	-89%	105	8%	-	
ES	323	22%	5	-40%	-		729	-10%	134	-6%	310	124%	-	
FI	15	-32%	-		-		173	-12%	92	151%	201	7%	-	
FR	246	76%	3	-75%	-		952	-18%	384	-34%	942	-74%	-	
HR	13	26%	10	2%	-		23	8%	13	-58%	58	15%	-	
HU	12	93%	-		-		46	-51%	39	2855%	8	120%	-	
IE	14	-94%	-	-100%	-		129	-9%	9	361%	161	105%	-	
IT	237	27%	457	-58%	-		128	-82%	317	-18%	1,257	-75%	-	
LT	35	150%	0	-97%	-		69	30%	10	84%	9	-11%	-	
LU	-		-		-		1	-56%	-		1	-43%	-	
LV	10	-1%	-		-		70	252%	2	-80%	12	20%	-	
MT	1	-13%	-		-		3	-46%	20		2	-3%	-	
NL	115	68%	133	-74%	106	318%	884	13%	76	-3%	568	-44%	-	
PL	115	97%	3	-48%	-		161	45%	74	4%	23	10%	-	
PT	104	8%	0.2	0%	-		92	-59%	17	-6%	35	7%	-	
RO	17	-67%	13	-45%	-		139	-6%	46	-56%	32	151%	-	
SE	25	-40%	-		-		227	155%	60	51%	442	2%	-	
SI	2	124%	0.1	-91%	-		26	-52%	3	-28%	2	-98%	-	
SK	6	40%	-		-		11	69%	4	396%	6	24%	-	
EU-27	**1,813**	**13%**	**1,383**	**-39%**	**572**	**599%**	**6,124**	**-6%**	**1,989**	**9%**	**13,669**	**-22%**	**-**	

Table A6 EU-27: Overview of the Blue Economy by sub-sector and activity

EU-27		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	80,052	67,760	-15%	1,035.1	1,081.2	4%	579.1	727.7	26%	826%	1308%	58%	- 14.4	232.7	1721%	-578%	499%	186%	135.2	138.0	2%
		Capture fisheries (LSF)	70,657	61,000	-14%	4,491.5	4,678.4	4%	2,216.6	2,658.7	20%	683%	1219%	79%	599.7	1,115.7	86%	-134%	590%	542%	492.1	671.1	36%
		Capture fisheries (DWF)	7,251	6,186	-15%	790.7	1,027.4	30%	198.9	386.6	94%	156%	196%	25%	27.5	161.2	486%	73%	82%	12%	110.8	202.8	83%
		Marine aquaculture	7,709	8,769	14%	1,293.2	2,166.1	67%	81.9	344.0	320%	178%	221%	24%	- 247.3	89.1	136%	-250%	-44%	82%	519.9	394.1	-24%
		Freshwater aquaculture	20,553	23,906	16%	1,131.7	1,128.6	0%	346.8	431.4	24%	776%	919%	18%	102.6	114.9	12%	234%	160%	-32%	317.4	501.0	58%
		Shellfish aquaculture	52,874	36,444	-31%	1,183.0	1,332.3	13%	632.4	781.5	24%	1099%	1240%	13%	272.7	246.3	-10%	432%	-9683%	-2341%	180.7	306.7	70%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	101,870	107,681	6%	18,945.8	28,507.1	50%	3,319.8	4,283.7	29%	475%	411%	-13%	1,209.3	1,498.7	24%	180%	131%	-27%	469.7	588.2	25%
		Manufacture of oils and fats	149	169	13%	118.6	200.1	69%	15.7	15.5	-1%	94%	58%	-38%	8.0	8.7	9%	41%	20%	-52%	284.8	338.1	19%
		Prepared meals and dishes	17,319	18,674	8%	2,913.9	3,357.3	15%	689.7	779.6	13%	562%	576%	2%	238.1	257.1	8%	146%	166%	14%	455.8	512.9	13%
		Other food products	812	555	-32%	206.2	190.5	-8%	48.7	43.1	-12%	397%	176%	-56%	23.7	23.3	-2%	165%	77%	-53%	447.7	254.9	-43%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	127,248	142,032	12%	55,787.5	68,028.8	22%	5,556.9	7,556.9	36%	278%	290%	4%	2,311.7	3,107.0	34%	126%	137%	9%	574.2	680.8	19%
		Retail sale of fish, crustaceans and molluscs in specialised stores	68,510	65,180	-5%	5,231.8	5,733.6	10%	1,070.0	1,091.0	2%	487%	102%	-79%	558.6	431.2	-23%	180%	-194%	-207%	247.5	314.2	27%
Non-living resources	Oil and gas	Extraction of crude petroleum	7,958	1,033	-87%	14,717.8	5,273.8	-64%	6,879.5	1,842.4	-73%	337%	255%	-24%	6,731.6	1,643.5	-76%	248%	153%	-38%	757.3	979.2	29%
		Extraction of natural gas	17,030	2,907	-83%	49,925.6	6,132.6	-88%	3,285.2	1,380.8	-58%	378%	269%	-29%	2,411.7	1,175.1	-51%	242%	123%	-49%	296.4	507.9	71%
		Support activities for petroleum and natural gas extraction	7,727	5,829	-25%	1,893.1	1,778.3	-6%	865.1	908.7	5%	456%	507%	11%	419.8	498.0	19%	192%	92%	-52%	480.3	516.2	7%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin	988	706	-29%	399.4	290.6	-27%	130.4	86.6	-34%	177%	195%	10%	79.2	44.1	-44%	91%	101%	11%	261.2	347.0	33%
		Extraction of salt	678	631	-7%	102.1	75.9	-26%	29.2	23.7	-19%	247%	291%	18%	9.9	10.5	6%	89%	141%	58%	219.1	173.6	-21%
		Support activities for other mining and quarrying	5	8	64%	1.0	0.5	-49%	0.2	0.3	36%	46%	314%	582%	0.0	0.0	-11%	-1%	81%	5704%	126.5	301.7	139%
Ocean energy	Offshore wind energy	Production of electricity	277	7,991	2786%	150.6	8,887.3	5800%	27.5	1,295.8	4610%	33%	54%	65%	12.3	901.5	7237%	18%	38%	112%	174.5	194.7	12%
		Transmission of electricity	106	985	832%	36.5	1,818.4	4884%	13.1	199.3	1422%	75%	97%	31%	10.4	54.7	425%	57%	64%	13%	197.6	219.9	11%
Ports activities	Cargo and warehousing	Cargo handling	63,389	55,208	-13%	7,058.3	8,212.4	16%	3,160.6	3,483.5	10%	1167%	1142%	-2%	908.9	1,167.3	28%	361%	459%	27%	830.9	868.7	5%
		Warehousing and storage	130,064	156,030	20%	18,815.3	23,338.9	24%	6,693.0	8,001.5	20%	928%	953%	3%	2,645.7	2,798.5	6%	414%	416%	1%	662.8	745.0	12%
	Port and water projects	Construction of water projects	94,005	66,438	-29%	14,683.4	13,437.2	-8%	5,039.5	4,143.3	-18%	761%	647%	-15%	2,123.1	1,216.1	-43%	293%	202%	-31%	738.1	834.2	13%
		Service activities incidental to water transportation	93,087	106,363	14%	14,694.5	20,096.7	37%	8,232.4	10,852.2	32%	1438%	1370%	-5%	4,130.1	5,398.1	31%	769%	725%	-6%	892.7	1,044.7	17%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	137,295	109,600	-20%	23,867.0	24,230.4	2%	4,888.0	6,410.9	31%	663%	612%	-8%	388.1	1,423.1	267%	108%	87%	-20%	653.0	735.5	13%
		Building of pleasure and sporting boats	42,674	44,693	5%	8,251.4	9,618.4	17%	1,686.7	2,123.5	26%	689%	688%	0%	232.3	374.8	61%	119%	144%	21%	566.6	641.6	13%
		Repair and maintenance of ships and boats	86,269	91,149	6%	6,749.5	8,410.8	25%	2,541.9	3,139.3	24%	959%	926%	-3%	692.4	840.2	21%	336%	299%	-11%	540.2	636.1	18%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	19,111	14,450	-24%	5,495.1	5,100.7	-7%	1,253.7	1,335.3	7%	656%	473%	-28%	249.3	154.8	-38%	174%	125%	-28%	763.1	794.3	4%
		Manufacture of instruments for measuring, testing and navigation	6,567	11,325	72%	1,160.4	2,658.9	129%	431.4	913.2	112%	837%	680%	-19%	81.0	397.1	390%	316%	286%	-9%	693.4	776.5	12%
		Manufacture of other fabricated metal products n.e.c.	6,755	3,163	-53%	702.6	440.0	-37%	234.8	151.8	-35%	612%	558%	-9%	63.0	46.2	-27%	196%	184%	-6%	389.9	437.2	12%
		Manufacture of sport goods	2,467	2,365	-4%	327.7	301.0	-8%	88.0	94.6	7%	650%	653%	0%	23.0	33.8	47%	209%	228%	9%	416.1	438.3	5%
		Manufacture of cordage, rope, twine and netting	1,869	2,021	8%	157.8	233.6	48%	46.3	69.5	50%	702%	492%	-30%	14.6	23.1	59%	231%	151%	-35%	427.4	409.1	-4%
		Manufacture of textiles other than apparel	3,779	13,276	251%	338.9	1,331.0	293%	91.9	415.7	352%	663%	683%	3%	24.5	121.9	398%	162%	203%	25%	370.9	452.6	22%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	70,641	93,378	32%	14,455.8	19,052.0	32%	4,664.8	6,746.5	45%	574%	404%	-30%	2,012.8	3,718.0	85%	181%	53%	-71%	588.0	536.5	-9%
		Inland passenger water transport	16,922	21,552	27%	1,334.7	1,988.3	49%	516.6	841.4	63%	842%	865%	3%	183.8	352.4	92%	364%	288%	-21%	374.7	424.1	13%
	Freight transport	Sea and coastal freight water transport	97,821	77,687	-21%	70,141.0	91,751.1	31%	12,052.3	10,917.6	-9%	521%	642%	23%	7,213.3	6,328.8	-12%	150%	345%	129%	904.1	1,015.1	12%
		Inland freight water transport	23,058	21,132	-8%	2,739.8	2,556.9	-7%	931.2	865.2	-7%	550%	502%	-9%	654.7	556.1	-15%	230%	163%	-29%	389.0	426.5	10%
	Services for transport	Renting and leasing of water transport equipment	13,617	12,746	-6%	3,285.2	2,117.5	-36%	1,824.2	1,010.3	-45%	1055%	1125%	7%	1,689.0	862.0	-49%	848%	939%	11%	354.4	333.6	-6%
		Other transportation support activities	134,907	171,062	27%	30,127.7	42,564.4	41%	6,887.3	9,665.9	40%	508%	470%	-8%	2,136.0	2,799.9	31%	180%	156%	-13%	736.6	893.7	21%
Coastal tourism	Transport	Transport	446,083	422,845	-5%	54,392.8	66,134.9	22%	14,189.6	17,982.6	27%	505%	497%	-2%	3,059.6	5,764.2	88%	125%	162%	29%	533.9	609.9	14%
	Other expenditure	Other expenditure	1,074,251	1,310,773	22%	68,804.8	86,716.6	26%	18,469.3	24,459.3	32%	537%	593%	10%	5,856.4	6,651.4	14%	157%	182%	16%	263.2	313.3	19%
	Accommodation	Accommodation	1,297,159	1,109,440	-14%	69,241.2	77,727.7	12%	33,732.9	37,607.0	11%	982%	1038%	6%	10,426.6	15,426.2	48%	296%	445%	50%	352.9	403.0	14%
	EU-27	**Blue economy (established sectors)**	**4,451,560**	**4,475,141**	**1%**	**577,180**	**649,708**	**13%**	**153,643**	**176,067**	**15%**	**27%**	**27%**	**2%**	**59,573**	**68,067**	**14%**	**10%**	**10%**	**2%**	**93,598**	**107,499**	**15%**

Table A7 Belgium: Overview of the Blue Economy by sub-sector and activity

Belgium		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)																					
		Capture fisheries (LSF)	421	339	-19%	76.6	82.3	7%	29.9	39.8	33%	39%	48%	24%	1.9	11.8	506%	3%	14%	465%	66.5	82.6	24%
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	18	13	-27%	2.3	1.0	-58%	0.7	0.4	-47%	30%	38%	26%	0.2	0.1	-52%	9%	10%	15%	20.5	17.0	-17%
		Shellfish aquaculture	56	89	58%	0.7	2.1	202%	0.4	1.2	227%	53%	58%	8%	0.2	0.5	220%	23%	24%	6%	3.2	6.9	114%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,040	1,292	24%	443.0	659.1	49%	75.7	96.8	28%	17%	15%	-14%	31.9	32.7	3%	7%	5%	-31%	42.0	49.6	18%
		Manufacture of oils and fats																					
		Prepared meals and dishes	744	1,510	103%	239.7	357.7	49%	54.6	97.0	78%	23%	27%	19%	22.3	31.1	39%	9%	9%	-7%	43.4	43.7	1%
		Other food products	5	3	-40%	2.4	1.3	-47%	0.5	0.3	-30%	19%	25%	31%	0.1	0.1	11%	5%	11%	107%	62.5	57.1	-9%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	2,253	3,228	43%	1,693.0	2,888.2	71%	149.8	240.5	61%	9%	8%	-6%	53.5	103.4	93%	3%	4%	13%	42.8	42.5	-1%
		Retail sale of fish, crustaceans and molluscs in specialised stores	951	1,238	30%	153.3	222.0	45%	32.7	33.3	2%	21%	15%	-30%	24.9	18.7	-25%	16%	8%	-48%	8.3	11.8	42%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin	21	51	144%	10.1	24.8	145%	3.3	7.4	124%	33%	30%	-9%	2.0	3.0	48%	20%	12%	-40%	62.6	87.4	40%
		Extraction of salt																					
		Support activities for other mining and quarrying	1	1	-54%	0.5	0.0	-94%	0.1	0.0	-94%	23%	20%	-15%	0.1			12%			40.4	10.0	-75%
Ocean energy	Offshore wind energy	Production of electricity	7	812	11499%	18.1	755.6	4084%	2.6	92.1	3511%	14%	12%	-14%	1.8	21.6	1100%	10%	3%	-71%	107.6	86.8	-19%
		Transmission of electricity	1	60	6303%	1.0	62.3	6123%	0.4	22.2	5606%	39%	36%	-8%	0.3	15.6	5381%	28%	25%	-12%	112.2	110.8	-1%
Ports activities	Cargo and warehousing	Cargo handling	1,472	1,277	-13%	665.4	635.2	-5%	309.1	175.5	-43%	46%	28%	-41%	98.5	105.1	7%	15%	17%	12%	143.1	55.1	-61%
		Warehousing and storage	1,025	2,275	122%	237.2	511.4	116%	95.3	201.8	112%	40%	39%	-2%	45.8	82.9	81%	19%	16%	-16%	48.3	52.3	8%
	Port and water projects	Construction of water projects	2,536	6,965	175%	1,350.9	3,399.3	152%	274.6	835.6	204%	20%	25%	21%	107.7	233.8	117%	8%	7%	-14%	65.8	86.4	31%
		Service activities incidental to water transportation	4,906	3,755	-23%	1,130.6	1,153.5	2%	852.2	566.9	-33%	75%	49%	-35%	540.6	258.6	-52%	48%	22%	-53%	63.5	82.1	29%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	111	81	-27%	20.8	21.1	1%	6.6	4.3	-35%	32%	20%	-36%	1.4	1.1	-21%	7%	5%	-23%	46.8	39.5	-16%
		Building of pleasure and sporting boats	26	16	-38%	2.9	0.9	-69%	0.8	0.1	-88%	28%	11%	-60%	0.3	- 0.2	-167%	10%	-22%	-315%	19.2	18.8	-3%
		Repair and maintenance of ships and boats	1,708	1,105	-35%	226.3	194.9	-14%	94.5	70.5	-25%	42%	36%	-13%	13.3	26.8	102%	6%	14%	134%	47.5	39.6	-17%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	1,073	106	-90%	647.3	69.2	-89%	115.8	45.2	-61%	18%	65%	265%	42.9	37.7	-12%	7%	55%	723%	68.0	70.3	3%
		Manufacture of instruments for measuring, testing and navigation	16	43	173%	4.8	12.3	157%	1.1	4.2	279%	23%	34%	47%	0.2	1.3	517%	4%	10%	140%	57.1	68.2	20%
		Manufacture of other fabricated metal products n.e.c.	1			0.3			0.1			26%			0.0			11%			38.5		
		Manufacture of sport goods	5			0.6			0.2			28%			0.1			13%			19.4		
		Manufacture of cordage, rope, twine and netting	0	6	1983%	0.1	1.1	1432%	0.0	0.4	2014%	25%	35%	38%	0.0	0.2	2622%	9%	17%	78%	38.1	30.0	-21%
		Manufacture of textiles other than apparel	4	87	2307%	0.5	17.9	3260%	0.1	5.0	3396%	27%	28%	4%	0.0	2.1	6688%	6%	12%	102%	30.9	32.9	6%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	269	102	-62%	547.9	62.4	-89%	57.4	41.1	-28%	10%	66%	529%	26.1	34.3	31%	5%	55%	1054%	116.0	66.7	-43%
		Inland passenger water transport	185	159	-14%	78.1	28.3	-64%	17.7	7.8	-56%	23%	28%	22%	12.6	4.4	-65%	16%	16%	-4%	27.6	21.4	-22%
	Freight transport	Sea and coastal freight water transport	238	1,166	390%	823.3	2,895.1	252%	148.3	879.2	493%	18%	30%	69%	137.1	793.3	479%	17%	27%	65%	47.1	73.7	57%
		Inland freight water transport	385	550	43%	153.3	180.7	18%	40.5	60.3	49%	26%	33%	26%	30.5	49.0	61%	20%	27%	36%	26.0	20.5	-21%
	Services for transport	Renting and leasing of water transport equipment	78	112	44%	135.6	279.9	106%	23.9	80.8	238%	18%	29%	64%	19.0	75.7	298%	14%	27%	93%	62.8	45.5	-28%
		Other transportation support activities	5,149	2,016	-61%	2,241.7	883.2	-61%	363.4	167.4	-54%	16%	19%	17%	95.3	48.4	-49%	4%	5%	29%	52.1	59.0	13%
Coastal tourism	Transport	Transport	1,429	2,134	49%	206.4	407.7	98%	82.6	132.6	61%	40%	33%	-19%	20.4	30.5	50%	10%	7%	-24%	43.5	47.9	10%
	Other expenditure	Other expenditure	1,629	3,324	104%	232.2	461.3	99%	51.9	115.8	123%	22%	25%	12%	25.1	51.2	104%	11%	11%	3%	16.4	19.4	18%
	Accommodation	Accommodation	2,714	3,599	33%	252.4	413.6	64%	115.0	197.3	72%	46%	48%	5%	40.7	95.1	134%	16%	23%	43%	27.4	28.4	4%
Belgium		Blue economy (established sectors)	30,478	37,515	23%	11,599	16,685	44%	3,002	4,223	41%	26%	25%	-3%	1,397	2,170	55%	12%	13%	8%	1,605	2,053	28%

Table A8 Bulgaria: Overview of the Blue Economy by sub-sector and activity

Bulgaria		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	961	1,508	57%	2.9	3.1	10%	2.1	2.5	20%	72%	79%	9%	0.5	2.0	342%	16%	65%	302%	1.7	0.3	-83%
		Capture fisheries (LSF)	234	272	16%	3.9	4.8	21%	2.1	3.1	47%	54%	66%	21%	1.3	2.4	83%	34%	51%	50%	3.5	2.6	-24%
		Capture fisheries (DWF)																					
		Marine aquaculture	4	64	1500%	0.0	8.9	222430%	0.0	5.6	1866800%	8%	63%	739%	- 0.0	4.9	539278%	-23%	55%	342%	0.2	4.3	2073%
		Freshwater aquaculture	369	973	164%	8.0	21.8	172%	2.7	6.8	151%	34%	31%	-8%	0.8	1.9	148%	10%	9%	-9%	3.9	3.2	-18%
		Shellfish aquaculture	24	45	84%	0.3	1.2	390%	0.1	1.2	730%	57%	96%	69%	0.1	0.8	1258%	24%	68%	177%	2.8	3.5	24%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,475	1,624	10%	29.9	64.5	116%	6.9	18.5	168%	23%	29%	24%	3.5	10.1	189%	12%	16%	34%	2.3	5.2	124%
		Manufacture of oils and fats																					
		Prepared meals and dishes	406	88	-78%	7.7	2.5	-68%	1.6	0.5	-68%	21%	21%	0%	0.4	0.1	-82%	6%	3%	-43%	2.9	5.1	74%
		Other food products		13			0.8			0.2			26%			0.1			14%			7.9	
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	3,474	3,559	2%	315.6	443.9	41%	26.2	49.6	89%	8%	11%	35%	14.0	24.8	77%	4%	6%	26%	3.5	7.0	99%
		Retail sale of fish, crustaceans and molluscs in specialised stores	793	815	3%	11.1	30.1	171%	1.6	1.5	-6%	14%	5%	-65%	0.6	- 0.4	-167%	5%	-1%	-125%	1.3	2.3	85%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas	32	16	-49%	1.1	14.4	1216%	2.7	13.0	381%	246%	90%	-63%	1.5	5.3	245%	139%	37%	-74%	38.3	114.7	200%
		Support activities for petroleum and natural gas extraction	8	17	118%	1.5	0.2	-87%	- 0.2	0.2	221%	-11%	100%	1050%	- 0.2	- 0.1	39%	-11%	-50%	-375%		16.7	
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	37	27	-29%	1.1	2.0	76%	0.5	0.8	53%	44%	38%	-13%	0.2	0.5	150%	18%	25%	42%	8.5	10.6	25%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	645	556	-14%	9.1	32.6	256%	5.5	18.7	242%	60%	57%	-4%	0.9	12.4	1305%	10%	38%	294%	7.1	11.4	60%
		Warehousing and storage	214	271	26%	7.1	18.8	163%	3.0	5.2	75%	42%	28%	-33%	1.7	2.8	65%	24%	15%	-37%	6.2	9.0	46%
	Port and water projects	Construction of water projects	4,873	2,150	-56%	280.6	115.3	-59%	71.0	31.7	-55%	25%	27%	9%	41.2	12.1	-71%	15%	10%	-29%	6.1	9.1	49%
		Service activities incidental to water transportation	1,430	952	-33%	74.7	55.6	-26%	40.5	22.8	-44%	54%	41%	-24%	22.0	10.9	-50%	29%	20%	-33%	9.1	12.5	38%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	2,527	1,169	-54%	79.4	53.3	-33%	14.6	20.9	43%	18%	39%	113%	0.1	1.6	1500%	0%	3%	2283%	5.7	16.5	188%
		Building of pleasure and sporting boats	58	32	-45%	1.0	1.0	0%		0.3			30%		- 0.2	0.1	150%	-20%	10%	150%	3.4	6.3	81%
		Repair and maintenance of ships and boats	4,182	3,812	-9%	84.6	135.4	60%	47.6	70.3	48%	56%	52%	-8%	21.8	29.8	37%	26%	22%	-15%	6.2	10.6	72%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	47	17	-65%	1.3	0.5	-63%	0.3	0.2	-28%	26%	50%	95%	0.1	0.1	-65%	12%	11%	-6%	3.7	7.6	103%
		Manufacture of instruments for measuring, testing and navigation	3	8	227%	0.1	0.4	663%	0.0	0.2	716%	34%	36%	7%	0.0	0.1	708%	22%	23%	6%	4.1	7.0	73%
		Manufacture of other fabricated metal products n.e.c.	0	74	96220%	0.0	2.9	184195%	0.0	0.9	187407%	31%	32%	2%	0.0	0.4	170815%	16%	15%	-7%	3.0	6.4	114%
		Manufacture of sport goods	87	147	69%	2.7	7.4	171%	0.7	2.9	303%	26%	39%	49%	0.3	1.5	402%	11%	20%	85%	4.8	9.7	103%
		Manufacture of cordage, rope, twine and netting	19	3	-84%	0.2	0.1	-55%	0.1	0.0	-49%	38%	43%	13%	0.0	0.0	-1%	13%	28%	120%	2.2	3.0	38%
		Manufacture of textiles other than apparel	6	20	255%	0.1	0.7	534%	0.0	0.2	564%	28%	29%	5%	0.0	0.1	478%	13%	12%	-9%	2.6	5.4	110%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	80	169	111%	1.0	2.5	150%	0.2	0.1	-50%	20%	4%	-80%	- 0.5	- 1.2	-140%	-50%	-48%	4%	5.0	7.7	54%
		Inland passenger water transport		329			16.6			6.0			36%			4.3			26%		5.2	
	Freight transport	Sea and coastal freight water transport	569	490	-14%	55.3	27.0	-51%	19.6	13.8	-30%	35%	51%	44%	4.1	6.1	49%	7%	23%	205%	14.8	15.5	5%
		Inland freight water transport	1,095	584	-47%	51.5	27.1	-47%	13.3	7.4	-44%	26%	27%	6%	7.4	2.8	-62%	14%	10%	-28%	5.4	7.9	46%
	Services for transport	Renting and leasing of water transport equipment	27	108	300%	1.2	4.7	292%	0.8	2.6	225%	67%	55%	-17%	0.7	1.9	171%	58%	40%	-31%	3.7	6.5	75%
		Other transportation support activities	288	140	-51%	24.7	24.2	-2%	3.4	3.7	9%	14%	15%	12%	1.7	2.1	23%	7%	9%	26%	5.8	11.3	96%
Coastal tourism	Transport	Transport	30,790	11,516	-63%	1,455.7	769.2	-47%	198.1	118.3	-40%	14%	15%	13%	70.3	44.8	-36%	5%	6%	21%	4.2	6.4	54%
	Other expenditure	Other expenditure	113,024	33,410	-70%	1,734.5	883.9	-49%	317.0	185.0	-42%	18%	21%	15%	110.0	66.7	-39%	6%	8%	19%	1.8	3.5	93%
	Accommodation	Accommodation	121,698	33,169	-73%	1,791.4	814.2	-55%	743.0	364.7	-51%	41%	45%	8%	359.6	169.9	-53%	20%	21%	4%	3.1	5.9	87%
Bulgaria		Blue economy (established sectors)	289,480	98,148	-66%	6,039	3,591	-41%	1,525	979	-36%	25%	27%	8%	664	422	-36%	11%	12%	7%	847	549	-35%

Table A9 Czechia: Overview of the Blue Economy by sub-sector and activity

Czechia		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)																					
		Capture fisheries (LSF)																					
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	1,400	1,500	7%	43.9	51.0	16%	13.3	19.5	47%	30%	38%	26%	3.9	5.2	34%	9%	10%	15%	5.0	7.9	58%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	367	753	105%	41.1	92.1	124%	4.7	18.9	302%	11%	21%	79%	1.7	6.5	282%	4%	7%	71%	8.2	16.5	101%
		Manufacture of oils and fats																					
		Prepared meals and dishes	398	8	-98%	27.3	0.7	-98%	7.6	0.2	-98%	28%	27%	-4%	3.6	0.1	-98%	13%	10%	-26%	10.1	13.9	37%
		Other food products	38			3.1			0.7			22%			0.3			9%			10.8		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs																					
		Retail sale of fish, crustaceans and molluscs in specialised stores																					
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling																					
		Warehousing and storage	4,582	7,477	63%	1,589.2	1,664.1	5%	223.8	257.0	15%	14%	15%	10%	146.0	119.4	-18%	9%	7%	-22%	14.6	18.4	26%
	Port and water projects	Construction of water projects																					
		Service activities incidental to water transportation																					
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	219	262	20%	14.4	17.7	23%	2.1	4.4	110%	15%	25%	70%	0.6	1.7	183%	4%	10%	131%	6.8	10.3	50%
		Building of pleasure and sporting boats	77	93	21%	4.8	6.7	40%	1.1	1.8	64%	23%	27%	17%	0.4	0.6	50%	8%	9%	7%	9.1	12.9	42%
		Repair and maintenance of ships and boats	50	46	-8%	2.4	3.5	46%	0.6	0.7	17%	25%	20%	-20%	0.4	0.5	25%	17%	14%	-14%	4.0	4.3	9%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	222	139	-37%	30.0	14.5	-52%	10.7	5.0	-53%	36%	35%	-3%	6.0	1.5	-75%	20%	10%	-48%	21.4	25.3	18%
		Manufacture of instruments for measuring, testing and navigation	80	694	765%	14.2	145.1	924%	3.2	35.5	1009%	23%	24%	8%	1.8	19.9	1026%	12%	14%	10%	17.9	22.5	26%
		Manufacture of other fabricated metal products n.e.c.	279	7	-98%	19.0	0.6	-97%	6.1	0.2	-97%	32%	32%	-2%	2.3	0.1	-97%	12%	11%	-11%	13.7	17.5	28%
		Manufacture of sport goods	53	266	399%	2.6	15.8	509%	0.9	6.0	549%	35%	38%	7%	0.4	2.1	434%	15%	13%	-12%	10.0	14.7	47%
		Manufacture of cordage, rope, twine and netting	3			0.2			0.1			34%			0.0			14%			11.4		
		Manufacture of textiles other than apparel	660	975	48%	29.7	43.5	46%	7.9	14.5	83%	27%	33%	25%	2.2	4.3	96%	7%	10%	34%	8.7	10.5	21%
Maritime transport	Passenger transport	Sea and coastal passenger water transport		2			0.3			- 0.5			-167%			- 0.5			-167%				
		Inland passenger water transport	272	342	26%	10.6	20.5	93%	3.3	7.3	121%	31%	36%	14%	1.2	2.2	83%	11%	11%	-5%	7.7	14.9	93%
	Freight transport	Sea and coastal freight water transport																					
		Inland freight water transport	362	297	-18%	34.5	25.7	-26%	4.5	5.0	11%	13%	19%	49%	- 0.1	1.1	1200%	0%	4%	1577%	12.7	13.1	3%
	Services for transport	Renting and leasing of water transport equipment																					
		Other transportation support activities	81	90	12%	14.5	16.6	15%	2.3	2.9	25%	16%	17%	9%	1.0	1.1	11%	7%	6%	-3%	16.5	19.8	20%
Coastal tourism	Transport	Transport																					
	Other expenditure	Other expenditure																					
	Accommodation	Accommodation																					
Czechia		**Blue economy (established sectors)**	**9,143**	**12,951**	42%	**1,881**	**2,118**	13%	**293**	**378**	29%	**16%**	**18%**	15%	**171**	**166**	-3%	**9%**	**8%**	-14%	**108**	**210**	94%

Table A10 Denmark: Overview of the Blue Economy by sub-sector and activity

Denmark		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	378	290	-23%	25.1	24.1	-4%	12.3	12.2	-1%	49%	50%	3%	- 5.0	0.4	108%	-20%	2%	108%	45.8	40.6	-11%
		Capture fisheries (LSF)	1,317	999	-24%	292.7	438.0	50%	175.1	292.7	67%	60%	67%	12%	75.9	179.9	137%	26%	41%	58%	75.3	112.9	50%
		Capture fisheries (DWF)																					
		Marine aquaculture	90	142	58%	42.7	74.9	75%	3.8	19.7	424%	9%	26%	199%	- 0.6	11.9	2047%	-1%	16%	1210%	36.1	43.6	21%
		Freshwater aquaculture	375	404	8%	95.7	140.0	46%	23.7	34.3	45%	25%	25%	-1%	- 0.5	2.6	633%	-1%	2%	465%	47.3	59.5	26%
		Shellfish aquaculture	25	22	-12%	1.8	2.5	42%	0.6	1.5	158%	34%	61%	81%	- 0.9	0.5	156%	-51%	20%	139%	44.7	38.9	-13%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	4,175	3,546	-15%	1,668.0	2,604.6	56%	279.7	243.7	-13%	17%	9%	-44%	86.3	45.8	-47%	5%	2%	-66%	46.3	55.8	20%
		Manufacture of oils and fats	77	43	-44%	64.2	76.6	19%	11.3	8.3	-27%	18%	11%	-39%	5.7	4.9	-13%	9%	6%	-27%	73.0	77.5	6%
		Prepared meals and dishes	20	2	-92%	5.7	0.2	-97%	1.3	0.0	-98%	22%	15%	-30%	0.3	- 0.0	-103%	6%	-7%	-219%	45.5	23.6	-48%
		Other food products	1	0	-89%	0.3	0.0	-89%	0.1	0.0	-90%	34%	31%	-8%	0.0	0.0	-90%	12%	10%	-12%	61.5	58.3	-5%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	1,384	1,943	40%	1,319.5	1,876.7	42%	113.9	179.0	57%	9%	10%	10%	45.5	67.8	49%	3%	4%	5%	49.4	57.2	16%
		Retail sale of fish, crustaceans and molluscs in specialised stores	773	795	3%	81.7	96.3	18%	23.4	25.4	9%	29%	26%	-8%	8.8	6.7	-24%	11%	7%	-35%	18.9	23.4	24%
Non-living resources	Oil and gas	Extraction of crude petroleum	514	672	31%	5,910.2	2,896.5	-51%	4,818.2	1,310.0	-73%	82%	45%	-45%	4,753.7	1,175.9	-75%	80%	41%	-50%	125.4	199.4	59%
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction	1,935	2,013	4%	405.4	575.0	42%	258.2	327.0	27%	64%	57%	-11%	87.7	128.5	46%	22%	22%	3%	88.1	98.5	12%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin	149	78	-48%	37.8	33.8	-10%	15.2	12.2	-20%	40%	36%	-10%	7.3	6.9	-6%	19%	20%	5%	52.5	67.8	29%
		Extraction of salt																					
		Support activities for other mining and quarrying	1	1	18%	0.4	0.1	-65%	0.1	0.0	-86%	30%	12%	-61%	0.0	- 0.0	-348%	3%	-24%	-806%	70.0	31.6	-55%
Ocean energy	Offshore wind energy	Production of electricity	216	647	199%	132.6	1,357.3	924%	25.0	414.2	1559%	19%	31%	62%	10.5	373.1	3456%	8%	27%	247%	66.9	63.6	-5%
		Transmission of electricity	30	138	355%	35.5	99.4	180%	12.7	54.1	326%	36%	54%	52%	10.1	39.1	286%	29%	39%	38%	85.4	109.2	28%
Ports activities	Cargo and warehousing	Cargo handling	145	166	14%	19.2	32.6	70%	9.5	16.8	77%	49%	51%	4%	1.2	3.5	199%	6%	11%	75%	57.1	80.1	40%
		Warehousing and storage	1,284	1,844	44%	305.9	370.4	21%	134.2	154.2	15%	44%	42%	-5%	67.9	37.5	-45%	22%	10%	-54%	51.7	63.3	22%
	Port and water projects	Construction of water projects	634	711	12%	310.0	356.2	15%	52.1	84.9	63%	17%	24%	42%	14.2	27.6	94%	5%	8%	69%	59.8	80.6	35%
		Service activities incidental to water transportation	1,376	2,853	107%	287.9	622.5	116%	193.9	413.2	113%	67%	66%	-1%	105.1	218.0	107%	37%	35%	-4%	64.6	68.4	6%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	2,300	954	-59%	617.1	374.8	-39%	123.8	82.3	-34%	20%	22%	9%	- 35.6	17.7	150%	-6%	5%	182%	69.3	67.8	-2%
		Building of pleasure and sporting boats	225	261	16%	59.2	76.3	29%	16.1	18.4	14%	27%	24%	-11%	1.7	4.3	153%	3%	6%	96%	64.0	54.0	-16%
		Repair and maintenance of ships and boats	1,333	1,836	38%	299.6	443.6	48%	92.1	153.5	67%	31%	35%	13%	22.9	41.2	80%	8%	9%	22%	51.9	61.2	18%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	402	32	-92%	248.4	23.4	-91%	45.2	6.6	-85%	18%	28%	56%	17.5	3.9	-78%	7%	17%	139%	68.8	84.6	23%
		Manufacture of instruments for measuring, testing and navigation	23	63	176%	4.1	17.0	314%	1.9	8.2	333%	46%	48%	5%	0.3	3.3	837%	8%	19%	126%	67.1	77.4	15%
		Manufacture of other fabricated metal products n.e.c.	114	12	-90%	18.1	2.0	-89%	6.9	0.8	-88%	38%	42%	11%	1.1	0.2	-80%	6%	11%	83%	51.5	53.1	3%
		Manufacture of sport goods																					
		Manufacture of cordage, rope, twine and netting	56	90	61%	10.1	18.8	86%	2.6	6.7	155%	26%	36%	37%	0.3	2.0	517%	3%	10%	232%	41.4	52.8	27%
		Manufacture of textiles other than apparel	88	102	16%	14.0	22.7	63%	4.6	7.2	57%	33%	32%	-4%	0.5	2.4	412%	3%	10%	215%	46.8	47.2	1%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	4,420	6,374	44%	1,174.1	2,136.2	82%	413.6	716.6	73%	35%	34%	-5%	178.6	426.2	139%	15%	20%	31%	53.2	45.6	-14%
		Inland passenger water transport	155	132	-15%	81.9	20.4	-75%	3.3	11.4	245%	4%	56%	1287%	- 4.6	3.7	180%	-6%	18%	423%	51.0	59.1	16%
	Freight transport	Sea and coastal freight water transport	14,285	10,853	-24%	22,904.9	27,798.4	21%	1,776.4	2,285.8	29%	8%	8%	6%	817.7	1,604.2	96%	4%	6%	62%	67.1	62.8	-6%
		Inland freight water transport	28	25	-9%	5.5	6.9	25%	2.7	1.5	-44%	49%	22%	-56%	1.4	0.3	-79%	25%	4%	-83%	47.3	44.0	-7%
	Services for transport	Renting and leasing of water transport equipment	47	79	68%	47.2	124.8	164%	25.5	41.4	62%	54%	33%	-39%	24.4	39.5	62%	52%	32%	-39%	23.4	24.1	3%
		Other transportation support activities	8,212	10,166	24%	3,435.1	5,705.4	66%	633.8	897.6	42%	18%	16%	-15%	147.2	232.6	58%	4%	4%	-5%	59.2	65.4	10%
Coastal tourism	Transport	Transport	8,158	12,413	52%	1,455.4	2,520.2	73%	464.0	860.5	85%	32%	34%	7%	102.6	268.9	162%	7%	11%	51%	44.3	47.7	8%
	Other expenditure	Other expenditure	15,706	37,731	140%	1,571.6	3,323.7	111%	460.4	1,032.6	124%	29%	31%	6%	112.8	200.5	78%	7%	6%	-16%	22.1	22.1	0%
	Accommodation	Accommodation	20,154	28,768	43%	1,777.0	2,893.6	63%	752.4	1,174.8	56%	42%	41%	-4%	173.9	336.2	93%	10%	12%	19%	28.7	29.1	2%
Denmark		Blue economy (established sectors)	90,606	127,201	40%	44,766	57,186	28%	10,989	10,909	-1%	25%	19%	-22%	6,836	5,518	-19%	15%	10%	-37%	4,146	5,382	30%

Table A11 Germany: Overview of the Blue Economy by sub-sector and activity

Germany		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	559	878	57%	9.0	6.9	-24%	2.5	1.3	-47%	27%	19%	-30%	- 1.1	- 1.8	-67%	-12%	-27%	-118%	6.4	3.6	-44%
		Capture fisheries (LSF)	970	779	-20%	127.4	158.5	24%	62.6	97.4	56%	49%	61%	25%	17.7	48.6	174%	14%	31%	120%	46.3	62.8	36%
		Capture fisheries (DWF)																					
		Marine aquaculture	0	0	117%	0.0	0.1	59%	0.0	0.0	283%	6%	15%	140%	- 0.0	- 0.0	68%	-18%	-4%	80%	59.5	36.6	-38%
		Freshwater aquaculture	1,832	1,707	-7%	100.4	104.7	4%	30.4	62.2	105%	30%	59%	96%	8.8	- 6.9	-178%	9%	-7%	-175%	8.8	37.4	325%
		Shellfish aquaculture	58	117	102%	5.3	32.5	510%	2.8	17.5	516%	53%	54%	1%	1.2	10.4	746%	23%	32%	39%	23.3	46.4	99%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	8,389	7,988	-5%	2,179.5	2,719.0	25%	342.0	437.9	28%	16%	16%	3%	77.5	166.4	115%	4%	6%	72%	31.5	34.0	8%
		Manufacture of oils and fats	12	24	108%	16.0	41.9	163%	1.0	2.0	105%	6%	5%	-22%	0.4	1.7	326%	2%	4%	62%	52.3	73.9	41%
		Prepared meals and dishes	1,186	2,052	73%	280.9	395.6	41%	63.6	99.6	57%	23%	25%	11%	25.6	28.1	10%	9%	7%	-22%	32.0	34.8	9%
		Other food products	101	1	-99%	25.6	0.2	-99%	6.8	0.1	-99%	27%	24%	-10%	2.3	0.0	-99%	9%	9%	-5%	44.3	52.2	18%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	23,992	39,084	63%	12,923.6	17,533.8	36%	1,303.6	2,225.7	71%	10%	13%	26%	575.7	833.8	45%	4%	5%	7%	30.3	35.6	17%
		Retail sale of fish, crustaceans and molluscs in specialised stores	7,613	5,540	-27%	411.2	449.3	9%	125.1	131.0	5%	30%	29%	-4%	52.6	60.7	15%	13%	14%	6%	9.5	12.7	33%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas	145	35	-76%	106.3	26.8	-75%	45.0	10.0	-78%	42%	37%	-12%	28.7	2.2	-92%	27%	8%	-69%	112.8	119.6	6%
		Support activities for petroleum and natural gas extraction	64	15	-77%	14.5	3.4	-77%	4.9	1.1	-77%	34%	34%	0%									
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin	140	270	93%	20.8	65.0	212%	8.6	24.7	188%	41%	38%	-8%	3.1	12.3	302%	15%	19%	29%	39.4	46.0	17%
		Extraction of salt																					
		Support activities for other mining and quarrying	1	2	163%				0.0	0.1	163%												
Ocean energy	Offshore wind energy	Production of electricity		6,374			6,774.4			789.5			12%			506.9			7%		44.3		
		Transmission of electricity		194			1,656.7			123.0			7%									
Ports activities	Cargo and warehousing	Cargo handling	2,031	2,442	20%	284.2	499.9	76%	125.2	207.0	65%	44%	41%	-6%	50.6	74.5	47%	18%	15%	-16%	36.7	54.2	48%
		Warehousing and storage	51,626	67,396	31%	5,626.5	9,441.5	68%	2,143.1	3,160.8	47%	38%	33%	-12%	641.6	852.9	33%	11%	9%	-21%	29.1	34.2	18%
	Port and water projects	Construction of water projects	2,648	3,107	17%	302.9	732.1	142%	117.1	257.7	120%	39%	35%	-9%	- 2.6	78.8	3131%	-1%	11%	1354%	45.2	43.5	-4%
		Service activities incidental to water transportation	18,074	19,577	8%	2,581.9	4,077.5	58%	1,555.0	1,944.2	25%	60%	48%	-21%	651.8	880.1	35%	25%	22%	-15%	50.0	54.4	9%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	15,288	16,695	9%	3,880.3	4,572.0	18%	783.1	1,192.9	52%	20%	26%	29%	- 89.6	220.3	346%	-2%	5%	309%	57.1	51.5	-10%
		Building of pleasure and sporting boats	3,747	7,136	90%	983.0	1,838.8	87%	256.8	329.1	28%	26%	18%	-31%	91.2	- 46.1	-151%	9%	-3%	-127%	44.2	52.6	19%
		Repair and maintenance of ships and boats	6,871	7,783	13%	1,252.0	1,254.2	0%	423.6	474.0	12%	34%	38%	12%	128.2	115.5	-10%	10%	9%	-10%	43.0	46.1	7%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	9,571	10,882	14%	2,357.6	3,909.4	66%	569.0	1,030.8	81%	24%	26%	9%	- 33.3	69.4	308%	-1%	2%	226%	62.9	88.3	40%
		Manufacture of instruments for measuring, testing and navigation	1,433	1,682	17%	218.6	362.3	66%	82.4	150.3	82%	38%	41%	10%	7.8	35.8	362%	4%	10%	179%	52.1	68.1	31%
		Manufacture of other fabricated metal products n.e.c.	2,607	432	-83%	398.5	75.5	-81%	131.1	27.4	-79%	33%	36%	10%	37.0	7.2	-81%	9%	9%	2%	36.1	46.8	30%
		Manufacture of sport goods	84	45	-47%	10.5	5.7	-46%	3.5	2.2	-37%	34%	39%	16%	0.8	0.3	-63%	7%	5%	-32%	32.5	31.4	-3%
		Manufacture of cordage, rope, twine and netting																					
		Manufacture of textiles other than apparel	4	2,877	71457%	0.5	390.4	85292%	0.1	131.2	90674%	32%	34%	6%	0.0	35.8	86819%	9%	9%	2%	25.7	33.2	29%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	1,604	4,444	177%	369.6	3,588.3	871%	218.4	1,468.5	572%	59%	41%	-31%	153.2	1,272.7	731%	41%	35%	-14%	40.7	44.1	8%
		Inland passenger water transport	4,446	6,453	45%	412.6	518.4	26%	185.7	280.7	51%	45%	54%	20%	87.3	125.8	44%	21%	24%	15%	22.2	24.0	8%
	Freight transport	Sea and coastal freight water transport	26,803	18,135	-32%	20,963.1	32,429.8	55%	6,924.4	3,141.9	-55%	33%	10%	-71%	5,586.5	2,144.1	-62%	27%	7%	-75%	49.9	55.0	10%
		Inland freight water transport	4,082	3,701	-9%	1,647.9	1,492.7	-9%	650.5	530.2	-18%	39%	36%	-10%	516.8	397.6	-23%	31%	27%	-15%	32.8	35.8	9%
	Services for transport	Renting and leasing of water transport equipment	2,070	2,617	26%	1,449.4	309.2	-79%	871.8	145.4	-83%	60%	47%	-22%	856.6	120.8	-86%	59%	39%	-34%	7.3	9.4	29%
		Other transportation support activities	70,364	102,877	46%	12,125.8	20,292.8	67%	3,638.9	5,639.8	55%	30%	28%	-7%	1,441.3	1,902.9	32%	12%	9%	-21%	31.2	36.3	16%
Coastal tourism	Transport	Transport	33,842	33,066	-2%	3,750.7	3,981.5	6%	1,215.7	1,324.1	9%	32%	33%	3%	304.6	326.5	7%	8%	8%	1%	26.9	30.2	12%
	Other expenditure	Other expenditure	48,248	67,765	40%	3,130.1	5,061.4	62%	949.6	1,537.6	62%	30%	30%	0%	331.8	531.0	60%	11%	10%	-1%	12.8	14.9	16%
	Accommodation	Accommodation	98,391	90,436	-8%	4,058.2	5,139.8	27%	2,164.1	2,642.4	22%	53%	51%	-4%	838.8	1,028.7	23%	21%	20%	-3%	13.5	17.8	32%
Germany		**Blue economy (established sectors)**	**448,894**	**534,607**	19%	**82,024**	**129,942**	58%	**25,008**	**29,641**	19%	**30%**	**23%**	-23%	**12,393**	**11,837**	-4%	**15%**	**9%**	-40%	**12,605**	**17,515**	39%

Table A12 Estonia: Overview of the Blue Economy by sub-sector and activity

Estonia		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	1,646	1,106	-33%	4.2	5.5	32%	2.5	2.5	1%	60%	46%	-23%	1.2	0.4	-64%	30%	8%	-73%	0.8	1.9	144%
		Capture fisheries (LSF)	253	137	-46%	12.9	9.2	-29%	8.1	6.9	-15%	63%	75%	19%	3.7	4.3	14%	29%	46%	59%	17.2	19.4	12%
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	20	40	101%	1.4	2.3	61%	0.4	0.9	108%	30%	38%	29%	0.2	0.2	20%	14%	10%	-26%	5.8	12.2	112%
		Shellfish aquaculture	3	1	-69%	0.0	0.0	-47%	0.0	0.0	-42%	54%	58%	9%	0.0	0.0	-57%	23%	18%	-20%	3.0	6.8	128%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,831	1,313	-28%	110.2	129.9	18%	22.9	23.4	2%	21%	18%	-13%	7.1	4.8	-32%	6%	4%	-43%	8.6	14.2	64%
		Manufacture of oils and fats	0			0.4			0.0			7%			0.0			5%			18.9		
		Prepared meals and dishes	113	200	77%	7.2	13.5	88%	1.7	4.4	164%	23%	33%	41%	0.6	1.4	120%	9%	10%	17%	9.2	15.0	63%
		Other food products	1			0.1			0.0			20%			0.0			7%			11.7		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	393	430	9%	91.4	140.9	54%	6.8	10.2	50%	7%	7%	-2%	2.3	4.9	111%	3%	3%	37%	11.3	12.5	10%
		Retail sale of fish, crustaceans and molluscs in specialised stores	43	43	0%	1.6	1.6	0%	0.1	0.1	0%	6%	6%	0%							2.3	2.3	0%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	880	738	-16%	129.3	82.7	-36%	64.5	37.5	-42%	50%	45%	-9%	47.2	16.9	-64%	36%	20%	-44%	19.7	28.0	42%
		Warehousing and storage	1,353	1,601	18%	120.9	163.9	36%	59.4	53.5	-10%	49%	33%	-34%	38.1	20.6	-46%	31%	13%	-60%	15.8	20.6	30%
	Port and water projects	Construction of water projects	124	98	-21%	7.9	12.7	61%	2.5	4.6	84%	32%	36%	14%	1.1	2.0	82%	14%	16%	13%	11.3	26.5	135%
		Service activities incidental to water transportation	1,238	1,240	0%	128.6	194.4	51%	90.3	129.0	43%	70%	66%	-5%	67.8	90.9	34%	53%	47%	-11%	18.3	30.7	68%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	308	508	65%	30.5	75.2	147%	7.8	16.4	110%	26%	22%	-15%	3.5	3.6	3%	11%	5%	-58%	14.0	25.2	80%
		Building of pleasure and sporting boats	303	297	-2%	13.4	22.7	69%	5.6	8.8	57%	42%	39%	-7%	2.5	3.1	24%	19%	14%	-27%	10.2	19.2	88%
		Repair and maintenance of ships and boats	1,199	2,147	79%	90.6	215.7	138%	24.0	75.5	215%	26%	35%	32%	6.4	29.0	357%	7%	13%	92%	14.7	21.7	47%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft																					
		Manufacture of instruments for measuring, testing and navigation	0	11	2257%	0.0	1.6	7193%	0.0	0.4	4070%	38%	22%	-43%	0.0	0.1	3998%	15%	8%	-44%	11.5	20.6	79%
		Manufacture of other fabricated metal products n.e.c.	19	3	-83%	1.0	0.3	-71%	0.3	0.1	-71%	30%	30%	0%	0.1	0.0	-75%	8%	7%	-13%	11.5	20.7	80%
		Manufacture of sport goods	238	223	-6%	9.4	10.6	13%	4.4	4.7	6%	47%	44%	-6%	2.4	1.4	-40%	25%	13%	-47%	8.6	14.6	71%
		Manufacture of cordage, rope, twine and netting	80	31	-61%	3.4	1.3	-60%	1.6	0.4	-74%	48%	31%	-35%	0.9	0.0	-95%	25%	3%	-86%	9.4	11.9	27%
		Manufacture of textiles other than apparel	167	187	12%	9.5	15.4	62%	2.5	4.0	60%	26%	26%	-1%	0.9	1.1	22%	10%	7%	-24%	9.4	15.3	63%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	844	766	-9%	406.6	530.0	30%	14.8	22.1	49%	4%	4%	15%	- 1.3	- 1.2	8%	0%	0%	29%	19.1	30.3	59%
		Inland passenger water transport																					
	Freight transport	Sea and coastal freight water transport	138	138	0%	27.5	27.5	0%	12.7	12.7	0%	46%	46%	0%	7.2	7.2	0%	26%	26%	0%	39.9	39.9	0%
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment	40	57	43%	14.8	21.1	43%	11.5	18.6	62%	78%	88%	13%	11.4	18.3	61%	77%	87%	13%	2.5	5.3	111%
		Other transportation support activities	1,110	1,585	43%	360.4	611.3	70%	23.2	75.5	225%	6%	12%	92%	5.4	39.7	637%	1%	6%	335%	16.0	22.6	41%
Coastal tourism	Transport	Transport	4,562	2,327	-49%	467.8	508.1	9%	74.2	55.9	-25%	16%	11%	-31%	24.9	23.2	-7%	5%	5%	-14%	10.8	14.2	32%
	Other expenditure	Other expenditure	32,178	17,630	-45%	1,231.1	1,154.8	-6%	259.2	268.3	4%	21%	23%	10%	21.4	53.1	148%	2%	5%	165%	7.4	12.2	65%
	Accommodation	Accommodation	10,469	8,455	-19%	286.3	409.7	43%	91.2	171.4	88%	32%	42%	31%	3.5	52.2	1399%	1%	13%	948%	8.4	14.1	69%
Estonia		Blue economy (established sectors)	59,552	41,311	-31%	3,568	4,362	22%	792	1,008	27%	22%	23%	4%	258	377	46%	7%	9%	19%	534	631	18%

Table A13 Ireland: Overview of the Blue Economy by sub-sector and activity

Ireland		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	2,705	1,166	-57%	15.4	52.6	241%	8.9	35.1	294%	58%	67%	15%	5.5	23.5	324%	36%	45%	24%	0.0	10.0	######
		Capture fisheries (LSF)	2,184	2,131	-2%	160.3	267.6	67%	54.9	135.2	146%	34%	51%	47%	10.7	48.7	355%	7%	18%	173%	21.1	40.6	92%
		Capture fisheries (DWF)																					
		Marine aquaculture	169	225	33%	65.4	120.0	84%	17.0	26.2	54%	26%	22%	-16%	14.0	13.8	199%	-21%	12%	154%	79.4	38.6	-51%
		Freshwater aquaculture	75	20	-73%	6.8	1.6	-77%	2.6	0.3	-89%	38%	18%	-53%	0.7	0.1	-92%	10%	3%	-68%	23.9	7.3	-69%
		Shellfish aquaculture	1,708	1,707	0%	36.0	59.6	66%	13.6	34.4	153%	38%	58%	53%	2.2	5.9	364%	-6%	10%	260%	7.1	13.4	88%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,907	2,469	29%	472.1	649.1	37%	106.6	122.6	15%	23%	19%	-16%	37.2	38.6	4%	8%	6%	-25%	36.4	34.1	-6%
		Manufacture of oils and fats																					
		Prepared meals and dishes	837	289	-65%	116.1	37.7	-67%	31.3	11.8	-62%	27%	31%	16%	4.0	2.2	-46%	3%	6%	65%	32.5	33.4	3%
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	861	1,060	23%	1,418.9	1,238.7	-13%	218.8	223.6	2%	15%	18%	17%	176.4	167.7	-5%	12%	14%	9%	49.3	52.7	7%
		Retail sale of fish, crustaceans and molluscs in specialised stores	623	624	0%	96.0	91.5	-5%	20.2	20.5	1%	21%	22%	6%	7.9	7.0	-11%	8%	8%	-7%	19.6	21.6	10%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction	41	38	-6%	61.6	16.4	-73%	5.0	3.5	-29%	8%	21%	165%	3.0	1.6	-46%	5%	10%	104%	48.1	50.0	4%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	358	363	1%	77.1	28.6	-63%	22.2	18.3	-18%	29%	64%	122%	3.6	5.4	51%	5%	19%	307%	52.0	35.4	-32%
		Warehousing and storage	1,007	1,139	13%	251.5	163.3	-35%	79.0	71.3	-10%	31%	44%	39%	15.4	24.7	60%	6%	15%	146%	48.5	40.9	-16%
	Port and water projects	Construction of water projects	73	124	70%	12.8	31.6	147%	4.7	10.6	126%	37%	34%	-9%	1.1	5.0	355%	9%	16%	84%	47.9	45.2	-6%
		Service activities incidental to water transportation	1,122	1,152	3%	246.2	200.1	-19%	119.4	111.5	-7%	48%	56%	15%	60.2	46.5	-23%	24%	23%	-5%	52.7	56.4	7%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	111	70	-37%	17.4	10.5	-40%	5.2	3.5	-33%	30%	33%	12%	1.1	0.9	-18%	6%	9%	36%	36.9	37.1	1%
		Building of pleasure and sporting boats	51	42	-18%	5.9	4.2	-29%	2.5	2.7	8%	42%	64%	52%	0.9	1.6	78%	15%	38%	150%	31.4	23.8	-24%
		Repair and maintenance of ships and boats	228	275	21%	31.8	43.9	38%	11.1	19.8	78%	35%	45%	29%	3.8	9.6	153%	12%	22%	83%	32.0	37.1	16%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	64	10	-84%	6.4	1.4	-78%	3.0	0.4	-87%	47%	28%	-41%	0.4			-7%			54.4	38.5	-29%
		Manufacture of instruments for measuring, testing and navigation	79	107	37%	34.2	48.7	42%	17.3	25.2	45%	51%	52%	2%	13.5	19.6	45%	40%	40%	2%	48.3	52.2	8%
		Manufacture of other fabricated metal products n.e.c.																					
		Manufacture of sport goods	4			0.5			0.2			33%			0.1			14%			21.7		
		Manufacture of cordage, rope, twine and netting	115	102	-11%	16.7	15.4	-8%	5.1	5.9	18%	30%	39%	28%	1.0	2.4	138%	6%	15%	158%	34.5	35.0	1%
		Manufacture of textiles other than apparel	131	203	55%	12.3	23.6	92%	4.5	9.5	112%	36%	40%	11%	1.2	3.5	182%	10%	15%	47%	24.7	29.3	19%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	537	321	-40%	408.4	519.0	27%	102.3	151.1	48%	25%	29%	16%	63.4	135.8	114%	16%	26%	69%	49.3	48.0	-3%
		Inland passenger water transport	60	104	73%	26.3	19.3	-27%	6.9	7.4	7%	26%	38%	46%	3.9	3.8	-3%	15%	20%	33%	35.0	34.6	-1%
	Freight transport	Sea and coastal freight water transport	301	348	16%	281.4	344.1	22%	20.9	78.4	275%	7%	23%	207%	11.8	61.7	623%	-4%	18%	528%	54.2	48.3	-11%
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment	75	76	1%	55.6	210.0	278%	29.0	92.9	220%	52%	44%	-15%	27.3	91.3	234%	49%	43%	-11%	22.7	22.4	-1%
		Other transportation support activities	205	237	15%	71.6	187.9	162%	15.2	18.1	19%	21%	10%	-55%	6.8	5.4	-21%	10%	3%	-70%	44.7	53.7	20%
Coastal tourism	Transport	Transport	3,005	5,267	75%	607.7	1,252.1	106%	183.6	296.8	62%	30%	24%	-22%	29.4	102.9	250%	5%	8%	70%	48.4	35.4	-27%
	Other expenditure	Other expenditure	7,860	23,917	204%	957.7	2,261.1	136%	235.5	701.4	198%	25%	31%	26%	26.1	203.2	680%	3%	9%	230%	21.9	20.8	-5%
	Accommodation	Accommodation	12,736	26,005	104%	844.5	1,715.4	103%	301.4	865.4	187%	36%	50%	41%	84.3	292.2	447%	-10%	17%	271%	20.8	22.0	6%
Ireland		**Blue economy (established sectors)**	**39,233**	**69,594**	**77%**	**6,414**	**9,615**	**50%**	**1,648**	**3,103**	**88%**	**26%**	**32%**	**26%**	**392**	**1,325**	**238%**	**6%**	**14%**	**126%**	**1,023**	**1,762**	**72%**

Table A14 Greece: Overview of the Blue Economy by sub-sector and activity

Greece		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	21,780	16,042	-26%	37.6	208.6	455%	- 84.1	129.2	254%	-224%	62%	128%	- 212.8	9.6	104%	-566%	5%	101%	5.0	7.5	50%
		Capture fisheries (LSF)	5,778	4,881	-16%	28.2	232.0	722%	- 76.2	147.5	294%	-270%	64%	124%	- 123.6	105.6	185%	-438%	46%	110%	8.8	8.6	-2%
		Capture fisheries (DWF)																					
		Marine aquaculture	3,160	3,064	-3%	563.9	784.9	39%	35.7	53.0	48%	6%	7%	7%	- 101.7	- 24.6	76%	-18%	-3%	83%	30.4	17.1	-44%
		Freshwater aquaculture	257	195	-24%	12.8	14.9	17%	3.9	3.0	-22%	30%	20%	-33%	1.1	- 2.4	-315%	9%	-16%	-285%	8.0	21.4	169%
		Shellfish aquaculture	617	325	-47%	11.6	6.5	-44%	6.2	5.8	-6%	53%	90%	69%	2.7	0.8	-70%	23%	12%	-46%	4.8	15.4	222%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,193	1,469	23%	158.4	186.4	18%	43.2	31.8	-26%	27%	17%	-37%	20.8	4.9	-76%	13%	3%	-80%	18.8	18.3	-2%
		Manufacture of oils and fats																					
		Prepared meals and dishes	6	244	3850%	0.6	16.9	2744%	0.1	4.2	3395%	20%	25%	23%	0.0	0.9	1712%	8%	5%	-36%	11.5	13.5	17%
		Other food products	13			1.5			0.4			28%			0.2			12%			17.9		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	5,750	4,624	-20%	2,000.8	1,207.3	-40%	230.8	110.9	-52%	12%	9%	-20%	121.6	38.7	-68%	6%	3%	-47%	19.0	15.6	-18%
		Retail sale of fish, crustaceans and molluscs in specialised stores	4,594	4,124	-10%	326.7	199.9	-39%	76.8	9.2	-88%	24%	5%	-80%	64.1	- 5.9	-109%	20%	-3%	-115%	2.8	3.6	32%
Non-living resources	Oil and gas	Extraction of crude petroleum	13	18	46%	5.0	7.4	46%	0.9	1.3	46%	17%	17%	0%	0.3	0.4	46%	5%	5%	0%	48.7	48.7	0%
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction	42	81	92%	4.6	5.8	27%	2.4	2.0	-14%	52%	35%	-32%	0.2	- 1.1	-589%	5%	-19%	-486%	50.8	39.2	-23%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	19	18	-2%	3.1	2.5	-18%	0.8	1.7	100%	27%	65%	144%	0.3	1.2	317%	9%	45%	408%	29.3	27.5	-6%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	508	1,025	102%	40.7	115.4	184%	15.9	53.9	240%	39%	47%	20%	3.9	25.4	557%	9%	22%	132%	23.6	27.8	18%
		Warehousing and storage	633	528	-17%	53.8	47.5	-12%	18.5	14.7	-20%	34%	31%	-10%	3.9	5.3	35%	7%	11%	52%	22.9	17.9	-22%
	Port and water projects	Construction of water projects	2,723	1,471	-46%	277.6	154.7	-44%	94.9	32.7	-66%	34%	21%	-38%	47.1	16.7	-65%	17%	11%	-36%	17.6	10.9	-38%
		Service activities incidental to water transportation	2,965	11,675	294%	265.5	845.8	219%	201.6	644.8	220%	76%	76%	0%	94.9	21.9	-77%	36%	3%	-93%	36.0	53.4	48%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	4,103	2,125	-48%	425.2	89.5	-79%	273.2	36.8	-87%	64%	41%	-36%	136.9	- 4.1	-103%	32%	-5%	-114%	33.1	19.2	-42%
		Building of pleasure and sporting boats	207	291	41%	10.8	19.3	79%	3.6	4.6	28%	33%	24%	-28%	- 1.0	0.7	170%	-9%	4%	139%	22.2	13.4	-40%
		Repair and maintenance of ships and boats	4,846	5,993	24%	235.2	249.8	6%	153.2	120.6	-21%	65%	48%	-26%	69.4	31.5	-55%	30%	13%	-57%	17.9	14.9	-17%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	5	10	96%	0.3	0.7	107%	0.2	0.2	-9%	76%	33%	-56%	0.1	0.0	-57%	29%	6%	-79%	31.4	18.6	-41%
		Manufacture of instruments for measuring, testing and navigation	1	0	-79%	0.1	0.1	-49%	0.0	0.0	-72%	32%	18%	-44%	0.0	0.0	-78%	12%	5%	-57%	20.7	32.0	55%
		Manufacture of other fabricated metal products n.e.c.	1	1	-4%	0.1	0.1	1%	0.0	0.0	-36%	48%	30%	-37%	0.0	0.0	-54%	23%	11%	-54%	17.8	14.4	-19%
		Manufacture of sport goods	226	23	-90%	18.7	1.1	-94%	6.6	0.4	-94%	36%	36%	3%	3.4	0.1	-96%	18%	12%	-33%	14.8	12.0	-19%
		Manufacture of cordage, rope, twine and netting	100	60	-40%	10.9	13.7	26%	4.3	2.7	-37%	40%	20%	-50%	2.0	1.6	-21%	18%	11%	-37%	23.7	19.7	-17%
		Manufacture of textiles other than apparel																					
Maritime transport	Passenger transport	Sea and coastal passenger water transport	11,769	10,575	-10%	1,660.1	1,287.3	-22%	734.4	485.1	-34%	44%	38%	-15%	294.4	161.6	-45%	18%	13%	-29%	37.4	30.6	-18%
		Inland passenger water transport		68			0.2		- 0.3				-150%			- 0.4			-200%			1.5	
	Freight transport	Sea and coastal freight water transport	5,023	8,241	64%	447.5	854.5	91%	246.8	605.2	145%	55%	71%	28%	90.8	92.7	2%	20%	11%	-47%	31.1	62.2	100%
		Inland freight water transport		39			2.1									- 0.3			-14%			7.7	
	Services for transport	Renting and leasing of water transport equipment	2,823	1,907	-32%	49.1	136.2	177%	34.2	54.7	60%	70%	40%	-42%	24.1	42.1	75%	49%	31%	-37%	3.5	6.6	87%
		Other transportation support activities	3,998	2,597	-35%	391.0	410.2	5%	107.5	102.8	-4%	27%	25%	-9%	41.3	23.3	-44%	11%	6%	-46%	16.6	30.6	85%
Coastal tourism	Transport	Transport	82,554	66,603	-19%	9,962.8	6,767.4	-32%	1,652.4	836.1	-49%	17%	12%	-26%	573.5	251.0	-56%	6%	4%	-36%	13.1	8.8	-33%
	Other expenditure	Other expenditure	172,852	252,366	46%	10,489.2	7,387.9	-30%	2,182.3	886.8	-59%	21%	12%	-42%	725.7	- 271.4	-137%	7%	-4%	-153%	8.4	4.6	-46%
	Accommodation	Accommodation	237,894	173,416	-27%	12,219.9	6,957.4	-43%	7,171.0	3,590.2	-50%	59%	52%	-12%	2,966.6	1,726.8	-42%	24%	25%	2%	17.7	10.7	-39%
Greece		Blue economy (established sectors)	576,454	574,102	0%	39,713	28,214	-29%	13,142	7,972	-39%	33%	28%	-15%	4,850	2,253	-54%	12%	8%	-35%	8,235	5,692	-31%

Table A15 Spain: Overview of the Blue Economy by sub-sector and activity

Spain		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	11,797	8,516	-28%	195.6	153.5	-22%	128.1	108.6	-15%	65%	71%	8%	- 14.0	24.0	272%	-7%	16%	319%	12.0	9.9	-18%
		Capture fisheries (LSF)	20,714	18,238	-12%	1,200.8	920.1	-23%	599.6	548.7	-8%	50%	60%	19%	74.9	135.9	82%	6%	15%	137%	25.3	22.6	-11%
		Capture fisheries (DWF)	5,534	4,989	-10%	591.7	749.5	27%	156.7	283.3	81%	26%	38%	43%	25.1	127.6	409%	4%	17%	302%	23.8	31.2	31%
		Marine aquaculture	2,291	2,772	21%	287.7	493.7	72%	7.4	85.7	1059%	3%	17%	576%	- 66.4	6.0	109%	-23%	1%	105%	24.2	23.6	-2%
		Freshwater aquaculture	831	909	9%	63.1	72.5	15%	16.4	22.5	37%	26%	31%	19%	- 8.1	3.4	142%	-13%	5%	137%	21.3	19.1	-10%
		Shellfish aquaculture	25,760	14,905	-42%	125.7	172.4	37%	71.1	116.3	63%	57%	67%	19%	32.7	- 2.8	-109%	26%	-2%	-106%	1.4	7.8	440%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	19,430	21,985	13%	4,118.0	6,520.0	58%	722.1	990.9	37%	18%	15%	-13%	292.2	374.0	28%	7%	6%	-19%	22.1	28.1	27%
		Manufacture of oils and fats	26	72	181%	19.5	57.2	194%	1.4	4.2	204%	7%	7%	3%	0.6	2.0	249%	3%	3%	19%	31.4	30.5	-3%
		Prepared meals and dishes	980	2,085	113%	257.0	590.1	130%	55.9	111.9	100%	22%	19%	-13%	28.4	50.3	77%	11%	9%	-23%	28.0	29.5	5%
		Other food products	32	43	33%	5.6	8.0	44%	1.5	1.8	17%	27%	22%	-19%	0.6	0.6	10%	10%	8%	-23%	28.5	26.0	-9%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	26,120	22,199	-15%	9,867.5	10,506.7	6%	988.3	1,067.0	8%	10%	10%	1%	361.8	410.4	13%	4%	4%	7%	24.0	29.6	23%
		Retail sale of fish, crustaceans and molluscs in specialised stores	21,362	19,234	-10%	1,704.9	1,669.5	-2%	340.0	309.5	-9%	20%	19%	-7%	198.3	148.1	-25%	12%	9%	-24%	6.6	8.4	27%
Non-living resources	Oil and gas	Extraction of crude petroleum	12	24	94%	3.1	6.1	93%	1.8	3.6	103%	56%	59%	6%	0.6	0.7	30%	18%	12%	-33%	97.1	118.5	22%
		Extraction of natural gas		3			0.5			0.2			37%			0.1			14%			40.0	
		Support activities for petroleum and natural gas extraction	9	4	-49%	2.3	2.5	7%	1.3	1.3	4%	54%	52%	-3%	0.8	1.1	36%	33%	43%	28%	54.9	54.8	0%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	68	70	3%	15.0	15.3	2%	6.9	5.4	-22%	46%	35%	-24%	4.3	2.8	-34%	29%	19%	-36%	37.5	36.0	-4%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	4,149	3,479	-16%	446.2	477.1	7%	251.2	251.5	0%	56%	53%	-6%	54.4	68.7	26%	12%	14%	18%	47.4	52.5	11%
		Warehousing and storage	3,435	4,563	33%	403.0	636.4	58%	207.0	307.7	49%	51%	48%	-6%	95.5	139.6	46%	24%	22%	-7%	32.5	36.8	13%
	Port and water projects	Construction of water projects	26,067	13,810	-47%	3,550.9	1,802.8	-49%	1,151.1	710.0	-38%	32%	39%	21%	242.0	182.8	-24%	7%	10%	49%	34.9	38.3	10%
		Service activities incidental to water transportation	18,127	19,895	10%	4,061.7	4,653.3	15%	1,986.8	2,249.3	13%	49%	48%	-1%	1,160.7	1,328.9	14%	29%	29%	0%	45.6	46.3	2%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	12,657	9,642	-24%	4,007.7	2,132.7	-47%	599.9	354.5	-41%	15%	17%	11%	7.1	- 176.4	-2585%	0%	-8%	-4769%	46.8	55.1	18%
		Building of pleasure and sporting boats	1,284	515	-60%	170.5	54.7	-68%	71.9	14.8	-79%	42%	27%	-36%	23.1	- 1.8	-108%	14%	-3%	-124%	38.0	32.0	-16%
		Repair and maintenance of ships and boats	12,825	14,052	10%	1,059.3	1,369.0	29%	499.1	578.9	16%	47%	42%	-10%	102.6	133.0	30%	10%	10%	0%	30.9	31.7	3%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	57	16	-72%	21.5	5.1	-76%	7.5	0.9	-89%	35%	17%	-53%	5.2	0.0	-99%	24%	1%	-97%	39.5	51.2	30%
		Manufacture of instruments for measuring, testing and navigation	597	451	-25%	82.8	79.6	-4%	38.0	28.8	-24%	46%	36%	-21%	13.9	9.6	-31%	17%	12%	-28%	40.3	42.5	5%
		Manufacture of other fabricated metal products n.e.c.	602	496	-18%	64.8	69.6	7%	23.0	22.9	0%	35%	33%	-7%	5.5	6.5	17%	9%	9%	9%	29.0	33.2	14%
		Manufacture of sport goods	26	72	176%	3.4	10.9	222%	1.3	2.9	129%	38%	27%	-29%	0.5	0.8	63%	15%	8%	-49%	29.6	29.2	-2%
		Manufacture of cordage, rope, twine and netting	321	509	59%	36.2	63.5	75%	10.0	18.2	82%	28%	29%	4%	3.8	6.6	72%	11%	10%	-2%	19.2	22.9	19%
		Manufacture of textiles other than apparel	87	740	746%	7.4	77.5	954%	2.2	21.6	891%	30%	28%	-6%	0.4	6.5	1695%	5%	8%	70%	20.8	20.4	-2%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	4,530	4,670	3%	896.5	785.8	-12%	258.3	299.9	16%	29%	38%	32%	103.1	149.5	45%	12%	19%	65%	34.3	32.2	-6%
		Inland passenger water transport	392	474	21%	20.7	23.2	12%	12.8	14.2	11%	62%	61%	-1%	4.9	5.0	2%	24%	22%	-9%	20.2	19.4	-4%
	Freight transport	Sea and coastal freight water transport	2,839	3,487	23%	931.3	1,404.9	51%	241.7	331.0	37%	26%	24%	-9%	122.1	181.4	49%	13%	13%	-2%	42.1	42.9	2%
		Inland freight water transport	49	68	39%	3.9	3.9	0%	1.5	1.6	7%	38%	41%	7%	0.4	0.1	-75%	10%	3%	-75%	22.4	22.1	-2%
	Services for transport	Renting and leasing of water transport equipment	2,734	2,782	2%	299.9	312.9	4%	173.0	147.8	-15%	58%	47%	-18%	144.3	108.0	-25%	48%	35%	-28%	10.5	14.3	36%
		Other transportation support activities	2,464	2,962	20%	554.1	713.1	29%	95.6	135.1	41%	17%	19%	10%	18.0	34.6	92%	3%	5%	50%	31.5	34.0	8%
Coastal tourism	Transport	Transport	101,884	119,294	17%	12,360.6	19,014.3	54%	3,884.8	5,630.9	45%	31%	30%	-6%	988.6	2,187.2	121%	8%	12%	44%	28.4	28.9	2%
	Other expenditure	Other expenditure	279,480	352,972	26%	18,493.1	22,663.1	23%	5,722.4	7,148.0	25%	31%	32%	2%	2,055.2	2,061.0	0%	11%	9%	-18%	13.1	14.4	10%
	Accommodation	Accommodation	278,983	257,436	-8%	17,264.7	21,118.6	22%	8,763.0	11,161.2	27%	51%	53%	4%	1,884.7	4,419.6	135%	11%	21%	92%	24.7	26.2	6%
	Spain	Blue economy (established sectors)	888,555	928,433	4%	83,198	99,410	19%	27,100	33,092	22%	33%	33%	2%	7,968	12,135	52%	10%	12%	27%	19,106	20,939	10%

Table A16 France: Overview of the Blue Economy by sub-sector and activity

France		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	7,907	6,677	-16%	261.4	279.2	7%	173.9	186.3	7%	67%	67%	0%	51.9	56.5	9%	20%	20%	2%	15.4	19.4	26%
		Capture fisheries (LSF)	7,355	6,047	-18%	757.9	835.2	10%	363.4	434.3	20%	48%	52%	8%	78.8	128.9	63%	10%	15%	48%	38.7	50.5	31%
		Capture fisheries (DWF)	543	543	0%	90.4	194.9	116%	1.4	86.6	5916%	2%	44%	2690%	-28.1	29.2	204%	-31%	15%	148%	54.4	105.7	94%
		Marine aquaculture	132	167	26%	45.9	42.1	-8%	2.9	6.7	130%	6%	16%	151%	-8.3	1.7	121%	-18%	4%	123%	59.3	21.6	-64%
		Freshwater aquaculture	1,346	1,539	14%	144.2	153.7	7%	43.6	54.3	25%	30%	35%	17%	12.7	25.4	100%	9%	17%	87%	17.2	15.7	-8%
		Shellfish aquaculture	17,705	13,710	-23%	752.1	751.9	0%	402.0	403.3	0%	53%	54%	0%	173.3	111.2	-36%	23%	15%	-36%	10.8	16.3	51%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	12,814	13,565	6%	3,028.5	4,455.1	47%	560.0	699.1	25%	18%	16%	-15%	149.6	170.4	14%	5%	4%	-23%	32.0	39.0	22%
		Manufacture of oils and fats	4	7	64%	3.2	14.9	366%	0.3	0.6	101%	9%	4%	-57%	0.2	0.2	12%	5%	1%	-76%	33.2	62.1	87%
		Prepared meals and dishes	4,716	2,952	-37%	1,063.8	864.5	-19%	227.9	169.5	-26%	21%	20%	-8%	50.4	40.3	-20%	5%	5%	-2%	37.6	43.8	16%
		Other food products	89			46.5			7.6			16%			2.5			5%			57.1		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	13,911	10,235	-26%	6,140.8	5,326.2	-13%	607.1	669.4	10%	10%	13%	27%	170.3	199.4	17%	3%	4%	35%	31.4	45.9	46%
		Retail sale of fish, crustaceans and molluscs in specialised stores	4,688	3,872	-17%	609.1	834.6	37%	133.9	209.0	56%	22%	25%	14%	24.4	69.1	183%	4%	8%	107%	23.4	36.1	55%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin	313	108	-66%	86.3	32.9	-62%	28.0	9.5	-66%	32%	29%	-11%	13.5	3.6	-74%	16%	11%	-31%	46.3	54.9	18%
		Extraction of salt	124	54	-56%	32.5	2.3	-93%	9.3	0.8	-92%	29%	34%	17%	2.0	0.2	-88%	6%	10%	68%	59.0	9.6	-84%
		Support activities for other mining and quarrying	1	1	-28%	0.2	0.2	38%	-0.0	0.1	611%	-7%	27%	471%	-0.0	0.0	143%	-17%	5%	131%	16.0	62.3	288%
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	12,756	8,054	-37%	1,862.6	1,666.4	-11%	681.6	599.2	-12%	37%	36%	-2%	55.1	82.9	51%	3%	5%	68%	49.1	64.1	31%
		Warehousing and storage	32,348	18,235	-44%	5,216.6	3,080.9	-41%	1,941.3	1,093.7	-44%	37%	36%	-5%	764.1	306.6	-60%	15%	10%	-32%	36.4	43.2	19%
	Port and water projects	Construction of water projects	4,980	3,978	-20%	1,640.6	1,956.6	19%	1,242.8	520.9	-58%	76%	27%	-65%	831.3	175.5	-79%	51%	9%	-82%	82.6	86.8	5%
		Service activities incidental to water transportation	8,833	8,034	-9%	1,170.4	1,576.4	35%	728.6	1,061.0	46%	62%	67%	8%	209.6	361.8	73%	18%	23%	28%	58.8	87.0	48%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	12,569	17,617	40%	3,988.5	5,124.2	28%	605.8	1,804.9	198%	15%	35%	132%	-131.5	524.0	498%	-3%	10%	410%	58.7	72.7	24%
		Building of pleasure and sporting boats	7,510	9,110	21%	1,040.1	1,557.2	50%	258.2	492.3	91%	25%	32%	27%	-43.0	157.3	466%	-4%	10%	344%	40.1	36.8	-8%
		Repair and maintenance of ships and boats	6,552	6,531	0%	903.1	1,090.7	21%	291.8	330.6	13%	32%	30%	-6%	39.1	51.1	31%	4%	5%	8%	38.6	42.8	11%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	281	733	161%	126.6	244.3	93%	28.2	31.0	10%	22%	13%	-43%	10.9	-30.1	-376%	9%	-12%	-243%	61.6	83.4	35%
		Manufacture of instruments for measuring, testing and navigation	3,037	3,359	11%	655.5	776.6	18%	233.1	284.6	22%	36%	37%	3%	28.2	51.3	82%	4%	7%	54%	67.5	69.4	3%
		Manufacture of other fabricated metal products n.e.c.	40	47	18%	6.5	8.2	27%	2.2	2.7	20%	34%	33%	-5%	0.5	0.4	-25%	8%	5%	-41%	43.2	48.9	13%
		Manufacture of sport goods	369	429	16%	102.7	92.6	-10%	23.1	28.8	25%	22%	31%	38%	2.0	8.9	358%	2%	10%	408%	57.4	46.2	-20%
		Manufacture of cordage, rope, twine and netting	149	169	13%	22.0	26.4	20%	6.0	8.7	46%	27%	33%	22%	0.8	2.0	167%	3%	8%	123%	34.9	39.8	14%
		Manufacture of textiles other than apparel	332	1,132	241%	41.1	149.2	263%	12.2	46.5	280%	30%	31%	5%	1.4	8.5	500%	3%	6%	65%	32.6	33.6	3%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	5,508	5,125	-7%	882.1	1,653.3	87%	238.9	297.4	24%	27%	18%	-34%	-11.9	39.4	431%	-1%	2%	277%	45.5	50.3	11%
		Inland passenger water transport	2,032	2,360	16%	307.5	353.3	15%	109.6	137.0	25%	36%	39%	9%	28.0	32.0	14%	9%	9%	0%	40.8	44.5	9%
	Freight transport	Sea and coastal freight water transport	8,836	8,758	-1%	9,040.0	11,675.0	29%	-185.6	-141.7	24%	-2%	-1%	41%	-728.3	-660.8	9%	-8%	-6%	30%	61.4	59.3	-3%
		Inland freight water transport	1,677	1,917	14%	371.3	397.3	7%	98.5	161.4	64%	27%	41%	53%	41.6	72.8	75%	11%	18%	64%	33.9	46.2	36%
	Services for transport	Renting and leasing of water transport equipment	66	225	241%	610.9	182.0	-70%	456.4	117.5	-74%	75%	65%	-14%	454.7	109.3	-76%	74%	60%	-19%	25.8	36.0	40%
		Other transportation support activities	14,590	15,394	6%	3,405.7	4,272.8	25%	690.0	863.7	25%	20%	20%	0%	60.4	105.0	74%	2%	2%	39%	43.2	49.3	14%
Coastal tourism	Transport	Transport	50,559	33,563	-34%	6,362.5	7,555.8	19%	2,578.6	3,377.4	31%	41%	45%	10%	319.5	687.2	115%	5%	9%	81%	44.7	80.2	79%
	Other expenditure	Other expenditure	88,575	93,504	6%	10,320.6	12,912.9	25%	3,038.3	3,977.1	31%	29%	31%	5%	742.2	834.6	12%	7%	6%	-10%	25.9	33.6	30%
	Accommodation	Accommodation	67,610	71,599	6%	6,851.1	9,307.5	36%	2,774.0	3,717.6	34%	40%	40%	-1%	709.8	1,033.5	46%	10%	11%	7%	30.5	37.5	23%
	France	Blue economy (established sectors)	400,858	369,350	-8%	67,991	79,447	17%	18,415	21,742	18%	27%	27%	1%	4,078	4,789	17%	6%	6%	1%	14,290	16,877	18%

Table A17 Croatia: Overview of the Blue Economy by sub-sector and activity

Croatia		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	2,177	5,427	149%	8.3	22.5	172%	0.4	15.4	3801%	5%	68%	1332%	- 4.3	8.9	307%	-52%	39%	176%	2.2	1.2	-45%
		Capture fisheries (LSF)	2,727	2,393	-12%	46.2	64.2	39%	11.7	36.1	209%	25%	56%	122%	- 3.7	15.3	511%	-8%	24%	396%	5.7	8.7	53%
		Capture fisheries (DWF)																					
		Marine aquaculture	763	766	0%	56.7	164.8	191%	3.6	47.0	1210%	6%	29%	350%	- 10.2	23.7	332%	-18%	14%	180%	12.7	17.8	41%
		Freshwater aquaculture	954	345	-64%	10.4	28.9	178%	3.1	11.1	255%	30%	39%	28%	0.9	5.4	487%	9%	19%	111%	1.7	8.3	375%
		Shellfish aquaculture	369	178	-52%	2.8	2.8	-2%	1.5	1.1	-30%	53%	38%	-28%	0.7	- 0.7	-213%	23%	-27%	-215%	2.0	6.5	233%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,778	1,497	-16%	86.8	92.1	6%	26.9	31.4	17%	31%	34%	10%	9.6	11.8	23%	11%	13%	16%	9.7	13.1	35%
		Manufacture of oils and fats	0	1	2393%	0.0	0.2	3830%	0.0	0.0	3553%	19%	18%	-7%	0.0	0.0	4902%	8%	10%	27%	15.4	16.7	9%
		Prepared meals and dishes	6	10	68%	0.5	0.7	51%	0.1	0.2	64%	25%	27%	9%	0.0	0.1	81%	10%	12%	20%	11.7	10.6	-9%
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	291	598	106%	30.3	95.2	215%	4.8	13.9	189%	16%	15%	-8%	2.3	5.8	152%	8%	6%	-20%	8.8	13.5	53%
		Retail sale of fish, crustaceans and molluscs in specialised stores	230	207	-10%	9.0	10.1	12%	1.1	1.8	64%	12%	18%	46%	0.3	0.5	67%	3%	5%	49%	3.5	6.3	81%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas	5,534	32	-99%	36.6	26.6	-27%	14.3	11.3	-21%	39%	43%	9%	12.3	9.9	-19%	33%	37%	11%	0.4	42.4	11373%
		Support activities for petroleum and natural gas extraction	1,806	1,038	-43%	180.6	107.1	-41%	83.7	36.7	-56%	46%	34%	-26%	31.4	7.9	-75%	17%	7%	-58%	29.0	27.8	-4%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	128	137	7%	11.0	15.2	38%	2.5	3.7	48%	23%	24%	7%	1.0	1.7	70%	9%	11%	23%	11.7	14.6	25%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	302	238	-21%	6.9	10.3	48%	4.6	4.8	6%	66%	47%	-28%	0.7	1.0	33%	11%	10%	-10%	12.6	16.2	29%
		Warehousing and storage	210	483	130%	38.5	33.3	-14%	12.3	14.4	17%	32%	43%	35%	9.0	7.5	-17%	23%	22%	-4%	15.9	14.4	-9%
	Port and water projects	Construction of water projects	3,556	2,843	-20%	184.3	158.5	-14%	80.7	51.6	-36%	44%	33%	-26%	29.7	7.2	-76%	16%	5%	-72%	14.3	15.6	9%
		Service activities incidental to water transportation	1,397	1,176	-16%	86.8	64.0	-26%	49.3	39.6	-20%	57%	62%	9%	22.4	16.1	-28%	26%	25%	-3%	19.3	20.0	4%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	12,378	6,149	-50%	754.5	294.7	-61%	185.5	14.9	-92%	25%	5%	-79%	14.3	- 82.0	-673%	2%	-28%	-1568%	13.8	15.8	14%
		Building of pleasure and sporting boats	647	312	-52%	21.2	13.5	-36%	7.2	4.3	-40%	34%	32%	-6%	0.7	0.9	29%	3%	7%	102%	10.2	10.9	7%
		Repair and maintenance of ships and boats	3,348	3,631	8%	121.8	185.1	52%	57.5	63.6	11%	47%	34%	-27%	15.5	12.6	-19%	13%	7%	-47%	12.5	14.0	12%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	1,204	11	-99%	70.3	0.9	-99%	25.2	0.3	-99%	36%	30%	-15%	7.0	0.1	-99%	10%	8%	-19%	15.1	18.8	25%
		Manufacture of instruments for measuring, testing and navigation	15			0.9			0.3			37%			0.1			10%			15.8		
		Manufacture of other fabricated metal products n.e.c.	19	34	72%	0.7	1.8	141%	0.3	0.6	103%	39%	32%	-16%	0.1	0.2	45%	17%	10%	-40%	8.3	11.9	44%
		Manufacture of sport goods	21	135	540%	0.6	5.9	885%	0.1	2.4	1925%	20%	41%	106%	- 0.0	1.1	4753%	-4%	19%	572%	6.7	9.1	35%
		Manufacture of cordage, rope, twine and netting	43	59	38%	1.1	2.0	70%	0.6	1.2	103%	51%	61%	19%	0.2	0.6	179%	20%	32%	64%	8.4	9.4	12%
		Manufacture of textiles other than apparel	22	93	323%	0.7	3.9	473%	0.2	1.3	573%	27%	32%	18%	0.0	0.4	1310%	4%	11%	146%	7.1	9.0	26%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	3,152	3,684	17%	119.0	203.5	71%	73.7	78.2	6%	62%	38%	-38%	31.4	23.9	-24%	26%	12%	-55%	13.4	14.7	10%
		Inland passenger water transport		15			0.8			0.6			75%			0.5			63%			6.7	
	Freight transport	Sea and coastal freight water transport	753	703	-7%	235.1	193.4	-18%	72.2	69.0	-4%	31%	36%	16%	33.4	44.4	33%	14%	23%	62%	51.5	35.0	-32%
		Inland freight water transport	156	37	-76%	6.0	2.5	-58%	2.5	- 0.1	-104%	42%	-4%	-110%	0.6	- 0.5	-183%	10%	-20%	-300%	12.8	10.8	-16%
	Services for transport	Renting and leasing of water transport equipment	2,072	2,331	13%	182.8	164.1	-10%	51.9	53.2	3%	28%	32%	14%	33.1	35.8	8%	18%	22%	20%	9.1	7.5	-18%
		Other transportation support activities	815	513	-37%	55.3	54.7	-1%	16.3	11.7	-28%	29%	21%	-27%	5.5	3.7	-33%	10%	7%	-32%	13.3	15.7	18%
Coastal tourism	Transport	Transport	22,371	19,643	-12%	1,586.7	1,990.1	25%	349.6	398.7	14%	22%	20%	-9%	108.1	131.3	21%	7%	7%	-3%	10.8	13.6	26%
	Other expenditure	Other expenditure	47,928	53,838	12%	1,994.4	2,870.9	44%	447.0	765.8	71%	22%	27%	19%	115.2	266.5	131%	6%	9%	61%	6.9	9.3	34%
	Accommodation	Accommodation	63,652	50,823	-20%	2,300.6	2,994.1	30%	1,205.8	1,697.1	41%	52%	57%	8%	466.1	915.7	96%	20%	31%	51%	11.6	15.4	32%
Croatia		Blue economy (established sectors)	180,823	159,378	-12%	8,247	9,878	20%	2,797	3,483	25%	34%	35%	4%	933	1,477	58%	11%	15%	32%	1,858	1,992	7%

Table A18 Italy: Overview of the Blue Economy by sub-sector and activity

Italy		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	13,698	12,333	-10%	338.5	180.2	-47%	242.6	133.8	-45%	72%	74%	4%	133.2	66.6	-50%	39%	37%	-6%	8.0	5.4	-32%
		Capture fisheries (LSF)	15,269	13,426	-12%	965.7	763.8	-21%	584.0	431.4	-26%	60%	56%	-7%	298.8	230.2	-23%	31%	30%	-3%	18.7	15.0	-20%
		Capture fisheries (DWF)	255	84	-67%	25.3	5.8	-77%	16.1	4.1	-75%	63%	70%	11%	14.7	2.3	-85%	58%	39%	-33%	5.3	21.8	311%
		Marine aquaculture	306	375	23%	133.2	96.8	-27%	25.5	51.9	103%	19%	54%	180%	- 6.2	36.1	679%	-5%	37%	896%	69.5	32.5	-53%
		Freshwater aquaculture	1,374	683	-50%	337.4	129.7	-62%	108.2	56.7	-48%	32%	44%	36%	49.3	35.0	-29%	15%	27%	84%	32.6	24.9	-24%
		Shellfish aquaculture	4,204	3,703	-12%	156.1	160.1	3%	75.2	108.1	44%	48%	68%	40%	30.0	57.3	91%	19%	36%	87%	9.7	12.3	26%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	5,343	5,953	11%	2,211.2	2,672.4	21%	295.8	410.9	39%	13%	15%	15%	137.5	200.2	46%	6%	7%	20%	29.6	35.4	20%
		Manufacture of oils and fats																					
		Prepared meals and dishes	4,496	3,472	-23%	696.8	557.0	-20%	195.0	147.7	-24%	28%	27%	-5%	82.8	54.6	-34%	12%	10%	-18%	25.0	26.8	7%
		Other food products	437	494	13%	112.6	180.1	60%	28.6	40.7	42%	25%	23%	-11%	16.2	22.4	38%	14%	12%	-14%	28.3	37.2	32%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	16,904	20,831	23%	9,007.2	11,787.0	31%	635.6	1,092.6	72%	7%	9%	31%	200.3	505.7	152%	2%	4%	93%	25.8	28.2	9%
		Retail sale of fish, crustaceans and molluscs in specialised stores	11,258	13,394	19%	956.8	1,184.4	24%	173.3	188.6	9%	18%	16%	-12%	110.7	71.4	-36%	12%	6%	-48%	5.6	8.8	58%
Non-living resources	Oil and gas	Extraction of crude petroleum	23	12	-49%	117.3	63.2	-46%	87.5	30.1	-66%	75%	48%	-36%	85.2	28.8	-66%	73%	46%	-37%	99.1	112.0	13%
		Extraction of natural gas	9,799	1,372	-86%	44,091.6	3,077.2	-93%	1,832.0	714.8	-61%	4%	23%	459%	1,029.6	596.0	-42%	2%	19%	729%	81.9	86.6	6%
		Support activities for petroleum and natural gas extraction	1,244	783	-37%	374.2	203.1	-46%	148.5	67.6	-54%	40%	33%	-16%	53.4	1.3	-98%	14%	1%	-96%	76.5	84.7	11%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	100	83	-17%	21.7	20.7	-4%	5.5	6.2	14%	25%	30%	19%	1.5	2.6	77%	7%	12%	85%	40.3	44.2	10%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	13,533	11,645	-14%	561.5	657.9	17%	314.4	368.7	17%	56%	56%	0%	8.1	25.5	213%	1%	4%	167%	22.6	29.5	30%
		Warehousing and storage	2,832	2,823	0%	477.1	463.3	-3%	137.8	191.3	39%	29%	41%	43%	50.7	100.1	97%	11%	22%	103%	30.7	32.3	5%
	Port and water projects	Construction of water projects	9,558	6,461	-32%	2,753.6	1,071.1	-61%	500.1	343.8	-31%	18%	32%	77%	171.6	71.4	-58%	6%	7%	7%	34.4	42.1	23%
		Service activities incidental to water transportation	12,953	14,305	10%	1,867.3	2,666.0	43%	780.1	1,325.5	70%	42%	50%	19%	279.7	652.8	133%	15%	24%	63%	38.6	47.0	22%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	19,431	17,611	-9%	3,842.5	5,475.4	42%	874.4	1,625.7	86%	23%	30%	30%	130.3	691.8	431%	3%	13%	273%	38.3	53.0	38%
		Building of pleasure and sporting boats	12,630	8,537	-32%	2,811.1	2,256.0	-20%	457.4	530.1	16%	16%	23%	44%	25.5	165.7	550%	1%	7%	710%	34.2	42.7	25%
		Repair and maintenance of ships and boats	10,302	10,461	2%	1,036.9	1,072.9	3%	337.4	432.3	28%	33%	40%	24%	79.1	141.6	79%	8%	13%	73%	25.1	27.8	11%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	1,440	505	-65%	548.9	206.4	-62%	139.6	50.3	-64%	25%	24%	-4%	60.9	18.9	-69%	11%	9%	-17%	54.6	62.0	14%
		Manufacture of instruments for measuring, testing and navigation	535	297	-44%	89.0	64.7	-27%	32.7	24.8	-24%	37%	38%	5%	8.0	9.3	17%	9%	14%	61%	46.2	52.3	13%
		Manufacture of other fabricated metal products n.e.c.	138	680	392%	19.3	109.0	464%	5.0	36.7	632%	26%	34%	30%	1.3	14.8	1076%	7%	14%	108%	27.1	32.2	19%
		Manufacture of sport goods	390	276	-29%	77.5	78.3	1%	19.7	23.5	19%	25%	30%	18%	7.2	11.9	64%	9%	15%	63%	31.9	42.0	32%
		Manufacture of cordage, rope, twine and netting	75	105	40%	10.5	18.5	76%	2.4	4.6	95%	22%	25%	11%	0.7	1.9	159%	7%	10%	48%	21.9	26.2	20%
		Manufacture of textiles other than apparel	812	1,640	102%	126.4	211.8	67%	26.0	56.8	119%	21%	27%	31%	9.7	21.1	119%	8%	10%	30%	20.1	21.7	8%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	16,837	39,242	133%	5,512.5	6,005.9	9%	1,838.7	2,347.3	28%	33%	39%	17%	1,037.1	1,304.6	26%	19%	22%	15%	47.6	26.6	-44%
		Inland passenger water transport	2,531	2,519	0%	137.8	436.4	217%	91.3	136.7	50%	66%	31%	-53%	23.6	74.4	215%	17%	17%	0%	26.8	24.7	-8%
	Freight transport	Sea and coastal freight water transport	11,870	9,417	-21%	5,178.0	5,323.3	3%	735.2	1,326.1	80%	14%	25%	75%	88.1	664.1	654%	2%	12%	633%	54.5	70.3	29%
		Inland freight water transport	558	718	29%	38.4	51.4	34%	16.8	30.3	80%	44%	59%	35%	4.6	10.5	128%	12%	20%	71%	21.9	27.6	26%
	Services for transport	Renting and leasing of water transport equipment	2,701	802	-70%	289.6	175.3	-39%	44.3	180.2	307%	15%	103%	572%	- 0.8	156.1	19613%	0%	89%	32335%	16.7	30.0	80%
		Other transportation support activities	10,811	16,294	51%	2,691.4	3,339.4	24%	449.1	751.1	67%	17%	22%	35%	89.4	155.3	74%	3%	5%	40%	33.3	36.6	10%
Coastal tourism	Transport	Transport	51,417	37,307	-27%	8,516.4	8,411.4	-1%	1,794.4	2,074.7	16%	21%	25%	17%	112.5	785.4	598%	1%	9%	607%	32.7	34.6	6%
	Other expenditure	Other expenditure	134,399	135,185	1%	9,949.6	11,000.3	11%	2,471.1	2,996.6	21%	25%	27%	10%	904.1	1,091.9	21%	9%	10%	9%	11.7	14.1	21%
	Accommodation	Accommodation	210,753	134,834	-36%	13,289.6	12,027.8	-9%	5,892.3	5,452.5	-7%	44%	45%	2%	1,995.0	2,391.5	20%	15%	20%	32%	18.5	22.7	23%
	Italy	Blue economy (established sectors)	611,215	528,659	-14%	119,371	82,204	-31%	21,413	23,795	11%	18%	29%	61%	7,323	10,471	43%	6%	13%	108%	14,061	13,310	-5%

Table A19 Cyprus: Overview of the Blue Economy by sub-sector and activity

Cyprus		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	761	1,057	39%	6.8	3.4	-50%	- 0.1	1.7	1373%	-2%	51%	2633%	- 0.5	1.5	413%	-7%	43%	722%	0.4	0.2	-46%
		Capture fisheries (LSF)	148	189	28%	2.9	3.1	7%	- 0.5	0.9	273%	-18%	29%	262%	- 1.4	0.1	108%	-48%	4%	108%	6.0	4.2	-29%
		Capture fisheries (DWF)																					
		Marine aquaculture	230	404	76%	17.8	52.8	197%	5.5	8.4	52%	31%	16%	-49%	2.8	2.2	-22%	16%	4%	-74%	11.7	11.2	-4%
		Freshwater aquaculture	42	34	-19%	0.6	0.4	-26%	0.2	0.2	-16%	34%	38%	14%	0.1	0.0	-24%	10%	10%	4%	2.4	2.8	19%
		Shellfish aquaculture	21	15	-27%	0.1	0.4	295%	0.1	0.2	162%	88%	59%	-34%	0.1	0.1	19%	61%	18%	-70%	1.2	8.1	558%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs																					
		Manufacture of oils and fats																					
		Prepared meals and dishes																					
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	170	279	64%	26.3	49.0	86%	3.9	8.1	110%	15%	17%	13%	0.2	3.8	2400%	1%	8%	1241%	21.8	15.4	-29%
		Retail sale of fish, crustaceans and molluscs in specialised stores	298	351	18%	37.9	46.9	24%	9.2	10.7	16%	24%	23%	-6%	4.0	5.0	25%	11%	11%	1%	17.4	16.2	-7%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	370	256	-31%	23.6	14.6	-38%	17.3	8.8	-49%	73%	60%	-18%	6.0	2.6	-57%	25%	17%	-31%	30.7	24.4	-20%
		Warehousing and storage	130	195	50%	9.7	17.6	82%	4.8	9.5	97%	50%	54%	8%	1.8	4.5	156%	18%	26%	40%	24.0	25.5	6%
	Port and water projects	Construction of water projects	140	175	25%	28.9	25.6	-11%	10.0	6.8	-32%	35%	27%	-23%	5.1	2.0	-61%	18%	8%	-56%	35.0	27.4	-22%
		Service activities incidental to water transportation	415	553	33%	60.9	127.7	110%	52.7	51.6	-2%	87%	40%	-53%	30.3	28.4	-6%	50%	22%	-55%	54.0	42.0	-22%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures																					
		Building of pleasure and sporting boats	29	26	-10%	2.1	1.7	-19%	0.5	0.8	60%	24%	47%	98%	0.2	0.4	100%	10%	24%	147%	13.8	15.4	12%
		Repair and maintenance of ships and boats	104	1,606	1444%	9.7	119.0	1127%	4.7	76.8	1534%	48%	65%	33%	2.4	20.3	746%	25%	17%	-31%	22.1	35.1	59%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft																					
		Manufacture of instruments for measuring, testing and navigation																					
		Manufacture of other fabricated metal products n.e.c.																					
		Manufacture of sport goods																					
		Manufacture of cordage, rope, twine and netting																					
		Manufacture of textiles other than apparel																					
Maritime transport	Passenger transport	Sea and coastal passenger water transport	2,708	260	-90%	214.5	16.7	-92%	101.7	5.8	-94%	47%	35%	-27%	55.6	1.9	-97%	26%	11%	-56%	17.0	15.0	-12%
		Inland passenger water transport																					
	Freight transport	Sea and coastal freight water transport	67	50	-25%	12.8	22.2	73%	- 5.7	9.1	260%	-45%	41%	192%	- 9.9	7.2	173%	-77%	32%	142%	64.2	38.0	-41%
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment																					
		Other transportation support activities	1,515	692	-54%	262.3	181.9	-31%	76.5	31.3	-59%	29%	17%	-41%	33.7	8.3	-75%	13%	5%	-65%	28.2	33.4	18%
Coastal tourism	Transport	Transport	4,529	4,326	-4%	716.2	766.8	7%	94.3	65.6	-30%	13%	9%	-35%	- 16.7	- 9.2	45%	-2%	-1%	49%	24.5	17.3	-30%
	Other expenditure	Other expenditure	6,522	11,757	80%	401.1	729.3	82%	138.2	243.3	76%	34%	33%	-3%	48.6	95.8	97%	12%	13%	8%	13.7	12.5	-9%
	Accommodation	Accommodation	18,467	17,758	-4%	912.4	998.7	9%	522.8	574.7	10%	57%	58%	0%	182.7	289.3	58%	20%	29%	45%	18.4	16.1	-13%
Cyprus		**Blue economy (established sectors)**	**36,666**	**39,982**	9%	**2,746**	**3,178**	16%	**1,036**	**1,114**	8%	**38%**	**35%**	-7%	**345**	**464**	35%	**13%**	**15%**	16%	**691**	**648**	-6%

Table A20 Latvia: Overview of the Blue Economy by sub-sector and activity

Latvia		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	1,110	296	-73%	0.9	2.5	192%	0.7	1.6	110%	87%	63%	-28%	0.6	0.6	1%	68%	24%	-65%	0.1	3.3	2128%
		Capture fisheries (LSF)	556	335	-40%	20.9	19.3	-7%	11.3	9.4	-17%	54%	49%	-10%	7.9	5.2	-35%	38%	27%	-30%	6.0	12.6	109%
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	134	235	75%	1.2	4.5	261%	0.4	1.4	259%	30%	30%	0%	0.1	- 1.5	-1431%	9%	-33%	-469%	1.5	10.8	625%
		Shellfish aquaculture	1	0	-75%	0.0	0.0	-24%	0.0	0.0	-18%	52%	56%	7%	0.0	0.0	-40%	24%	19%	-21%	0.9	3.6	303%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	4,728	3,249	-31%	153.2	198.5	30%	29.5	41.3	40%	19%	21%	8%	7.5	11.5	53%	5%	6%	18%	4.7	9.2	97%
		Manufacture of oils and fats	3	11	278%	0.3	2.1	715%	- 0.0	- 0.2	-715%	-9%	-9%	0%	- 0.0	- 0.4	-715%	-19%	-19%	0%	8.1	17.3	115%
		Prepared meals and dishes	299	270	-10%	16.7	11.7	-30%	2.6	3.7	43%	15%	31%	103%	1.3	1.7	27%	8%	14%	81%	4.2	7.7	82%
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	837	728	-13%	150.7	162.7	8%	16.4	18.8	15%	11%	12%	7%	10.1	9.8	-3%	7%	6%	-10%	7.5	12.4	64%
		Retail sale of fish, crustaceans and molluscs in specialised stores	86	92	7%	1.8	1.9	6%	0.2	0.2	0%	11%	11%	-5%	- 0.1	- 0.1	0%	-6%	-5%	5%	3.5	3.3	-7%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	2,294	2,119	-8%	204.0	214.1	5%	83.9	83.3	-1%	41%	39%	-5%	53.4	46.2	-14%	26%	22%	-18%	13.3	17.5	32%
		Warehousing and storage	1,167	1,907	63%	57.0	100.6	76%	19.5	39.2	101%	34%	39%	14%	9.5	18.0	89%	17%	18%	7%	8.5	11.2	30%
	Port and water projects	Construction of water projects	902	763	-15%	103.5	86.4	-17%	20.1	15.5	-23%	19%	18%	-8%	9.9	3.5	-65%	10%	4%	-58%	11.3	15.7	39%
		Service activities incidental to water transportation	158	1,298	722%	6.1	121.1	1885%	4.3	75.5	1656%	70%	62%	-12%	1.8	49.0	2622%	30%	40%	37%	15.2	20.4	34%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	842	542	-36%	27.8	15.2	-45%	10.1	3.3	-67%	36%	22%	-40%	2.9	- 1.8	-162%	10%	-12%	-214%	8.4	9.4	12%
		Building of pleasure and sporting boats	121	294	143%	3.4	16.7	391%	1.8	4.2	133%	53%	25%	-52%	1.0	- 0.4	-140%	29%	-2%	-108%	7.4	15.6	110%
		Repair and maintenance of ships and boats	1,668	1,369	-18%	42.6	38.7	-9%	18.5	13.3	-28%	43%	34%	-21%	9.5	2.3	-76%	22%	6%	-73%	5.4	8.0	49%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	1	0	-21%	0.0	0.0	41%							- 0.0	- 0.0	29%	-50%	-25%	50%	12.5	11.1	-11%
		Manufacture of instruments for measuring, testing and navigation	26	31	20%	1.4	1.7	27%	0.6	0.7	10%	47%	41%	-13%	0.4	0.3	-15%	28%	19%	-33%	10.2	12.2	19%
		Manufacture of other fabricated metal products n.e.c.	399	19	-95%	12.6	1.1	-91%	3.7	0.4	-90%	29%	34%	15%	1.1	0.2	-86%	9%	14%	61%	6.6	11.9	80%
		Manufacture of sport goods	3	13	361%	0.1	0.4	317%	0.0	0.2	465%	29%	39%	36%	0.0	0.1	411%	14%	18%	23%	2.5	6.7	169%
		Manufacture of cordage, rope, twine and netting	2			0.1			0.0			26%			0.0			9%			5.2		
		Manufacture of textiles other than apparel	17	215	1197%	0.3	7.6	2369%	0.1	2.5	2264%	34%	33%	-4%	0.0	0.7	2612%	9%	10%	10%	4.7	8.0	71%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	514	648	26%																		
		Inland passenger water transport	10	45	350%	0.4	0.4	0%	0.3	0.2	-33%	75%	50%	-33%	0.2	0.1	-50%	50%	25%	-50%		2.2	
	Freight transport	Sea and coastal freight water transport	455	226	-50%	42.2	56.6	34%	18.3	13.1	-28%	43%	23%	-47%	6.8	6.5	-4%	16%	11%	-29%	25.5	28.8	13%
		Inland freight water transport	22	216	882%	0.4	7.8	1850%	0.2	5.6	2700%	50%	72%	44%	0.1	1.9	1800%	25%	24%	-3%	9.1	17.1	88%
	Services for transport	Renting and leasing of water transport equipment	25	70	180%	5.5	6.0	9%	2.3	2.7	17%	42%	45%	8%	1.0	1.3	30%	18%	22%	19%	52.0	18.6	-64%
		Other transportation support activities	267	290	9%	44.2	57.4	30%	6.6	6.8	2%	15%	12%	-21%	4.0	3.0	-25%	9%	5%	-42%	9.9	13.0	32%
Coastal tourism	Transport	Transport	2,316	3,495	51%	188.4	363.8	93%	40.6	65.2	61%	22%	18%	-17%	16.5	23.5	43%	9%	6%	-26%	10.4	11.9	15%
	Other expenditure	Other expenditure	9,053	15,136	67%	243.8	549.5	125%	49.8	148.8	199%	20%	27%	32%	6.2	37.2	500%	3%	7%	166%	4.8	7.4	53%
	Accommodation	Accommodation	5,129	6,786	32%	95.1	224.2	136%	42.9	96.5	125%	45%	43%	-5%	13.6	35.6	161%	14%	16%	11%	5.7	9.0	57%
Latvia		**Blue economy (established sectors)**	**33,144**	**40,698**	**23%**	**1,425**	**2,273**	**60%**	**385**	**653**	**70%**	**27%**	**29%**	**6%**	**165**	**254**	**54%**	**12%**	**11%**	**-4%**	**219**	**399**	**82%**

Table A21 Lithuania: Overview of the Blue Economy by sub-sector and activity

Lithuania		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	160	139	-13%	0.9	0.7	-19%	0.5	0.5	-11%	57%	62%	9%	0.4	0.1	-72%	41%	14%	-66%	0.9	2.5	181%
		Capture fisheries (LSF)	192	113	-41%	7.6	5.5	-28%	2.5	2.0	-18%	32%	37%	13%	1.3	0.4	-70%	17%	7%	-59%	6.0	14.4	138%
		Capture fisheries (DWF)	310	202	-35%	52.8	55.0	4%	11.7	5.2	-56%	22%	9%	-58%	7.1	-0.8	-111%	14%	-1%	-111%	14.9	29.6	99%
		Marine aquaculture																					
		Freshwater aquaculture	364	408	12%	7.4	14.1	91%	2.2	5.4	142%	30%	38%	26%	0.6	1.4	121%	9%	10%	15%	3.2	8.0	147%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	4,244	5,756	36%	232.6	670.9	188%	49.9	130.0	161%	21%	19%	-10%	19.4	55.8	188%	8%	8%	0%	7.2	12.9	79%
		Manufacture of oils and fats																					
		Prepared meals and dishes	392	580	48%	8.9	28.1	214%	3.5	9.1	159%	39%	32%	-18%	1.5	3.7	143%	17%	13%	-23%	5.2	9.4	83%
		Other food products	3			0.1			0.0			17%			0.0			8%			4.3		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	1,135	958	-16%	165.9	447.5	170%	13.9	43.6	214%	8%	10%	17%	4.9	29.3	498%	3%	7%	122%	7.9	14.9	89%
		Retail sale of fish, crustaceans and molluscs in specialised stores	13	60	362%	0.1	3.0	2900%		0.5			17%								6.7	
Non-living resources	Oil and gas	Extraction of crude petroleum	0	0	-69%	0.0	0.0	-50%	0.0	0.0	-58%	55%	46%	-16%	0.0	0.0	-47%	35%	37%	6%	31.6	23.4	-26%
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	1,015	1,009	-1%	59.6	129.5	117%	32.5	63.8	96%	55%	49%	-10%	17.6	39.7	126%	30%	31%	4%	14.7	23.8	62%
		Warehousing and storage	1,068	1,403	31%	46.9	86.8	85%	20.0	30.4	52%	43%	35%	-18%	9.9	10.4	4%	21%	12%	-44%	9.5	14.3	51%
	Port and water projects	Construction of water projects	1,116	694	-38%	45.5	55.2	21%	15.7	11.6	-26%	35%	21%	-39%	3.6	1.4	-61%	8%	3%	-68%	10.8	14.7	36%
		Service activities incidental to water transportation	654	506	-23%	55.7	88.6	59%	44.5	67.8	52%	80%	77%	-4%	33.6	55.4	65%	60%	63%	4%	16.7	24.5	47%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	1,708	1,713	0%	54.7	99.1	81%	33.4	41.0	23%	61%	41%	-32%	6.2	14.5	134%	11%	15%	29%	15.9	15.4	-3%
		Building of pleasure and sporting boats	166	330	99%	5.8	24.1	316%	1.1	10.4	845%	19%	43%	128%	-0.5	4.6	1020%	-9%	19%	321%	9.6	17.6	82%
		Repair and maintenance of ships and boats	3,464	3,482	1%	195.6	199.3	2%	35.5	74.8	111%	18%	38%	107%	-1.9	20.1	1158%	-1%	10%	1138%	10.8	15.7	46%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	27			0.4			0.3			62%			0.1			12%			8.3		
		Manufacture of instruments for measuring, testing and navigation	24	84	251%	1.1	8.3	628%	0.5	3.2	500%	46%	38%	-18%	0.3	1.2	364%	23%	15%	-36%	11.2	23.4	108%
		Manufacture of other fabricated metal products n.e.c.	1			0.0			0.0			34%			0.0			11%			6.6		
		Manufacture of sport goods	14	16	21%	0.5	0.9	69%	0.1	0.2	65%	20%	20%	-2%	0.0	0.1	31%	8%	6%	-22%	4.7	7.3	55%
		Manufacture of cordage, rope, twine and netting	423	435	3%	17.9	23.4	31%	5.3	9.1	73%	29%	39%	33%	2.1	3.1	50%	12%	13%	15%	7.5	13.6	82%
		Manufacture of textiles other than apparel	152	108	-29%	4.1	5.2	27%	1.2	1.5	19%	30%	29%	-6%	0.4	0.4	5%	9%	8%	-17%	5.7	10.1	78%
Maritime transport	Passenger transport	Sea and coastal passenger water transport																					
		Inland passenger water transport	143	130	-9%	4.4	5.0	14%	3.4	3.3	-3%	77%	66%	-15%	1.8	1.8	0%	41%	36%	-12%	10.5	11.5	10%
	Freight transport	Sea and coastal freight water transport	1,602	1,026	-36%	147.2	151.8	3%	52.7	62.0	18%	36%	41%	14%	25.1	35.7	42%	17%	24%	38%	17.2	25.6	49%
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment	32	206	544%	2.2	69.9	3077%	0.5	7.2	1340%	23%	10%	-55%	0.4	4.1	925%	18%	6%	-68%	3.1	15.0	382%
		Other transportation support activities	334	320	-4%	53.5	65.9	23%	5.1	9.4	86%	9%	14%	51%	1.7	4.8	175%	3%	7%	123%	10.0	14.5	45%
Coastal tourism	Transport	Transport	1,409	718	-49%	100.9	82.7	-18%	12.1	12.1	0%	12%	15%	22%	2.0	5.3	158%	2%	6%	215%	7.1	9.5	33%
	Other expenditure	Other expenditure	2,509	2,150	-14%	66.6	90.3	36%	11.4	24.7	117%	17%	27%	60%	-0.4	7.2	1696%	-1%	8%	1276%	4.7	8.2	73%
	Accommodation	Accommodation	2,246	2,553	14%	41.4	77.6	87%	17.5	39.5	126%	42%	51%	20%	4.6	16.8	262%	11%	22%	93%	5.7	8.9	55%
Lithuania		**Blue economy (established sectors)**	**24,918**	**25,099**	**1%**	**1,380**	**2,488**	**80%**	**377**	**668**	**77%**	**27%**	**27%**	**-2%**	**142**	**316**	**123%**	**10%**	**13%**	**24%**	**235**	**351**	**50%**

Table A22 Luxembourg: Overview of the Blue Economy by sub-sector and activity

Luxembourg		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)																					
		Capture fisheries (LSF)																					
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture																					
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs																					
		Manufacture of oils and fats																					
		Prepared meals and dishes																					
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs																					
		Retail sale of fish, crustaceans and molluscs in specialised stores	13	11	-15%	1.9	2.3	21%	0.3	0.4	33%	16%	17%	10%							23.1	36.4	58%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	114	58	-49%	11.5	10.8	-6%	6.2	5.5	-11%	53%	50%	-6%	1.1	2.6	136%	10%	24%	152%	44.5	49.6	11%
		Warehousing and storage																					
	Port and water projects	Construction of water projects																					
		Service activities incidental to water transportation																					
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures																					
		Building of pleasure and sporting boats																					
		Repair and maintenance of ships and boats																					
	Equipment and machinery	Manufacture of engines and turbines, except aircraft																					
		Manufacture of instruments for measuring, testing and navigation																					
		Manufacture of other fabricated metal products n.e.c.																					
		Manufacture of sport goods																					
		Manufacture of cordage, rope, twine and netting																					
		Manufacture of textiles other than apparel																					
Maritime transport	Passenger transport	Sea and coastal passenger water transport																					
		Inland passenger water transport																					
	Freight transport	Sea and coastal freight water transport																					
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment																					
		Other transportation support activities	279	338	21%	99.2	200.7	102%	16.0	27.3	70%	16%	14%	-16%	3.4	8.4	146%	3%	4%	22%	45.1	55.7	24%
Coastal tourism	Transport	Transport																					
	Other expenditure	Other expenditure																					
	Accommodation	Accommodation																					
Luxembourg		Blue economy (established sectors)	405	407	0%	113	214	90%	22	33	47%	20%	15%	-22%	5	11	144%	4%	5%	28%	18	22	23%

Table A23 Hungary: Overview of the Blue Economy by sub-sector and activity

Hungary		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)																					
		Capture fisheries (LSF)																					
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	1,317	2,260	72%	30.2	35.3	17%	9.1	13.5	48%	30%	38%	26%	2.7	3.6	35%	9%	10%	15%	3.7	3.6	-1%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	78	66	-15%	4.7	6.9	47%	0.6	1.6	167%	13%	23%	82%	0.1	0.9	800%	2%	13%	513%	6.4	10.6	65%
		Manufacture of oils and fats	5	5	-10%	3.7	3.7	0%	0.7	0.2	-62%	18%	7%	-62%	0.5	0.1	-76%	15%	4%	-76%	22.1	24.5	11%
		Prepared meals and dishes	89	456	412%	9.0	39.7	340%	2.1	11.2	439%	23%	28%	22%	1.0	5.0	382%	11%	13%	9%	11.6	13.5	16%
		Other food products	9			0.7			0.1			22%			0.1			12%			7.8		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	2,006	2,663	33%	415.1	554.8	34%	36.2	80.4	122%	9%	14%	66%	17.2	44.0	156%	4%	8%	91%	9.4	13.7	45%
		Retail sale of fish, crustaceans and molluscs in specialised stores	210	234	11%	4.2	12.5	198%	0.5	3.1	520%	12%	25%	108%		2.2			18%		2.4	3.8	62%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	1,227	1,407	15%	44.9	76.9	71%	15.3	26.4	73%	34%	34%	1%	5.5	12.4	127%	12%	16%	32%	8.0	10.0	25%
		Warehousing and storage	2,625	4,366	66%	468.9	350.9	-25%	195.5	161.5	-17%	42%	46%	10%	163.0	93.5	-43%	35%	27%	-23%	12.4	15.6	26%
	Port and water projects	Construction of water projects	1,866	2,504	34%	136.0	111.4	-18%	25.0	25.5	2%	18%	23%	25%	7.1	4.9	-31%	5%	4%	-16%	9.5	8.2	-14%
		Service activities incidental to water transportation	433	507	17%	64.4	53.9	-16%	6.8	14.9	119%	11%	28%	162%	2.7	6.6	144%	4%	12%	192%	9.5	16.4	73%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	72	130	81%	3.3	6.3	91%	0.4	1.9	375%	12%	30%	149%		1.1			17%		5.6	6.2	11%
		Building of pleasure and sporting boats	220	187	-15%	6.4	6.2	-3%	2.0	2.0	0%	31%	32%	3%	0.5	1.0	100%	8%	16%	106%	6.8	5.3	-22%
		Repair and maintenance of ships and boats	119	127	7%	3.7	2.7	-27%	0.8	0.9	13%	22%	33%	54%		0.5			19%		6.7	3.1	-53%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	19			4.6			1.9			42%			1.6			35%			16.8		
		Manufacture of instruments for measuring, testing and navigation	413	3,889	842%	24.3	1,037.2	4163%	8.6	303.5	3426%	35%	29%	-17%	3.3	231.4	6906%	14%	22%	64%	12.9	18.6	44%
		Manufacture of other fabricated metal products n.e.c.		36			2.9			0.9			29%			0.3			11%			14.5	
		Manufacture of sport goods	7	16	115%	0.7	1.5	134%	0.1	0.4	211%	20%	26%	33%	0.1	0.2	218%	10%	14%	36%	8.5	12.0	41%
		Manufacture of cordage, rope, twine and netting	19			0.6			0.2			25%			- 0.0			-3%			9.1		
		Manufacture of textiles other than apparel	3	514	17960%	0.1	12.3	19294%	0.0	3.4	16540%	32%	27%	-14%	0.0	0.1	1616%	7%	1%	-91%	5.6	6.4	15%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	14	3	-79%	1.3	4.4	238%	0.1			8%									7.1		
		Inland passenger water transport	574	663	16%	12.7	19.6	54%	6.5	9.9	52%	51%	51%	-1%	1.7	3.8	124%	13%	19%	45%	8.4	9.0	8%
	Freight transport	Sea and coastal freight water transport	60	15	-75%	2.7	2.5	-7%	1.7	0.3	-82%	63%	12%	-81%	0.2	0.1	-50%	7%	4%	-46%	25.0	20.0	-20%
		Inland freight water transport	297	103	-65%	53.9	49.5	-8%	0.1	- 2.1	-2200%	0%	-4%	-2387%	- 3.4	- 3.6	-6%	-6%	-7%	-15%	11.8	15.5	32%
	Services for transport	Renting and leasing of water transport equipment	111	76	-32%	2.3	13.1	470%	0.8	7.5	838%	35%	57%	65%	0.5	7.2	1340%	22%	55%	153%	2.7	3.9	46%
		Other transportation support activities	154	134	-13%	20.3	20.1	-1%	2.8	3.5	25%	14%	17%	27%	0.9	1.4	56%	4%	7%	57%	12.5	15.9	27%
Coastal tourism	Transport	Transport																					
	Other expenditure	Other expenditure																					
	Accommodation	Accommodation																					
	Hungary	Blue economy (established sectors)	11,947	20,360	70%	1,319	2,424	84%	318	670	111%	24%	28%	15%	205	417	103%	16%	17%	10%	111	252	127%

Table A24 Malta: Overview of the Blue Economy by sub-sector and activity

Malta		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	863	902	5%	2.2	5.2	132%	- 0.9	2.6	393%	-40%	50%	226%	- 8.5	- 0.4	96%	-383%	-7%	98%	8.9	3.3	-63%
		Capture fisheries (LSF)	309	242	-22%	7.8	9.3	19%	3.5	5.8	66%	45%	63%	40%	- 0.7	3.0	515%	-9%	32%	448%	13.7	11.9	-13%
		Capture fisheries (DWF)																					
		Marine aquaculture	173	320	85%	48.1	242.7	404%	- 20.0	13.0	165%	-41%	5%	113%	- 34.6	2.8	108%	-72%	1%	102%	21.1	20.5	-3%
		Freshwater aquaculture	10	3	-70%	4.8	0.9	-81%	3.0	0.3	-89%	64%	35%	-45%	2.7	0.3	-91%	57%	28%	-51%	24.5	16.8	-31%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs																					
		Manufacture of oils and fats																					
		Prepared meals and dishes																					
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	429	453	5%	115.4	135.0	17%	12.1	13.9	14%	10%	10%	-2%	6.5	6.5	0%	6%	5%	-15%	13.1	16.2	24%
		Retail sale of fish, crustaceans and molluscs in specialised stores	77	77	0%	16.2	23.5	45%	1.5	1.4	-7%	9%	6%	-36%	0.9	0.7	-22%	6%	3%	-46%	6.5	6.5	0%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling																					
		Warehousing and storage	245	272	11%	29.8	50.2	68%	14.9	30.3	102%	50%	60%	20%	11.5	21.8	89%	39%	44%	12%	13.9	31.1	124%
	Port and water projects	Construction of water projects																					
		Service activities incidental to water transportation	262	270	3%	40.1	32.1	-20%	22.1	19.5	-12%	55%	61%	10%	16.3	13.2	-19%	41%	41%	1%	21.8	23.7	9%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures				0.8			0.3			38%			0.2			25%					
		Building of pleasure and sporting boats	20	20	0%																		
		Repair and maintenance of ships and boats	271	353	30%	19.3	27.3	41%	12.0	8.9	-26%	62%	33%	-48%	8.0	3.8	-53%	41%	14%	-66%	14.8	14.2	-4%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft																					
		Manufacture of instruments for measuring, testing and navigation																					
		Manufacture of other fabricated metal products n.e.c.																					
		Manufacture of sport goods																					
		Manufacture of cordage, rope, twine and netting																					
		Manufacture of textiles other than apparel																					
Maritime transport	Passenger transport	Sea and coastal passenger water transport																					
		Inland passenger water transport	3																				
	Freight transport	Sea and coastal freight water transport	86	104	21%																17.4	23.1	32%
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment	69	43	-38%	4.7	42.0	794%	1.7	29.7	1647%	36%	71%	96%	0.1	29.4	29300%	2%	70%	3190%			
		Other transportation support activities	97	121	24%	13.7	25.7	88%	5.2	7.0	35%	38%	27%	-28%	3.4	4.2	22%	25%	16%	-35%	17.7	23.0	30%
Coastal tourism	Transport	Transport	1,170	4,288	267%	185.1	655.1	254%	18.5	79.6	331%	10%	12%	22%	11.8	52.6	347%	6%	8%	26%	5.5	6.3	14%
	Other expenditure	Other expenditure	4,004	9,140	128%	181.9	560.9	208%	42.2	146.4	247%	23%	26%	13%	16.4	60.0	266%	9%	11%	19%	6.5	9.0	37%
	Accommodation	Accommodation	7,847	8,825	12%	318.4	761.1	139%	140.7	354.5	152%	44%	47%	5%	44.6	198.7	346%	14%	26%	86%	12.3	17.7	44%
Malta		**Blue economy (established sectors)**	**15,935**	**25,432**	**60%**	**988**	**2,571**	**160%**	**257**	**713**	**177%**	**26%**	**28%**	**7%**	**79**	**397**	**404%**	**8%**	**15%**	**94%**	**178**	**322**	**80%**

Table A25 Netherlands: Overview of the Blue Economy by sub-sector and activity

Netherlands		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	302	327	8%	5.6	5.4	-3%	3.7	4.1	9%	67%	75%	13%	2.3	2.8	23%	41%	52%	27%	4.8	3.9	-20%
		Capture fisheries (LSF)	1,785	1,660	-7%	366.5	429.7	17%	148.5	214.3	44%	41%	50%	23%	48.2	80.5	67%	13%	19%	42%	56.1	80.6	44%
		Capture fisheries (DWF)																					
		Marine aquaculture	5	3	-35%	1.4	1.6	19%	0.1	0.3	198%	6%	16%	151%	- 0.2	0.1	127%	-18%	4%	123%	47.4	43.1	-9%
		Freshwater aquaculture	131	73	-44%	33.5	35.1	5%	3.6	13.4	271%	11%	38%	254%	- 0.7	3.6	612%	-2%	10%	589%	6.8	111.9	1551%
		Shellfish aquaculture	236	231	-2%	65.0	70.9	9%	35.8	29.9	-16%	55%	42%	-23%	18.4	11.8	-36%	28%	17%	-41%	31.7	62.0	96%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	3,335	3,067	-8%	677.4	983.8	45%	138.5	153.1	11%	20%	16%	-24%	55.9	54.0	-3%	8%	5%	-33%	24.8	32.3	30%
		Manufacture of oils and fats	0	0	42%																		
		Prepared meals and dishes	420	1,041	148%																		
		Other food products	3	1	-66%																		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	7,159	10,105	41%	3,896.8	6,681.2	71%	489.1	707.1	45%	13%	11%	-16%	229.3	301.7	32%	6%	5%	-23%	36.3	40.1	11%
		Retail sale of fish, crustaceans and molluscs in specialised stores	3,910	4,647	19%																		
Non-living resources	Oil and gas	Extraction of crude petroleum	227	131	-42%	7,938.0	2,260.0	-72%	1,971.2	498.4	-75%	25%	22%	-11%	1,898.2	443.3	-77%	24%	20%	-18%	321.3	419.4	31%
		Extraction of natural gas	854	789	-8%	5,602.2	2,863.1	-49%	1,391.2	631.5	-55%	25%	22%	-11%	1,339.6	561.6	-58%	24%	20%	-18%	60.3	88.5	47%
		Support activities for petroleum and natural gas extraction	922	902	-2%	726.2	766.5	6%	270.5	433.9	60%	37%	57%	52%	183.4	342.1	86%	25%	45%	77%	94.5	101.7	8%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin	366	180	-51%	244.4	132.1	-46%	75.4	32.1	-57%	31%	24%	-21%	53.3	18.0	-66%	22%	14%	-38%	60.3	78.4	30%
		Extraction of salt																					
		Support activities for other mining and quarrying		0			0.1			0.1			89%			- 0.0			-11%			180.0	
Ocean energy	Offshore wind energy	Production of electricity	54	158	195%																		
		Transmission of electricity	74	594	698%																		
Ports activities	Cargo and warehousing	Cargo handling	8,242	8,982	9%	1,740.8	2,355.5	35%	804.8	1,003.0	25%	46%	43%	-8%	349.0	388.4	11%	20%	16%	-18%	55.3	68.4	24%
		Warehousing and storage	8,365	12,406	48%	2,508.8	3,394.4	35%	940.3	1,368.4	46%	37%	40%	8%	430.6	654.7	52%	17%	19%	12%	60.9	57.5	-6%
	Port and water projects	Construction of water projects	6,249	8,274	32%	1,671.3	2,084.0	25%	820.9	865.3	5%	49%	42%	-15%	371.6	256.7	-31%	22%	12%	-45%	71.9	73.5	2%
		Service activities incidental to water transportation	3,862	4,829	25%	1,147.0	1,680.1	46%	741.5	1,060.6	43%	65%	63%	-2%	483.3	806.2	67%	42%	48%	14%	66.9	52.7	-21%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	6,488	6,209	-4%	2,355.7	2,505.2	6%	393.5	362.1	-8%	17%	14%	-13%	118.4	7.7	-94%	5%	0%	-94%	42.4	57.1	35%
		Building of pleasure and sporting boats	5,437	5,559	2%	2,355.7	2,505.2	6%	393.5	362.1	-8%	17%	14%	-13%	118.4	7.7	-94%	5%	0%	-94%	50.6	63.8	26%
		Repair and maintenance of ships and boats	4,837	5,091	5%																		
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	347	81	-77%																		
		Manufacture of instruments for measuring, testing and navigation	73	45	-38%																		
		Manufacture of other fabricated metal products n.e.c.	107	105	-1%																		
		Manufacture of sport goods	64	54	-16%																		
		Manufacture of cordage, rope, twine and netting	66	23	-65%																		
		Manufacture of textiles other than apparel	193	156	-20%																		
Maritime transport	Passenger transport	Sea and coastal passenger water transport	1,711	1,663	-3%																		
		Inland passenger water transport	3,155	3,411	8%																		
	Freight transport	Sea and coastal freight water transport	9,908	6,144	-38%	4,635.5	5,680.8	23%	1,299.7	1,324.4	2%	28%	23%	-17%	959.1	831.4	-13%	21%	15%	-29%	34.4	80.2	133%
		Inland freight water transport	10,556	10,010	-5%																		
	Services for transport	Renting and leasing of water transport equipment	182	487	168%																		
		Other transportation support activities	7,026	8,173	16%	2,082.1	3,447.9	66%	419.1	592.8	41%	20%	17%	-15%	110.9	150.6	36%	5%	4%	-18%	43.9	54.1	23%
Coastal tourism	Transport	Transport	2,285	3,745	64%	648.2	1,471.4	127%	185.7	450.8	143%	29%	31%	7%	45.0	159.0	254%	7%	11%	56%	61.6	77.9	27%
	Other expenditure	Other expenditure	11,991	32,723	173%	819.5	2,366.3	189%	228.5	750.8	229%	28%	32%	14%	87.4	299.3	242%	11%	13%	19%	11.8	13.8	17%
	Accommodation	Accommodation	22,512	32,755	45%	990.8	2,238.5	126%	441.8	1,039.3	135%	45%	46%	4%	143.3	482.8	237%	14%	22%	49%	13.3	17.0	28%
Netherlands		**Blue economy (established sectors)**	**133,438**	**174,834**	31%	**40,512**	**43,959**	9%	**11,197**	**11,898**	6%	**28%**	**27%**	-2%	**7,045**	**5,864**	-17%	**17%**	**13%**	-23%	**4,139**	**6,028**	46%

Notes: The total value of the Dutch Blue Economy is underestimated because the data for sea and coastal passenger water transport as well as on inland water transport were not available.

Table A26 Austria: Overview of the Blue Economy by sub-sector and activity

Austria		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)																					
		Capture fisheries (LSF)																					
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	121	408	238%	15.4	29.8	93%	4.7	11.4	144%	30%	38%	26%	1.4	3.0	123%	9%	10%	15%	20.5	17.0	-17%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	130	164	26%	34.4	45.8	33%	9.8	11.0	12%	28%	24%	-16%	5.6	4.3	-23%	16%	9%	-42%	31.5	40.9	30%
		Manufacture of oils and fats																					
		Prepared meals and dishes	94	551	487%	17.4	169.9	876%	4.8	31.0	539%	28%	18%	-35%	1.4	5.9	309%	8%	3%	-58%	36.4	45.5	25%
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	1,694	1,536	-9%	1,049.7	888.5	-15%	119.5	112.2	-6%	11%	13%	11%	44.0	34.1	-22%	4%	4%	-8%	44.6	50.8	14%
		Retail sale of fish, crustaceans and molluscs in specialised stores	214	267	25%	17.4	22.5	29%	2.8	5.8	107%	16%	26%	60%	- 0.6	1.3	317%	-3%	6%	268%	15.9	16.9	6%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	12	19	58%	1.5	1.7	17%	- 0.2	0.6	500%	-10%	35%	441%	- 0.3	0.4	217%	-21%	21%	200%	12.5	13.2	5%
		Warehousing and storage	712	1,099	54%	175.0	319.2	82%	77.9	120.6	55%	44%	38%	-15%	48.2	70.8	47%	28%	22%	-19%	41.6	45.3	9%
	Port and water projects	Construction of water projects	418	368	-12%	68.9	99.1	44%	9.8	8.3	-15%	14%	8%	-41%	0.4	1.6	300%	1%	2%	178%	22.2	18.2	-18%
		Service activities incidental to water transportation	72	96	33%	13.7	28.0	104%	8.3	16.8	102%	61%	60%	-1%	5.2	11.3	117%	38%	40%	6%	41.7	57.3	38%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures																					
		Building of pleasure and sporting boats	220	314	43%	27.8	81.5	193%	6.8	18.8	176%	24%	23%	-6%	- 0.5	4.6	1020%	-2%	6%	414%	33.2	45.2	36%
		Repair and maintenance of ships and boats	177	202	14%	22.2	39.2	77%	9.2	14.8	61%	41%	38%	-9%	2.0	3.7	85%	9%	9%	5%	40.7	55.0	35%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	287	537	87%	55.1	121.3	120%	13.2	36.4	176%	24%	30%	25%	- 3.4	1.4	141%	-6%	1%	119%	57.5	65.2	13%
		Manufacture of instruments for measuring, testing and navigation	29	0	-100%	4.3	0.0	-100%	2.0	0.0	-100%	47%	48%	3%	0.6	0.0	-100%	14%	18%	29%	48.1	62.0	29%
		Manufacture of other fabricated metal products n.e.c.																					
		Manufacture of sport goods	184	33	-82%	38.2	10.4	-73%	8.4	2.7	-68%	22%	26%	18%	0.3	0.8	131%	1%	7%	747%	43.8	57.2	31%
		Manufacture of cordage, rope, twine and netting	7	14	113%	0.6	4.3	682%	0.2	1.1	374%	42%	25%	-39%	0.1	0.3	216%	16%	7%	-60%	23.1	58.1	152%
		Manufacture of textiles other than apparel	222	216	-3%	29.5	35.0	19%	9.0	10.6	17%	31%	30%	-2%	2.5	2.2	-13%	8%	6%	-27%	29.5	38.7	31%
Maritime transport	Passenger transport	Sea and coastal passenger water transport																					
		Inland passenger water transport	371	451	22%	43.3	60.8	40%	14.9	29.2	96%	34%	48%	40%	5.0	16.7	234%	12%	27%	138%	26.7	27.9	5%
	Freight transport	Sea and coastal freight water transport																					
		Inland freight water transport	163	81	-50%	78.5	47.6	-39%	9.6	- 2.3	-124%	12%	-5%	-140%	0.9	- 6.1	-778%	1%	-13%	-1218%	53.4	46.9	-12%
	Services for transport	Renting and leasing of water transport equipment	20	29	45%	16.3	20.7	27%	12.9	13.1	2%	79%	63%	-20%	12.6	12.4	-2%	77%	60%	-23%	15.0	20.7	38%
		Other transportation support activities	145	125	-14%	56.8	59.7	5%	8.6	9.8	14%	15%	16%	9%	2.0	2.9	45%	3%	5%	38%	45.5	55.2	21%
Coastal tourism	Transport	Transport																					
	Other expenditure	Other expenditure																					
	Accommodation	Accommodation																					
	Austria	Blue economy (established sectors)	5,290	6,510	23%	1,766	2,085	18%	332	452	36%	19%	22%	15%	127	171	35%	7%	8%	14%	204	279	37%

Table A27 Poland: Overview of the Blue Economy by sub-sector and activity

Poland		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	1,313	1,738	32%	10.8	10.6	-2%	7.6	6.4	-15%	70%	61%	-13%	5.1	- 2.8	-154%	47%	-26%	-155%	1.9	5.3	181%
		Capture fisheries (LSF)	1,116	871	-22%	30.9	36.9	19%	16.2	19.3	19%	52%	52%	0%	8.5	8.8	3%	27%	24%	-13%	6.9	12.1	74%
		Capture fisheries (DWF)	270	47	-83%																		
		Marine aquaculture																					
		Freshwater aquaculture	4,887	8,731	79%	85.2	127.0	49%	25.8	48.6	88%	30%	38%	26%	7.5	12.9	72%	9%	10%	15%	2.8	3.4	21%
		Shellfish aquaculture	0	0	349%	0.0	0.0	438%	0.0	0.0	525%	50%	58%	16%	0.0	0.0	700%	13%	19%	49%	7.8	27.7	256%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	17,205	18,673	9%	1,421.9	3,126.4	120%	283.9	449.5	58%	20%	14%	-28%	152.3	197.4	30%	11%	6%	-41%	7.6	13.5	77%
		Manufacture of oils and fats	11	6	-47%	4.9	3.1	-37%	0.6	0.3	-53%	12%	9%	-25%	0.4	0.2	-61%	9%	6%	-38%	12.3	17.2	40%
		Prepared meals and dishes	1,472	1,634	11%	100.5	93.8	-7%	18.5	28.3	53%	18%	30%	64%	8.7	14.2	64%	9%	15%	75%	6.7	8.6	28%
		Other food products	66	0	-100%	6.0	0.0	-100%	2.0	0.0	-100%	33%	25%	-23%	1.2	0.0	-100%	20%	13%	-36%	11.5	16.1	40%
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	4,867	5,195	7%	1,174.9	1,436.9	22%	129.6	153.9	19%	11%	11%	-3%	79.2	75.6	-5%	7%	5%	-22%	10.4	15.1	46%
		Retail sale of fish, crustaceans and molluscs in specialised stores	1,990	1,817	-9%	209.5	117.4	-44%	22.9	12.3	-46%	11%	10%	-4%	18.6	6.0	-68%	9%	5%	-42%	2.2	3.5	60%
Non-living resources	Oil and gas	Extraction of crude petroleum	62	35	-43%	15.7	8.9	-43%	4.3	2.4	-43%	27%	27%	0%	2.2	1.3	-43%	14%	14%	0%	33.6	33.6	0%
		Extraction of natural gas	0	0	65%	0.0	0.0	97%	0.0	0.0	56%	21%	17%	-21%	0.0	- 0.0	-256%	16%	-13%	-179%	2.9	16.2	468%
		Support activities for petroleum and natural gas extraction	362	155	-57%	28.0	11.4	-59%	14.2	5.6	-61%	51%	49%	-3%	6.9	1.9	-72%	25%	17%	-31%	20.3	23.7	17%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin		19			1.9			0.7			38%			0.5			26%			12.5	
		Extraction of salt																					
		Support activities for other mining and quarrying		2			0.1			0.1			166%			0.1			111%			17.8	
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	7,804	5,185	-34%	418.3	440.3	5%	161.2	189.9	18%	39%	43%	12%	78.1	113.3	45%	19%	26%	38%	10.7	14.8	39%
		Warehousing and storage	8,258	15,692	90%	385.1	1,121.2	191%	116.7	372.8	219%	30%	33%	10%	47.1	123.9	163%	12%	11%	-10%	8.4	15.9	88%
	Port and water projects	Construction of water projects	9,511	6,070	-36%	893.5	472.5	-47%	206.0	162.1	-21%	23%	34%	49%	99.3	86.9	-12%	11%	18%	65%	11.2	12.4	10%
		Service activities incidental to water transportation	2,418	1,607	-34%	209.2	216.6	4%	79.3	71.2	-10%	38%	33%	-13%	41.0	44.0	7%	20%	20%	4%	15.9	16.9	7%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	14,268	5,431	-62%	1,225.4	735.7	-40%	438.0	157.0	-64%	36%	21%	-40%	227.7	68.5	-70%	19%	9%	-50%	14.7	16.3	10%
		Building of pleasure and sporting boats	3,957	6,567	66%	163.7	451.2	176%	56.6	132.6	134%	35%	29%	-15%	26.4	48.9	85%	16%	11%	-33%	7.6	12.8	67%
		Repair and maintenance of ships and boats	9,717	10,679	10%	396.1	821.4	107%	179.2	271.3	51%	45%	33%	-27%	86.6	88.3	2%	22%	11%	-51%	9.5	17.1	80%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	885			120.5			32.5			27%			20.2			17%			13.8		
		Manufacture of instruments for measuring, testing and navigation	37	88	139%	1.7	8.2	396%	0.7	2.3	227%	43%	28%	-34%	0.3	0.9	172%	20%	11%	-45%	10.1	16.0	58%
		Manufacture of other fabricated metal products n.e.c.	101	1	-99%	4.5	0.0	-99%	1.5	0.0	-99%	34%	31%	-9%	0.8	0.0	-99%	17%	14%	-20%	7.2	13.5	87%
		Manufacture of sport goods	321	210	-35%	9.3	12.8	38%	3.8	4.0	5%	41%	31%	-24%	2.0	1.8	-14%	22%	14%	-38%	5.5	10.6	94%
		Manufacture of cordage, rope, twine and netting	45			2.1			0.7			34%			0.4			19%			7.2		
		Manufacture of textiles other than apparel	43	1,847	4188%	1.5	92.0	6109%	0.5	24.7	5346%	31%	27%	-12%	0.2	9.3	4225%	15%	10%	-30%	5.5	8.3	51%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	374	573	53%	42.2	108.7	158%	14.4	10.4	-28%	34%	10%	-72%	11.3	2.7	-76%	27%	2%	-91%	8.3	13.4	62%
		Inland passenger water transport	699	393	-44%	84.6	17.6	-79%	27.0	4.6	-83%	32%	26%	-18%	22.0	2.3	-90%	26%	13%	-50%	7.2	5.9	-18%
	Freight transport	Sea and coastal freight water transport	1,858	1,488	-20%	288.6	274.1	-5%	87.8	111.0	26%	30%	40%	33%	49.2	72.3	47%	17%	26%	55%	20.8	25.9	25%
		Inland freight water transport	723	595	-18%	105.7	45.6	-57%	32.3	9.1	-72%	31%	20%	-35%	26.1	5.1	-80%	25%	11%	-55%	8.6	6.9	-20%
	Services for transport	Renting and leasing of water transport equipment	125	224	79%	20.4	11.5	-44%	10.4	1.9	-82%	51%	17%	-68%	9.4	1.1	-88%	46%	10%	-79%	8.0	3.1	-61%
		Other transportation support activities	685	482	-30%	71.5	88.8	24%	14.4	13.6	-6%	20%	15%	-24%	7.4	5.9	-20%	10%	7%	-36%	10.2	15.9	56%
Coastal tourism	Transport	Transport	6,619	11,376	72%	362.1	1,090.8	201%	85.1	233.8	175%	24%	21%	-9%	33.6	108.2	222%	9%	10%	7%	7.8	11.0	42%
	Other expenditure	Other expenditure	9,623	19,974	108%	424.7	1,394.0	228%	81.0	277.7	243%	19%	20%	4%	40.9	124.5	204%	10%	9%	-7%	4.2	7.7	84%
	Accommodation	Accommodation	11,741	18,511	58%	297.9	999.1	235%	130.4	397.6	205%	44%	40%	-9%	64.6	200.6	211%	22%	20%	-7%	5.6	10.6	90%
Poland		Blue economy (established sectors)	123,432	145,915	18%	8,617	13,377	55%	2,285	3,175	39%	27%	24%	-10%	1,185	1,425	20%	14%	11%	-23%	1,095	1,744	59%

Table A28 Portugal: Overview of the Blue Economy by sub-sector and activity

Portugal		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	9,321	7,069	-24%	79.2	91.6	16%	60.7	69.2	14%	77%	76%	-1%	25.9	35.9	39%	33%	39%	20%	3.7	4.7	26%
		Capture fisheries (LSF)	8,200	7,133	-13%	258.5	268.3	4%	151.7	168.4	11%	59%	63%	7%	50.0	65.9	32%	19%	25%	27%	12.4	14.4	16%
		Capture fisheries (DWF)	339	321	-5%	30.5	22.1	-27%	12.9	7.5	-42%	42%	34%	-20%	8.7	2.8	-67%	29%	13%	-55%	12.3	14.5	17%
		Marine aquaculture	286	284	-1%	12.5	32.2	157%	- 4.5	7.7	271%	-36%	24%	166%	- 8.9	- 2.1	76%	-71%	-7%	91%	14.6	25.3	73%
		Freshwater aquaculture	37	31	-17%	1.2	2.2	87%	- 0.2	0.5	316%	-22%	25%	216%	- 0.2	- 0.6	-154%	-19%	-26%	-36%	6.5	17.0	162%
		Shellfish aquaculture	1,983	1,337	-33%	22.9	67.0	193%	21.1	59.5	182%	92%	89%	-4%	16.2	51.0	215%	71%	76%	8%	2.4	5.2	116%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	7,097	8,101	14%	1,064.6	1,316.6	24%	157.3	208.0	32%	15%	16%	7%	58.5	81.7	40%	5%	6%	13%	13.9	15.6	12%
		Manufacture of oils and fats	12	1	-93%	6.6	0.4	-93%	0.5	0.0	-93%	7%	7%	0%	0.3	0.0	-93%	4%	4%	0%	18.3	18.3	0%
		Prepared meals and dishes	383	397	4%	20.7	30.2	46%	6.6	7.0	6%	32%	23%	-28%	2.0	1.8	-11%	10%	6%	-39%	12.0	13.0	8%
		Other food products	7			1.0			0.2			22%			0.1			9%			18.7		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	7,610	6,682	-12%	2,016.2	2,110.7	5%	190.2	191.7	1%	9%	9%	-4%	76.6	74.4	-3%	4%	4%	-7%	14.9	17.5	18%
		Retail sale of fish, crustaceans and molluscs in specialised stores	5,928	4,441	-25%	302.1	307.3	2%	43.7	46.1	5%	14%	15%	4%	24.7	22.6	-9%	8%	7%	-10%	3.2	5.3	64%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	122	122	0%	4.1	4.1	0%	1.6	1.6	0%	38%	38%	0%	0.4	0.4	0%	10%	10%	0%	9.4	9.4	0%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	168	188	11%	33.1	39.0	18%	11.7	13.6	16%	35%	35%	-2%	5.7	7.8	37%	17%	20%	16%	35.6	30.7	-14%
		Warehousing and storage	642	1,076	68%	72.5	326.1	350%	40.9	52.4	28%	56%	16%	-72%	26.8	27.9	4%	37%	9%	-77%	21.9	22.8	4%
	Port and water projects	Construction of water projects	1,372	662	-52%	240.3	124.2	-48%	76.3	39.5	-48%	32%	32%	0%	37.6	17.3	-54%	16%	14%	-11%	28.2	33.5	19%
		Service activities incidental to water transportation	2,321	2,593	12%	276.2	380.9	38%	181.1	262.1	45%	66%	69%	5%	88.6	146.5	65%	32%	38%	20%	39.9	44.6	12%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	2,231	860	-61%	78.2	107.6	38%	35.1	26.6	-24%	45%	25%	-45%	4.9	8.6	76%	6%	8%	28%	13.5	20.9	55%
		Building of pleasure and sporting boats	410	895	118%	21.8	71.5	228%	4.0	21.5	438%	18%	30%	64%	- 2.4	- 0.3	88%	-11%	0%	96%	15.6	24.4	56%
		Repair and maintenance of ships and boats	1,698	1,621	-5%	202.8	177.0	-13%	68.3	48.7	-29%	34%	28%	-18%	31.1	5.3	-83%	15%	3%	-80%	22.0	26.8	22%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	127	80	-37%	60.3	20.1	-67%	5.7	5.4	-5%	9%	27%	186%	3.4	3.8	13%	6%	19%	241%	18.2	19.8	9%
		Manufacture of instruments for measuring, testing and navigation																					
		Manufacture of other fabricated metal products n.e.c.	1,168	482	-59%	67.5	33.3	-51%	24.0	11.8	-51%	36%	36%	0%	7.4	3.8	-49%	11%	11%	3%	14.2	16.7	18%
		Manufacture of sport goods	35	22	-36%	2.4	1.4	-42%	0.6	0.5	-26%	27%	34%	27%	0.2	0.2	-1%	7%	11%	70%	13.9	14.4	4%
		Manufacture of cordage, rope, twine and netting	240	360	50%	18.4	40.9	122%	5.4	9.1	69%	29%	22%	-24%	1.8	2.7	50%	10%	7%	-32%	14.9	17.6	19%
		Manufacture of textiles other than apparel	109	3	-97%	5.3	0.2	-97%	1.4	0.1	-96%	27%	30%	11%	0.2	0.0	-93%	4%	8%	117%	11.3	13.3	18%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	407	407	0%	12.7	12.7	0%	5.8	5.8	0%	46%	46%	0%	1.1	1.1	0%	9%	9%	0%	11.5	11.5	0%
		Inland passenger water transport	242	242	0%	11.5	11.5	0%	5.4	5.4	0%	47%	47%	0%	0.7	0.7	0%	6%	6%	0%	19.0	19.0	0%
	Freight transport	Sea and coastal freight water transport	616	535	-13%	299.5	391.8	31%	50.0	50.6	1%	17%	13%	-23%	23.8	32.7	37%	8%	8%	5%	42.5	33.5	-21%
		Inland freight water transport																					
	Services for transport	Renting and leasing of water transport equipment	101	166	64%	5.1	7.9	55%	1.4	2.6	86%	27%	33%	20%	0.6	1.1	83%	12%	14%	18%	7.9	9.0	14%
		Other transportation support activities	337	344	2%	74.3	82.5	11%	10.9	12.2	12%	15%	15%	1%	2.7	2.8	6%	4%	3%	-5%	24.3	27.2	12%
Coastal tourism	Transport	Transport	12,584	23,009	83%	1,998.4	4,253.9	113%	382.2	696.6	82%	19%	16%	-14%	121.5	198.4	63%	6%	5%	-23%	20.7	21.7	4%
	Other expenditure	Other expenditure	40,856	91,632	124%	2,149.4	5,140.6	139%	572.7	1,461.5	155%	27%	28%	7%	210.2	500.5	138%	10%	10%	0%	8.9	10.5	18%
	Accommodation	Accommodation	60,625	97,517	61%	2,555.4	4,697.4	84%	1,226.9	2,322.1	89%	48%	49%	3%	348.7	1,186.7	240%	14%	25%	85%	14.5	11.6	-20%
Portugal		Blue economy (established sectors)	167,615	258,613	54%	12,005	20,173	68%	3,351	5,815	74%	28%	29%	3%	1,169	2,482	112%	10%	12%	26%	2,183	3,329	53%

Table A29 Romania: Overview of the Blue Economy by sub-sector and activity

Romania		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	242	310	28%	0.6	1.8	198%	0.5	1.2	130%	85%	65%	-23%	0.3	0.6	117%	49%	36%	-27%	0.9	1.7	92%
		Capture fisheries (LSF)	47	95	102%	0.1	2.2	1821%	0.1	1.6	2487%	52%	70%	35%	0.0	1.2	6231%	16%	53%	230%	0.9	3.8	334%
		Capture fisheries (DWF)																					
		Marine aquaculture	3	18	500%	0.0	0.5	1430%	0.0	-0.4	-3792%	34%	-82%	-341%	0.0	-0.6	-600100%	0%	-118%	-39305%	2.4	6.6	174%
		Freshwater aquaculture	2,668	1,947	-27%	51.9	51.4	-1%	25.0	20.5	-18%	48%	40%	-17%	13.7	7.5	-45%	26%	15%	-45%	3.2	5.8	83%
		Shellfish aquaculture	1	4	300%	0.1	0.0	-100%	0.0	0.0	-100%	70%	100%	43%	0.0	-0.0	-123%	65%	-10000%	-15567%	1.8	2.3	25%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	1,370	1,313	-4%	73.7	105.1	43%	13.9	7.9	-43%	19%	8%	-60%	8.2	-3.3	-140%	11%	-3%	-128%	4.1	8.5	109%
		Manufacture of oils and fats																					
		Prepared meals and dishes	9	22	151%	0.1	0.5	238%	0.0	0.1	182%	15%	13%	-17%	0.0	-0.0	-757%	4%	-8%	-294%	1.8	4.7	162%
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	1,873	1,414	-25%	328.0	278.6	-15%	28.3	48.4	71%	9%	17%	101%	18.7	34.5	84%	6%	12%	117%	5.1	9.8	92%
		Retail sale of fish, crustaceans and molluscs in specialised stores	796	1,047	32%	23.2	54.4	134%	3.3	6.2	91%	14%	11%	-19%	1.7	1.2	-27%	7%	2%	-69%	2.1	4.8	124%
Non-living resources	Oil and gas	Extraction of crude petroleum	7,106	140	-98%	728.4	31.8	-96%	-4.3	-3.5	20%	-1%	-11%	-1730%	-8.6	-6.8	20%	-1%	-21%	-1730%	0.6	24.2	3960%
		Extraction of natural gas	667	659	-1%	87.6	124.0	42%															
		Support activities for petroleum and natural gas extraction	1,295	783	-40%	94.3	86.9	-8%	76.7	29.7	-61%	81%	34%	-58%	53.2	14.8	-72%	56%	17%	-70%	18.1	19.0	5%
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	1,599	1,520	-5%	46.5	66.8	43%	24.9	33.8	36%	53%	51%	-5%	11.2	14.1	25%	24%	21%	-13%	8.5	12.9	52%
		Warehousing and storage	491	633	29%	23.3	49.0	111%	7.8	15.5	99%	33%	32%	-5%	4.7	8.5	81%	20%	17%	-14%	6.2	11.0	77%
	Port and water projects	Construction of water projects	12,202	3,639	-70%	524.9	204.3	-61%	163.4	44.1	-73%	31%	22%	-31%	71.8	9.1	-87%	14%	4%	-67%	7.5	9.6	28%
		Service activities incidental to water transportation	5,564	4,988	-10%	271.5	318.5	17%	118.8	157.6	33%	44%	49%	13%	62.4	84.1	35%	23%	26%	15%	10.1	14.7	45%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	22,009	15,904	-28%	1,004.5	654.4	-35%	217.1	276.1	27%	22%	42%	95%	28.0	49.5	77%	3%	8%	171%	8.6	14.2	66%
		Building of pleasure and sporting boats	267	249	-7%	7.2	12.4	72%	1.6	2.3	44%	22%	19%	-17%	0.7	0.6	-14%	10%	5%	-50%	3.0	6.8	128%
		Repair and maintenance of ships and boats	7,905	5,702	-28%	131.7	146.6	11%	63.0	70.6	12%	48%	48%	1%	20.3	17.5	-14%	15%	12%	-23%	5.4	9.3	72%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	581	269	-54%	26.0	28.5	10%	7.2	5.1	-29%	28%	18%	-36%	2.4	1.7	-29%	9%	6%	-36%	8.3	12.6	52%
		Manufacture of instruments for measuring, testing and navigation	23	1	-95%	1.1	0.1	-94%	0.4	0.0	-96%	37%	22%	-41%	0.2	0.0	-96%	17%	11%	-37%	10.3	7.4	-28%
		Manufacture of other fabricated metal products n.e.c.	547			10.4			3.9			37%			0.9			9%			5.4		
		Manufacture of sport goods	8	132	1648%	0.1	4.6	3510%	0.1	1.6	2462%	48%	34%	-29%	0.0	0.4	2068%	16%	10%	-40%	5.4	8.5	58%
		Manufacture of cordage, rope, twine and netting	18			0.6			0.1			21%			0.0			7%			4.8		
		Manufacture of textiles other than apparel	12	8	-35%	0.2	0.3	29%	0.1	0.1	40%	28%	30%	9%	0.0	0.0	45%	7%	8%	12%	3.7	8.0	114%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	6	57	850%		1.9		0.4	0.3	-25%		16%		0.4	0.2	-50%		11%			1.8	
		Inland passenger water transport	354	379	7%	6.0	7.9	32%	3.2	6.1	91%	53%	77%	45%	1.8	2.3	28%	30%	29%	-3%	4.0	10.0	154%
	Freight transport	Sea and coastal freight water transport	807	223	-72%	64.1	49.6	-23%	16.7	10.5	-37%	26%	21%	-19%	9.9	6.4	-35%	15%	13%	-16%	8.4	18.4	118%
		Inland freight water transport	2,133	1,728	-19%	119.7	138.5	16%	42.3	38.2	-10%	35%	28%	-22%	24.8	18.9	-24%	21%	14%	-34%	8.2	11.2	36%
	Services for transport	Renting and leasing of water transport equipment	95	169	78%	3.1	5.7	84%															
		Other transportation support activities	304	262	-14%	25.3	31.2	23%	4.3	5.4	24%	17%	17%	1%	2.2	2.4	11%	9%	8%	-10%	7.2	11.4	59%
Coastal tourism	Transport	Transport	1,887	6,326	235%	94.1	350.6	272%	13.6	69.2	409%	14%	20%	37%	4.4	22.5	411%	5%	6%	37%	4.9	7.4	52%
	Other expenditure	Other expenditure	5,438	8,435	55%	168.5	435.5	158%	26.9	100.9	275%	16%	23%	45%	8.3	44.8	439%	5%	10%	109%	3.4	6.6	95%
	Accommodation	Accommodation	4,667	8,094	73%	93.1	231.2	148%	38.7	115.6	199%	42%	50%	20%	19.5	58.8	202%	21%	25%	21%	4.1	7.0	71%
Romania		Blue economy (established sectors)	82,991	66,470	-20%	4,010	3,475	-13%	898	1,064	19%	22%	31%	37%	361	391	8%	9%	11%	25%	534	672	26%

Table A30 Slovenia: Overview of the Blue Economy by sub-sector and activity

Slovenia		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	64	81	27%	0.7	1.7	128%	0.4	1.5	250%	59%	91%	54%	0.1	1.3	1144%	14%	78%	446%	5.1	2.7	-48%
		Capture fisheries (LSF)	53	22	-58%	2.1	0.4	-80%	1.3	0.2	-85%	59%	44%	-24%	0.4	0.0	-97%	19%	3%	-83%	16.0	8.1	-49%
		Capture fisheries (DWF)																					
		Marine aquaculture	17	12	-29%	1.2	1.1	-9%	0.9	0.5	-161%	71%	-47%	-167%	0.4	-1.0	-328%	36%	-90%	-351%	21.1	25.9	23%
		Freshwater aquaculture	175	158	-10%	2.6	5.9	122%	0.8	2.2	181%	30%	38%	26%	0.2	0.6	157%	9%	10%	15%	2.4	8.6	258%
		Shellfish aquaculture	18	17	-6%	1.4	1.6	18%	1.3	0.6	-51%	91%	38%	-58%	0.9	-0.3	-131%	68%	-18%	-126%	15.2	13.9	-9%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	295	104	-65%	15.2	11.9	-22%	3.9	2.1	-46%	26%	18%	-31%	1.1	0.2	-82%	7%	2%	-77%	9.5	18.3	92%
		Manufacture of oils and fats																					
		Prepared meals and dishes	10	18	76%	0.6	1.6	178%	0.1	0.4	336%	15%	24%	57%	0.0	0.0	198%	-8%	3%	135%	13.6	18.9	39%
		Other food products	1			0.1			0.0			35%			0.0			18%			19.7		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	237	296	25%	52.0	126.9	144%	8.9	13.1	47%	17%	10%	-40%	4.2	4.7	13%	8%	4%	-54%	19.8	28.3	42%
		Retail sale of fish, crustaceans and molluscs in specialised stores	98	81	-17%	9.1	7.7	-15%	2.0	1.5	-25%	22%	19%	-11%	0.7	0.4	-43%	8%	5%	-32%	13.3	14.8	12%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt	81	120	48%	13.5	13.7	1%	2.2	3.7	68%	16%	27%	66%	0.2	1.1	450%	1%	8%	442%	23.5	21.7	-8%
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	1,132	1,604	42%	119.5	204.9	71%	66.1	119.8	81%	55%	58%	6%	35.5	66.2	86%	30%	32%	9%	27.1	33.4	23%
		Warehousing and storage	146	82	-44%	8.9	15.0	69%	2.4	2.6	10%	27%	17%	-35%	0.3	1.1	500%	-3%	7%	337%	18.0	18.7	4%
	Port and water projects	Construction of water projects	1,090	509	-53%	87.5	79.0	-10%	31.5	17.8	-43%	36%	23%	-37%	7.7	5.1	-34%	9%	6%	-27%	21.8	25.0	14%
		Service activities incidental to water transportation	283	280	-1%	22.0	49.2	124%	9.2	12.4	35%	42%	25%	-40%	2.3	2.8	22%	10%	6%	-46%	24.7	34.3	39%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	47	30	-36%	1.6	2.4	50%	0.7	0.7	0%	44%	29%	-33%		0.2			8%		12.8	16.7	31%
		Building of pleasure and sporting boats	463	282	-39%	47.0	34.7	-26%	4.6	9.0	96%	10%	26%	165%	5.2	3.1	160%	-11%	9%	181%	21.2	20.9	-1%
		Repair and maintenance of ships and boats	127	259	104%	5.0	14.9	198%	1.5	6.9	360%	30%	46%	54%	0.5	3.9	680%	10%	26%	162%	7.1	12.0	69%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	128			15.0			6.5			43%			3.6			24%			22.2		
		Manufacture of instruments for measuring, testing and navigation	12			1.2			0.4			33%			0.1			5%			27.2		
		Manufacture of other fabricated metal products n.e.c.																					
		Manufacture of sport goods	4	1	-64%	0.4	0.1	-66%	0.0	0.0	49%	7%	31%	334%	0.0	0.0	123%	-11%	7%	167%	17.9	22.4	25%
		Manufacture of cordage, rope, twine and netting	12			1.1			0.2			20%			0.0			2%			16.4		
		Manufacture of textiles other than apparel	23	90	282%	1.1	6.7	502%	0.4	2.5	582%	33%	37%	13%	0.0	0.7	5014%	1%	10%	749%	14.9	20.0	34%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	46	40	-13%	2.2	1.4	-36%	0.8	0.5	-38%	36%	36%	-2%	0.3	0.2	-33%	14%	14%	5%	10.9	7.5	-31%
		Inland passenger water transport	38	38	0%	1.0	2.7	170%	0.5	1.9	280%	50%	70%	41%	0.4	1.6	300%	40%	59%	48%	5.3	7.9	50%
	Freight transport	Sea and coastal freight water transport	195	134	-31%	49.9	28.9	-42%	10.1	10.3	2%	20%	36%	76%	2.8	3.9	39%	6%	13%	140%	37.4	47.0	26%
		Inland freight water transport				1.2	1.2	0%	0.3	0.3	0%	25%	25%	0%	0.3	0.3	0%	25%	25%	0%			
	Services for transport	Renting and leasing of water transport equipment	35	51	46%	5.3	3.7	-30%	0.2	1.2	500%	4%	32%	759%	0.1	0.9	1000%	-2%	24%	1389%	11.4	5.9	-49%
		Other transportation support activities	58	33	-43%	8.2	7.9	-3%	1.7	1.3	-24%	21%	17%	-22%	0.4	0.4	11%	5%	5%	14%	23.5	27.4	17%
Coastal tourism	Transport	Transport	250	154	-38%	95.2	94.5	-1%	8.9	7.2	-19%	9%	8%	-19%	3.5	3.5	2%	4%	4%	3%	21.6	23.7	10%
	Other expenditure	Other expenditure	1,402	1,876	34%	102.1	160.0	57%	22.7	40.4	78%	22%	25%	13%	6.1	13.2	117%	6%	8%	39%	11.9	14.5	22%
	Accommodation	Accommodation	1,699	1,881	11%	89.9	105.1	17%	41.4	53.5	29%	46%	51%	10%	11.4	23.0	102%	13%	22%	73%	17.7	16.2	-8%
Slovenia		**Blue economy (established sectors)**	**8,239**	**8,252**	0%	**764**	**985**	29%	**232**	**313**	35%	**30%**	**32%**	5%	**77**	**137**	77%	**10%**	**14%**	37%	**154**	**175**	13%

Table A31 Slovakia: Overview of the Blue Economy by sub-sector and activity

Slovakia		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)																					
		Capture fisheries (LSF)																					
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	1,108	615	-44%	2.0	6.2	209%	0.6	2.4	290%	30%	38%	26%	0.2	0.6	256%	9%	10%	15%	0.3	2.3	706%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	697	577	-17%	58.2	72.2	24%	10.7	1.5	-86%	18%	2%	-89%	3.1	- 5.4	-274%	5%	-7%	-240%	10.9	12.5	14%
		Manufacture of oils and fats																					
		Prepared meals and dishes	24	269	1020%	0.3	24.2	7967%	0.1	3.9	3792%	33%	16%	-52%	- 0.1	1.1	1232%	-33%	5%	114%	8.3	10.3	23%
		Other food products																					
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	473	469	-1%	93.4	298.5	220%	11.7	12.6	7%	13%	4%	-66%	5.0	3.6	-28%	5%	1%	-78%	14.2	19.2	35%
		Retail sale of fish, crustaceans and molluscs in specialised stores	7	38	443%	0.4	2.1	425%	0.3	- 6.5	-2267%	75%	-310%	-513%	0.1	- 6.7	-6800%	25%	-319%	-1376%	14.3	5.3	-63%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	231	482	108%	7.3	49.7	586%	3.7	11.8	218%	51%	24%	-54%	1.6	5.6	247%	22%	11%	-49%	9.3	12.8	37%
		Warehousing and storage	956	5,299	454%	73.0	442.6	506%	- 24.3	103.0	524%	-33%	23%	170%	- 38.2	6.8	118%	-52%	2%	103%	14.5	18.2	25%
	Port and water projects	Construction of water projects	291	75	-74%	23.0	7.2	-69%	6.8	1.8	-74%	30%	25%	-15%	3.1	0.6	-81%	13%	8%	-38%	12.7	16.0	26%
		Service activities incidental to water transportation	25	183	632%	4.0	7.3	83%	1.7	3.9	129%	43%	53%	26%	1.3	2.6	100%	33%	36%	10%	16.0	7.1	-56%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	470	58	-88%	24.5	1.8	-93%	1.7	0.4	-76%	7%	22%	220%	- 3.2			-13%			10.9	6.9	-36%
		Building of pleasure and sporting boats	21	65	210%	0.7	3.1	343%	0.3	- 0.2	-167%	43%	-6%	-115%	0.2	- 0.8	-500%	29%	-26%	-190%	9.5	9.2	-3%
		Repair and maintenance of ships and boats	76	64	-16%	4.2	5.9	40%	1.1	1.2	9%	26%	20%	-22%	0.4	0.3	-25%	10%	5%	-47%	9.2	15.6	70%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	0			0.0			0.0			15%			- 0.0			-7%			11.7		
		Manufacture of instruments for measuring, testing and navigation	2			0.2			0.1			31%			0.0			14%			12.6		
		Manufacture of other fabricated metal products n.e.c.		0			0.0			0.0			24%			0.0			12%			8.2	
		Manufacture of sport goods	2	33	1281%	0.1	3.1	4463%	0.0	0.8	3902%	30%	27%	-12%	0.0	0.3	48024%	1%	9%	955%	8.6	16.4	91%
		Manufacture of cordage, rope, twine and netting	61	36	-42%	3.4	2.6	-23%	0.8	0.8	-1%	25%	32%	28%	0.2	0.3	47%	5%	10%	90%	11.0	16.4	50%
		Manufacture of textiles other than apparel	199	984	396%	5.7	62.4	987%	1.9	18.7	904%	32%	30%	-8%	0.5	7.5	1520%	8%	12%	49%	7.0	11.3	61%
Maritime transport	Passenger transport	Sea and coastal passenger water transport		4			0.1																
		Inland passenger water transport	43	91	112%	3.6	7.5	108%	2.0	2.6	30%	56%	35%	-38%	1.3	1.3	0%	36%	17%	-52%	16.3	14.3	-12%
	Freight transport	Sea and coastal freight water transport																					
		Inland freight water transport	573	280	-51%	51.8	53.0	2%	9.9	9.1	-8%	19%	17%	-10%	2.4	3.0	25%	5%	6%	22%	13.1	21.8	66%
	Services for transport	Renting and leasing of water transport equipment	18	6	-67%	1.5	0.1	-93%	0.8	0.1	-88%	53%	100%	88%	0.6	0.1	-83%	40%	100%	150%	11.1		
		Other transportation support activities	110	122	12%	17.0	27.1	59%	2.9	4.2	46%	17%	15%	-8%	1.2	1.7	37%	7%	6%	-14%	14.8	20.2	37%
Coastal tourism	Transport	Transport																					
	Other expenditure	Other expenditure																					
	Accommodation	Accommodation																					
Slovakia		**Blue economy (established sectors)**	**5,388**	**9,749**	81%	**374**	**1,077**	188%	**33**	**172**	425%	**9%**	**16%**	82%	**- 20**	**22**	210%	**-5%**	**2%**	138%	**53**	**150**	181%

Table A32 Finland: Overview of the Blue Economy by sub-sector and activity

Finland		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	1,306	1,072	-18%	13.1	8.4	-35%	8.0	5.2	-35%	61%	62%	1%	4.6	3.6	-23%	35%	42%	19%	2.6	1.5	-40%
		Capture fisheries (LSF)	141	125	-11%	17.9	28.2	57%	6.3	16.8	166%	35%	60%	69%	2.9	10.4	264%	16%	37%	132%	24.5	51.2	109%
		Capture fisheries (DWF)																					
		Marine aquaculture	80	153	91%	16.6	48.8	194%	4.1	19.8	386%	25%	41%	65%	0.8	14.3	1736%	5%	29%	524%	30.4	26.0	-15%
		Freshwater aquaculture	369	300	-19%	39.8	32.6	-18%	14.6	1.8	-88%	37%	5%	-85%	2.3	- 10.6	-549%	6%	-32%	-648%	29.4	30.7	5%
		Shellfish aquaculture																					
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	907	1,040	15%	195.9	395.8	102%	36.3	55.8	54%	19%	14%	-24%	10.1	23.4	132%	5%	6%	15%	28.9	31.3	8%
		Manufacture of oils and fats																					
		Prepared meals and dishes	119	193	63%	20.8	41.2	98%	6.3	13.2	110%	30%	32%	6%	2.1	5.2	149%	10%	13%	26%	35.5	41.4	17%
		Other food products	4			0.6			0.2			29%			0.1			10%			31.0		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	1,169	1,237	6%	610.9	768.2	26%	103.7	107.0	3%	17%	14%	-18%	53.1	49.6	-7%	9%	6%	-26%	43.3	46.4	7%
		Retail sale of fish, crustaceans and molluscs in specialised stores	700	663	-5%	107.6	152.8	42%	22.8	27.7	21%	21%	18%	-14%	6.0	9.8	63%	6%	6%	15%	24.0	27.0	12%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	1,568	1,452	-7%	164.3	230.8	40%	80.4	101.4	26%	49%	44%	-10%	6.9	22.4	223%	4%	10%	130%	46.9	54.4	16%
		Warehousing and storage	4,494	2,535	-44%	596.0	419.9	-30%	209.7	143.9	-31%	35%	34%	-3%	46.5	46.9	1%	8%	11%	43%	36.3	38.3	5%
	Port and water projects	Construction of water projects	555	510	-8%	105.8	140.1	32%	38.4	30.0	-22%	36%	21%	-41%	15.6	5.7	-63%	15%	4%	-72%	41.1	47.6	16%
		Service activities incidental to water transportation	1,759	1,751	0%	308.3	446.0	45%	208.8	294.0	41%	68%	66%	-3%	114.8	187.4	63%	37%	42%	13%	53.4	60.9	14%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	5,512	3,988	-28%	1,191.5	1,439.5	21%	219.7	241.5	10%	18%	17%	-9%	- 6.4	46.3	823%	-1%	3%	699%	41.0	48.9	19%
		Building of pleasure and sporting boats	2,443	1,900	-22%	224.0	312.8	40%	63.2	86.3	37%	28%	28%	-2%	- 9.8	5.9	160%	-4%	2%	143%	29.9	42.3	42%
		Repair and maintenance of ships and boats	791	874	10%	84.3	159.2	89%	32.9	38.9	18%	39%	24%	-37%	9.4	9.8	4%	11%	6%	-45%	29.6	33.3	13%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	1,618	371	-77%	946.5	179.0	-81%	194.4	29.6	-85%	21%	17%	-20%	93.2	5.9	-94%	10%	3%	-67%	62.5	63.9	2%
		Manufacture of instruments for measuring, testing and navigation	9	358	3757%	1.8	68.4	3696%	0.7	30.1	4113%	40%	44%	11%	0.3	9.0	3367%	14%	13%	-9%	48.8	58.7	20%
		Manufacture of other fabricated metal products n.e.c.	130	19	-86%	15.7	3.1	-81%	5.9	1.1	-81%	37%	36%	-3%	1.4	0.3	-76%	9%	11%	25%	34.2	40.5	19%
		Manufacture of sport goods	276	194	-30%	39.7	33.1	-17%	11.9	9.2	-22%	30%	28%	-7%	2.8	1.4	-49%	7%	4%	-39%	33.0	40.2	22%
		Manufacture of cordage, rope, twine and netting	15			1.6			0.7			42%			0.2			13%			31.7		
		Manufacture of textiles other than apparel	460	313	-32%	45.9	39.9	-13%	16.0	13.8	-14%	35%	35%	-1%	4.1	3.8	-8%	9%	10%	6%	25.7	31.9	24%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	5,640	6,032	7%	1,018.8	1,207.5	19%	275.3	323.5	18%	27%	27%	-1%	33.6	63.8	90%	3%	5%	60%	42.9	43.1	0%
		Inland passenger water transport	234	184	-21%	12.2	11.6	-5%	6.4	5.9	-8%	52%	51%	-3%	1.8	1.8	0%	15%	16%	5%	19.7	21.7	11%
	Freight transport	Sea and coastal freight water transport	3,793	2,716	-28%	1,379.2	834.6	-39%	292.4	313.7	7%	21%	38%	77%	100.9	169.0	67%	7%	20%	177%	50.5	53.3	6%
		Inland freight water transport	38	43	13%	4.3	6.9	60%	1.7	2.0	18%	40%	29%	-27%	- 0.1	0.5	600%	-2%	7%	412%	47.4	34.9	-26%
	Services for transport	Renting and leasing of water transport equipment	11	27	157%	1.6	6.7	319%	0.7	4.1	486%	44%	61%	40%	0.5	3.6	620%	31%	54%	72%	28.6	18.5	-35%
		Other transportation support activities	1,496	1,069	-29%	482.7	418.5	-13%	71.5	59.3	-17%	15%	14%	-4%	13.3	11.2	-15%	3%	3%	-3%	38.9	45.0	16%
Coastal tourism	Transport	Transport	6,079	5,979	-2%	798.1	966.8	21%	259.7	355.1	37%	33%	37%	13%	65.8	125.6	91%	8%	13%	58%	31.9	38.4	20%
	Other expenditure	Other expenditure	7,844	11,776	50%	868.9	1,420.9	64%	244.0	409.4	68%	28%	29%	3%	63.0	96.7	53%	7%	7%	-6%	23.1	26.6	15%
	Accommodation	Accommodation	4,433	5,736	29%	461.0	709.1	54%	141.8	243.7	72%	31%	34%	12%	25.1	83.7	233%	5%	12%	116%	26.3	27.9	6%
Finland		Blue economy (established sectors)	53,991	52,610	-3%	9,775	10,530	8%	2,578	2,984	16%	26%	28%	7%	665	1,006	51%	7%	10%	41%	1,911	1,973	3%

Table A33 Sweden: Overview of the Blue Economy by sub-sector and activity

Sweden		Activity	Persons employed		Δ 2018-09	Turnover (M€)		Δ 2018-09	Value added at factor cost (M€)		Δ 2018-09	GVA to turnover (%)		Δ 2018-09	Gross operating surplus (M€)		Δ 2018-09	Gross profit margin (%)		Δ 2018-09	Personnel costs per employee (k€)		Δ 2018-09
Sector	Sub-sector		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018		2009	2018	
Living resources	Primary production	Capture fisheries (SSCF)	1,002	827	-17%	16.3	13.6	-16%	8.7	6.9	-21%	54%	50%	-6%	0.1	-0.6	-547%	1%	-4%	-636%	8.6	9.0	5%
		Capture fisheries (LSF)	889	572	-36%	103.6	99.8	-4%	60.6	46.7	-23%	58%	47%	-20%	46.1	28.7	-38%	44%	29%	-35%	16.3	31.6	93%
		Capture fisheries (DWF)																					
		Marine aquaculture																					
		Freshwater aquaculture	339	375	11%	29.8	61.2	105%	8.2	37.9	364%	27%	62%	126%	2.0	23.9	1069%	7%	39%	469%	14.3	28.0	96%
		Shellfish aquaculture	85	37	-56%	1.2	0.8	-30%	0.6	0.8	43%	47%	95%	104%	-0.6	-0.2	68%	-48%	-21%	55%	6.8	9.6	42%
	Processing of fish products	Processing and preserving of fish, crustaceans and molluscs	2,042	2,117	4%	467.3	728.9	56%	99.0	96.0	-3%	21%	13%	-38%	32.6	12.0	-63%	7%	2%	-76%	32.5	39.7	22%
		Manufacture of oils and fats																					
		Prepared meals and dishes	97	334	244%	15.4	79.3	413%	4.5	24.9	448%	29%	31%	7%	1.5	9.5	527%	10%	12%	22%	31.1	46.0	48%
		Other food products	1			0.1			0.0			21%			0.0			4%			32.1		
	Distribution of fish products	Wholesale of other food, including fish, crustaceans and molluscs	2,260	2,231	-1%	884.5	1,046.4	18%	108.2	164.4	52%	12%	16%	28%	39.5	73.4	86%	4%	7%	57%	30.4	40.8	34%
		Retail sale of fish, crustaceans and molluscs in specialised stores	1,242	1,468	18%	139.0	190.0	37%	32.3	51.7	60%	23%	27%	17%	10.0	12.9	29%	7%	7%	-6%	18.0	26.5	48%
Non-living resources	Oil and gas	Extraction of crude petroleum																					
		Extraction of natural gas																					
		Support activities for petroleum and natural gas extraction																					
	Other minerals	Operation of gravel and sand pits; mining of clays and kaolin																					
		Extraction of salt																					
		Support activities for other mining and quarrying																					
Ocean energy	Offshore wind energy	Production of electricity																					
		Transmission of electricity																					
Ports activities	Cargo and warehousing	Cargo handling	834	945	13%	81.5	139.1	71%	49.0	70.2	43%	60%	50%	-16%	13.4	24.6	83%	17%	18%	7%	42.7	48.3	13%
		Warehousing and storage	218	430	97%	33.3	50.6	52%	12.2	25.7	112%	37%	51%	39%	4.8	10.1	112%	14%	20%	39%	33.9	36.4	7%
	Port and water projects	Construction of water projects	521	477	-8%	82.2	157.3	91%	24.0	30.9	29%	29%	20%	-33%	5.9	8.4	42%	7%	5%	-26%	34.7	47.2	36%
		Service activities incidental to water transportation	2,440	2,288	-6%	313.8	437.6	39%	155.6	236.5	52%	50%	54%	9%	31.7	74.1	134%	10%	17%	68%	50.8	71.0	40%
Shipbuilding and repair	Shipbuilding	Building of ships and floating structures	1,646	1,852	13%	220.7	422.1	91%	56.0	138.8	148%	25%	33%	30%	-29.2	28.3	197%	-13%	7%	151%	51.8	59.7	15%
		Building of pleasure and sporting boats	2,135	1,363	-36%	261.9	246.0	-6%	69.5	66.4	-4%	27%	27%	2%	1.2	13.3	1008%	0%	5%	1080%	32.0	39.0	22%
		Repair and maintenance of ships and boats	1,871	2,048	9%	288.7	400.9	39%	82.7	121.9	47%	29%	30%	6%	21.6	42.2	95%	7%	11%	41%	32.7	39.0	19%
	Equipment and machinery	Manufacture of engines and turbines, except aircraft	724	652	-10%	207.9	276.1	33%	47.3	87.9	86%	23%	32%	40%	11.2	40.4	260%	5%	15%	171%	49.9	73.0	46%
		Manufacture of instruments for measuring, testing and navigation	103	113	10%	19.1	26.5	39%	7.3	11.3	54%	38%	43%	11%	1.8	3.8	112%	9%	14%	53%	53.5	65.8	23%
		Manufacture of other fabricated metal products n.e.c.	483	716	48%	63.5	129.7	104%	20.7	45.4	119%	33%	35%	7%	3.4	11.9	246%	5%	9%	70%	35.9	46.7	30%
		Manufacture of sport goods	45	24	-47%	7.0	4.1	-42%	2.2	1.3	-41%	32%	32%	1%	0.6	0.5	-20%	9%	12%	37%	35.1	33.7	-4%
		Manufacture of cordage, rope, twine and netting	0	18	6381%	0.1	1.7	3312%	0.0	0.4	1886%	40%	23%	-42%	0.0	-0.5	-8675%	12%	-31%	-351%	51.3	52.7	3%
		Manufacture of textiles other than apparel	32	767	2284%	3.0	113.0	3619%	1.1	40.4	3689%	35%	36%	2%	0.2	11.3	6711%	5%	10%	83%	28.0	37.9	36%
Maritime transport	Passenger transport	Sea and coastal passenger water transport	9,671	8,217	-15%	1,186.3	924.1	-22%	315.6	493.3	56%	27%	53%	101%	36.9	103.0	179%	3%	11%	258%	28.8	47.5	65%
		Inland passenger water transport	983	2,570	161%	79.5	406.3	411%	16.4	163.5	897%	21%	40%	95%	9.8	64.3	756%	-12%	16%	228%	26.7	38.6	45%
	Freight transport	Sea and coastal freight water transport	6,719	3,290	-51%	2,331.9	1,285.2	-45%	216.0	411.2	90%	9%	32%	245%	101.5	225.2	322%	-4%	18%	503%	47.3	56.5	20%
		Inland freight water transport	161	140	-13%	12.0	16.5	38%	4.0	7.7	93%	33%	47%	40%	0.4	2.7	575%	3%	16%	391%	22.4	36.4	63%
	Services for transport	Renting and leasing of water transport equipment	60	96	60%	81.1	10.0	-88%	70.2	5.1	-93%	87%	51%	-41%	68.6	2.0	-97%	85%	20%	-76%	26.7	31.3	17%
		Other transportation support activities	4,014	3,685	-8%	1,445.3	1,337.5	-7%	203.1	212.7	5%	14%	16%	13%	35.4	37.9	7%	2%	3%	16%	41.8	47.4	13%
Coastal tourism	Transport	Transport	16,384	16,298	-1%	2,473.5	2,860.8	16%	611.0	841.6	38%	25%	29%	19%	118.1	236.0	100%	5%	8%	73%	30.1	37.2	24%
	Other expenditure	Other expenditure	33,129	34,530	4%	3,274.4	3,887.7	19%	917.1	1,240.5	35%	28%	32%	14%	200.1	283.9	42%	6%	7%	19%	21.6	27.7	28%
	Accommodation	Accommodation	32,739	30,483	-7%	2,450.2	2,894.0	18%	1,014.6	1,335.5	32%	41%	46%	11%	214.0	389.0	82%	9%	13%	54%	24.5	31.1	27%
Sweden		Blue economy (established sectors)	122,870	118,961	-3%	16,574	18,247	10%	4,218	6,017	43%	25%	33%	30%	760	1,772	133%	5%	10%	112%	3,456	4,241	23%

ANNEX 3
METHODOLOGICAL FRAMEWORK

ANNEX 3.1. ESTABLISHED SECTORS

A3.1.1. DATA SOURCES AND TIMEFRAME

The analysis of the established Blue Economy sectors is based on the standardised data provided by the Structural Business Statistics (SBS) compiled by Eurostat. The SBS were complemented by the EU Data Collection Framework (DCF)[20] for the primary sectors (capture fisheries and aquaculture). Given the time lag in the release of SBS and DCF data, the latest available year is 2018, which is used as the reference year for the current report. However, SBS data for 2018 are provisional and are subject to revision in the next editions. Similarly, the latest fully available data for fisheries and aquaculture in the DCF are for 2017 and 2016, respectively. Data for 2017 (for aquaculture) and 2018 (for both) are "nowcast" estimates. The baseline year is 2009.

For *Coastal tourism*, an ad hoc extraction of data was performed by Eurostat, which was complemented with information from Tourism Satellite Accounts as explained in Section A3.1.6.

For the calculation of the maritime proportions, some specific sources where used as explained in Section A3.1.3. Finally, GDP and its components as published by Eurostat as well as the employment from the Labour Force Survey (LFS) were used for the comparisons of the Blue Economy with the overall economy.

The tables extracted from the Eurostat (and from the DCF) to make the estimations of economic indicators for the established sectors of the EU Blue Economy are summarised in Table A.34.

Table A.34 Main data sources for the Established Sectors of the EU Blue Economy

Table	Source	Description
DCF_fleet_aquaculture_for_BE	JRC	Fisheries and aquaculture economic statistics.
sbs_na_1a_se_r2	Eurostat	Annual detailed enterprise statistics for services (NACE Rev. 2 H-N and S95).
sbs_na_con_r2	Eurostat	Annual detailed enterprise statistics for construction (NACE Rev. 2, F).
sbs_na_dt_r2	Eurostat	Annual detailed enterprise statistics for trade (NACE Rev. G).
sbs_na_ind_r2	Eurostat	Annual detailed enterprise statistics for industry (NACE Rev. 2 B-E).
inbound_tourism_exp	Eurostat	Expenditure by inbound tourists (from other EU countries) in each Member States. Ad hoc extraction by Eurostat.
TSA Table 1	Eurostat	Inbound tourism expenditure (Tourism Satellite Accounts, in Europe 2019)
TSA Table 2	Eurostat	Domestic tourism expenditure (Tourism Satellite Accounts, in Europe 2019)
tour_occ_ninatc	Eurostat	Nights spent at tourist accommodation establishments by coastal and non-coastal areas.
lfsi_emp_a	Eurostat	Employment and activity by sex and age - annual data.
nama_10_gdp	Eurostat	GDP and main components (output, expenditure and income).
Prodcom (DS-066341)	Eurostat	Sold production, exports and imports by PRODCOM list (NACE Rev. 2) - annual data.

Source: Eurostat data Own elaboration.

[20] Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

A3.1.2. SCOPE OF ACTIVITIES

SBS data are based on enterprise data grouped under the declared main activity of each enterprise, according to the *statistical classification of economic activities in the European Community* (NACE Rev.2). Out of the 615 classes of activities singled out through a four-digit NACE code, 46 classes have been identified that have a principal or significant maritime component. They have been classified into sectors and subsectors (Table A.35).

Table A.35 Established Blue Economy sectors: classification

Sector	Subsector	Activity (NACE)		Maritime proportion
		Code	Description	
Marine living resources	Primary sector	A 03.10	Capture fisheries (EU fishing fleet, data from DCF)	100%
		A 03.20	Aquaculture sector (onshore and offshore production, data from DCF)	100%
	Processing of fish products	C 10.20	Processing and preserving of fish, crustaceans and molluscs	100%
		C 10.41	Manufacture of oils and fats	PRODCOM
		C 10.85	Prepared meals and dishes	PRODCOM
		C 10.89	Other food product	PRODCOM
	Distribution of fish products	G 46.38	Wholesale of other food, including fish, crustaceans and molluscs	50%
		G 47.23	Retail sale of fish, crustaceans and molluscs in specialised stores	100%
Marine non-living resources	Oil and gas	B 06.10	Extraction of crude petroleum	Oil production
		B 06.20	Extraction of natural gas	Oil production
		B 09.10	Support activities for petroleum and natural gas extraction	Oil production
	Other minerals	B 08.12	Operation of gravel and sand pits; mining of clays and Kaolin	Aggregates extraction
		B 08.93	Extraction of salt	Salt production
		B 09.90	Support activities for other mining and quarrying	SBS proportions
Marine renewable Energy	Offshore wind energy	D 35.11	Production of electricity	
		D 35.12	Transmission of electricity	
Port activities	Cargo and warehousing	H 52.24	Cargo handling (port services)	50% (or country specific information)
		H 52.10	Warehousing and storage	50 % (or country specific information)
	Port and water projects	H 52.22	Service activities incidental to water transportation	100%
		F 42.91	Construction of water projects.	100%
Shipbuilding and repair	Shipbuilding	C 30.11	Building of ships and floating structures	100%
		C 30.12	Building of pleasure and sporting boats	100%
		C 33.15	Repair and maintenance of ships and boats	100%
	Equipment and machinery	C 13.92	Manufacture of made-up textile articles, except apparel	PRODCOM
		C 13.94	Manufacture of cordage, rope, twine and netting	PRODCOM
		C 26.51	Manufacture of instruments and appliances for measuring, testing and navigation	PRODCOM
		C 28.11	Manufacture of engines and turbines, except motor vehicle, aircraft and cycle propulsion	PRODCOM
		C 25.99	Manufacture of other fabricated metal products n.e.c.	PRODCOM
		C 32.30	Manufacture of sport goods	PRODCOM
Maritime Transport	Passenger transport	H 50.10	Sea and coastal passenger water transport (water transport)	100%
		H 50.30	Inland passenger water transport	100%
	Freight transport	H 50.20	Sea and coastal freight water transport (water transport)	100%
		H 50.40	Inland freight water transport	100%
	Services for transport	N 77.34	Renting and leasing of water transport equipment	100%
		H 52.29	Other transportation support activities	SBS proportions
Coastal tourism	Accommodation	I 55.10	Hotels and similar accommodation	Specific methodology
		I 55.20	Holidays and other short-stay accommodation	
		I 55.30	Camping grounds, recreational vehicle parks and trailer parks	
		I 55.90	Other accommodation	
	Transport	G 47.30	Retail sale of automotive fuel in specialised stores	
		H 49.10	Passenger rail transport, interurban	
		H 49.31	Urban and suburban passenger land transport	
		H 51.10	Passenger air transport	
	Other expenditures	G 47.60	Retail sale of cultural and recreation goods in specialised stores	
		G 47.70	Retail sale of other goods in specialised stores	
		I 56.00	Food and beverage service activities	

Source: Eurostat data Own elaboration.

While certain economic activities can be clearly identified as fully marine (e.g. *Shipping* and *Maritime transport*), for other sectors, the NACE classification includes both land and maritime activities (e.g. cargo handling, warehousing and extraction of oil and gas). In this later case, alternatives sources are used for the estimation of the maritime proportion (see Section A3.1.3).

More than 20 NACE classes have been identified as activities having and important maritime component. However, by the time being, no reliable source is available to estimate their maritime proportion. Therefore, those activities were not included in this year's report (Table A.36).

Table A.36 Maritime activities for which further information is needed before they can be taken into account

Sector	Activity (NACE)	
	Code	Description
Marine living resources	G 47.11	Retail in non-specialised stores with food, beverages or tobacco predominating
Marine non-living resources	C 19.20	Manufacture of refined petroleum products
	H 49.50	Transport via pipeline
Shipbuilding and repair	E 38.31	Dismantling of wrecks
	G 46.14	Agents involved in the sale of machinery, industrial equipment, ships and aircraft
	C 33.11	Repair of fabricated metal products
	C 25.30	Manufacture of steam generators, except central heating hot water boilers
	C 27.40	Manufacture of electric lighting equipment
Coastal Tourism	N 79.11	Travel agency activities
	N 79.12	Tour operator activities
	N 79.90	Other reservation service and related activities
Marine renewable energy	F 42.22	Construction of utility projects for electricity and telecommunications
	F 43.21	Electrical installation
	J 61.10	Wired telecommunications activities
Water treatment	E 36.00	Water collection, treatment and supply
	E 39.00	Remediation activities and other waste management services
Insurance	K 65.12	Non-life insurance
	K 65.20	Reinsurance
Research and education	M 72.11	Research and experimental development on biotechnology
	M 72.19	Other research and experimental development on natural sciences and engineering
	M 74.90	Other professional, scientific and technical activities n.e.c.

Source: Eurostat data Own elaboration.

Aside from their main activity, enterprises may have one or more secondary activities. Unfortunately, detailed information about the economic importance of secondary activities is unavailable. Therefore, the overall activity for each firm was assigned to its main activity.

A3.1.3. MARITIME PROPORTIONS

As indicated above, several approaches have been followed to estimate the maritime proportions for those activities which encompass a maritime with a non-maritime component.

For industrial activities (i.e. *Equipment and machinery* and some activities in *Processing of fish products*), the Eurostat *statistics on the production of manufactured goods* (PRODCOM) were used to estimate the maritime proportion in two steps: 1) specific maritime products were identified within each NACE class; 2) the production value share over the total production of the class was calculated. (Table A.37).

Given the high level of disaggregation of PRODCOM data, public available tables contain many confidential data points (e.g. when only one or two companies produce a specific item in a given Member State, those values are not published). In order to avoid the biased generated for confidential data, the proportions were calculated internally by Eurostat and transmitted to DG MARE. In a limited number of cases, the proportions could not be transmitted by Eurostat and, therefore, they were imputed based on the average for the EU.

Table A.37 PRODCOM items considered maritime within each NACE class

NACE		PRODCOM	
Class	Description	Code	Description
C 10.41	**Manufacture of oils and fats**		
		10.41.12.00	Fats and oils and their fractions of fish or marine mammals
C 10.85	**Prepared meals and dishes**		
		10.85.12.00	Prepared meals and dishes based on fish, crustaceans and molluscs
		10.85.14.10	Cooked or uncooked pasta stuffed with meat, fish, cheese or other substances in any proportion
C 10.89	**Other food product**		
		10.89.14.00	Extracts and juices of meat, fish, crustaceans, molluscs or other aquatic invertebrates
C 13.92	**Manufacture of made-up textile articles, except apparel**		
		13.92.22.50	Sails
		13.92.29.99	Life-jackets
C 13.94	**Manufacture of cordage, rope, twine and netting**		
		13.94.12.33	Made-up fishing nets from twine, cordage or rope of man-made fibres
		13.94.12.35	Made-up fishing nets from yarn of man-made fibres
C 25.99	**Manufacture of other fabricated metal products n.e.c.**		
		25.99.26.00	Ships' or boats' propellers and blades therefor
		25.99.29.11	Iron or steel anchors, grapnels and parts thereof (excluding masonry anchors)
C 26.51	**Manufacture of instruments and appliances for measuring, testing and navigation**		
		26.51.11.80	Manufacture of instruments and appliances for navigation (including for marine or river navigation)
		26.51.20.80	Radio remote control apparatus (including for ships)
C 28.11	**Manufacture of engines and turbines, except motor vehicle, aircraft and cycle propulsion**		
		28.11.11.00	Outboard motors for marine propulsion
		28.11.12.00	Spark ignition reciprocating or rotary internal combustion piston engines for marine propulsion (excluding outboard motors) and for other use (excluding aircraft engines and engines for vehicles of CN chapter 87)
		28.11.13.11	Marine propulsion compression-ignition internal combustion piston engines (diesel or semi-diesel) of a power <= 200 kW
		28.11.13.15	Marine propulsion compression-ignition internal combustion piston engines (diesel or semi-diesel) of a power > 200 kW but <= 1 000 kW
		28.11.13.19	Marine propulsion compression-ignition internal combustion piston engines (diesel or semi-diesel) of a power > 1 000 kW
		28.11.22.00	Hydraulic turbines and water wheels
C 32.30	**Manufacture of sport goods**		
		32.30.13.00	Water-skis, surfboards, sailboards and other water-sport equipment
		32.30.16.00	Fishing rods, other line fishing tackle; articles for hunting or fishing n.e.c.

Source: Eurostat data Own elaboration.

For *Oil and gas*, the production onshore and offshore according to Rystad Energy UCube[21] was used to estimate the maritime proportions.

For *Other minerals*, the following sources were used. For marine Aggregates (B 08.12), the statistics on aggregate production published by the European Aggregates Association (www.uepg.eu). For *Extraction of salt* (B 08.93), the proportion of solar salt obtained from the European Salt Producers' Association (https://eusalt.com). Finally, for S*upport activities for other mining and quarrying the maritime* proportion was calculated as the share of maritime B 08.12 (*Aggregates*) and maritime B 08.93 (*Extraction of salt*) over the total of mining activities (B05, B07 and B08).The estimations for *Coastal tourism* were calculated following a specific treatment (See Section A3.1.6).

A3.1.4. INDICATORS AND VARIABLES

SBS statistics provide a series of variables usually derived from the financial statements of the companies. For the analysis of the established sectors, the following selection of variables and indicators was used: employment (number of persons employed), wages and salaries, turnover, gross value added, gross operating surplus (profit or loss), gross investments and net investments. In addition, the following derived indicators were calculated: average annual wage per persons employed, GVA to turnover, profit margin (gross operating surplus to turnover – gross profit margin), labour productivity (GVA per person employed) and net investment ratio (net investment to GVA). This report focuses on the main variables, further details and breakdowns are available on the online Blue Economy Indicators tool (https://blueindicators.ec.europa.eu/access-online-dashboard_en). More details about the indicators and variables are explained in the glossary.

A3.1.5. DATA IMPUTATION AND ASSUMPTIONS

While the SBS database is quite comprehensive, a few missing points were still detected. To obtain a balance panel, a series of assumptions were made by applying the following rules:

- Imputations are based on other data from the same Member State (i.e. no estimations based on data for other Member States).
- Interpolation or the closest value over the time series of a NACE class (4-digit code) was used to impute missing values.
- When no data were available for a NACE class (4-digit code), the data for the parent NACE group (3-digit code) were evenly distributed among the classes in the group.

A3.1.6. COASTAL TOURISM

Coastal tourism is not a single economic activity but rather a set of activities undertaken by a specific type of consumer (the tourist). *Coastal tourism* happens when a visitor takes a trip to a coastal municipality.[22] It is considered to be part of this category the expenditures in *accommodation*, *transport* and *other expenditures* by tourists (for instance, cultural and recreation good, goods in specialised stores and food and beverage services). To calculate the contribution of *Coastal tourism* to the Blue Economy, a specific methodology has been followed.

Expenditure by inbound tourism

The data for *Coastal tourism* are based on the tourism statistics[23] compiled by Eurostat from the collection by national authorities and, in particular, on the data on the expenditure by visitors on trips. In principle, Member States compile data on outbound trips (e.g. the data for trips from Austria to France and Italy are compiled by the Austrian authorities). Once all Member States have transmitted the micro-data on their outbound trips, Eurostat can calculate the data for inbound trips (e.g. the data for trips to Greece from all Member States). The data refer to the expenditure of those trips with a breakdown for three categories: *accommodation, transport* and *other expenditure* as well as a breakdown for domestic trips and cross border trips (between EU Member States).

[21] Source: Rystad Energy UCube, version 2018-12-10

[22] Coastal municipalities are those Local Administrative Units (LAU) with a coastline or with 50 % of its territory within 10 km of the sea. The classification of regions has been established by the TERCET Regulation: Regulation (EU) 2017/2391 of the European Parliament and of the Council of 12 December 2017 amending Regulation (EC) No 1059/2003 as regards the territorial typologies. Some ad-hoc corrections on the request of the Member State exist, e.g. certain major cities are treated differently, e.g. Rome and Amsterdam.

[23] For further details, see: https://ec.europa.eu/eurostat/web/tourism/methodology.

Expenditure by one-day trips

The data on inbound expenditure mentioned above includes trips with at least one overnight stay in the destination. Therefore, they do not include one-day trips (e.g. to spend one Sunday on the sea side and returning back home). The *Tourism Satellite Accounts* were used for estimating the expenditure by one-day trips, in particular Tables TSA Table 1 and TSA Table 2 on Inbound and domestic tourism expenditure, respectively.[24] The proportion between the expenditure of one-day trips over overnight stays was used to estimate the expenditure of one-day trips for transport and other expenditure (the expenditure in accommodation is obviously zero). For the countries where information was not available, the EU average was considered.

Variables: Turnover (expenditure), employment

The value of expenditure calculated as indicated above is assimilated to the turnover for the three subsectors in *Coast tourism* (i.e. *Accommodation*, *Transport*, *Other expenditure*).

The rest of variables (employment, GVA, employee compensation) are estimated from the proportion of each one of them to turnover for the activities indicated in Table A.2.

Coastal vs. non-coastal

Finally, the indicator is further adjusted to take into account the maritime proportion. This is achieved by using data in *tour_occ_ninatc* to calculate the fraction of coastal tourism (F_{coast}) as the number of nights spent in coastal areas (N_{coast}) over total nights (N_{tot}):

$$F_{coast} = \frac{N_{coast}}{N_{tot}}$$

$$I^{i}_{coast} = I^{i} \cdot F_{coast}$$

Coastal areas, should be understood as the municipalities with a coastline or with at least 50% of their surface area within a distance of 10 km from the coastline. The classification of regions has been established by the TERCET Regulation: Regulation (EU) 2017/2391 of the European Parliament and of the Council of 12 December 2017 amending Regulation (EC) No 1059/2003 as regards the territorial typologies.

[24] Eurostat. 2019. Tourism Satellite Accounts in Europe. [https://ec.europa.eu/eurostat/web/products-statistical-reports/-/KS-FT-19-007].

ANNEX 3.2. REGIONAL ANALYSIS

Objective

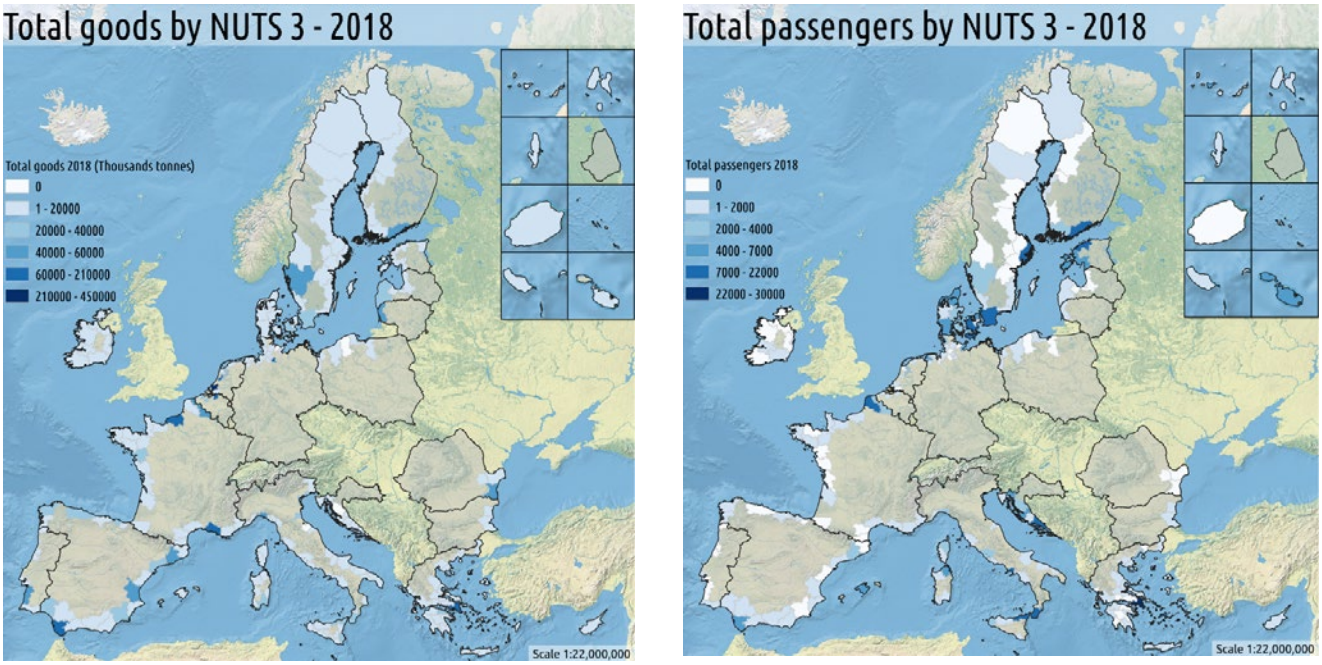
The aim of the regional analysis is to provide an estimation of the size of the Blue Economy and the seven established sectors, in terms of GVA and employment, for the various sea basin of EU waters. The goal is to provide an indication of the relative size of each sea basin and of their specialisation in terms of activities. Improvements in the methodology may be implemented in the coming edition to obtain more accurate estimates.

Background

In order to provide information regarding the Blue Economy at the coastal community, NUTS2 and NUTS3 level, there is a need for detailed data and analyses. However, collecting and disaggregating data as well as linking them to the respective sea basins proves to be an arbitrary exercise due to the nature of some Blue Economy activities. While **marine-based** activities take place in the sea / by the sea, this does not hold true for **marine-related** activities: these can be undertaken hundreds or even thousands of kilometres from where the marine products originated (e.g. seafood processing and distribution) or from where they are going to be used (e.g. building an engine for a vessel).

This implies that often marine-based activities are easier to allocate to specific marine or coastal locations or sea basins than for marine-related activities. Taking the example of allocating seafood consumption to a certain sea basin proves difficult considering that seafood consumption can take place in inland areas such as Paris or Madrid. For most marine-based activities and some marine-related activities - such as aquaculture, offshore wind energy, desalination, shipbuilding and *Coastal tourism* - we can map where the activity takes place and so which coastal area benefits from it. For some other activities such as *Maritime transport* and capture fisheries we can link the economic activity to the inbound and outbound ports, and from the port to the NUTS2 and NUTS3 (see Figure A.3)[25].

Figure A.3 A) Total goods inbound and outbound by NUTS3. **B)** Total passengers inbound and outbound by NUTS3, 2018



Source: Own elaboration from Eurostat data

A similar analysis has been performed for *Coastal tourism* in section 4.7.5, with a comparable map in Figure 4.36. Hence, collecting data at such disaggregated levels provides a more informative view than just national totals, and should constitute a basis for policy-makers. It also helps to allocate sectors between sea basins for those countries that have activities in more than one sea basin. For other sectors, the link with the coastal area is not necessarily obvious (e.g. seafood processing and distribution). The split between sea basins follows the criteria of Member State participation in respective EU strategies used in prior editions (i.e. assigning the Blue economic activities to the sea basin proportionally to the average of employment and GDP in those sea basins). Additionally, a detailed breakdown of the sectors can be found in Chapter 1.

[25] S., Natale, F., Gibin, M., Guillen, J., Alessandrini, A., Vespe, M., & Osio, G. C. (2020). Where did the vessels go? An analysis of the EU fishing fleet gravitation between home ports, fishing grounds, landing ports and markets. Plos one, 15(5), e0230494.

Sea basins

A total of eight sea basins and sub-basin has been considered as indicated in Table A38.

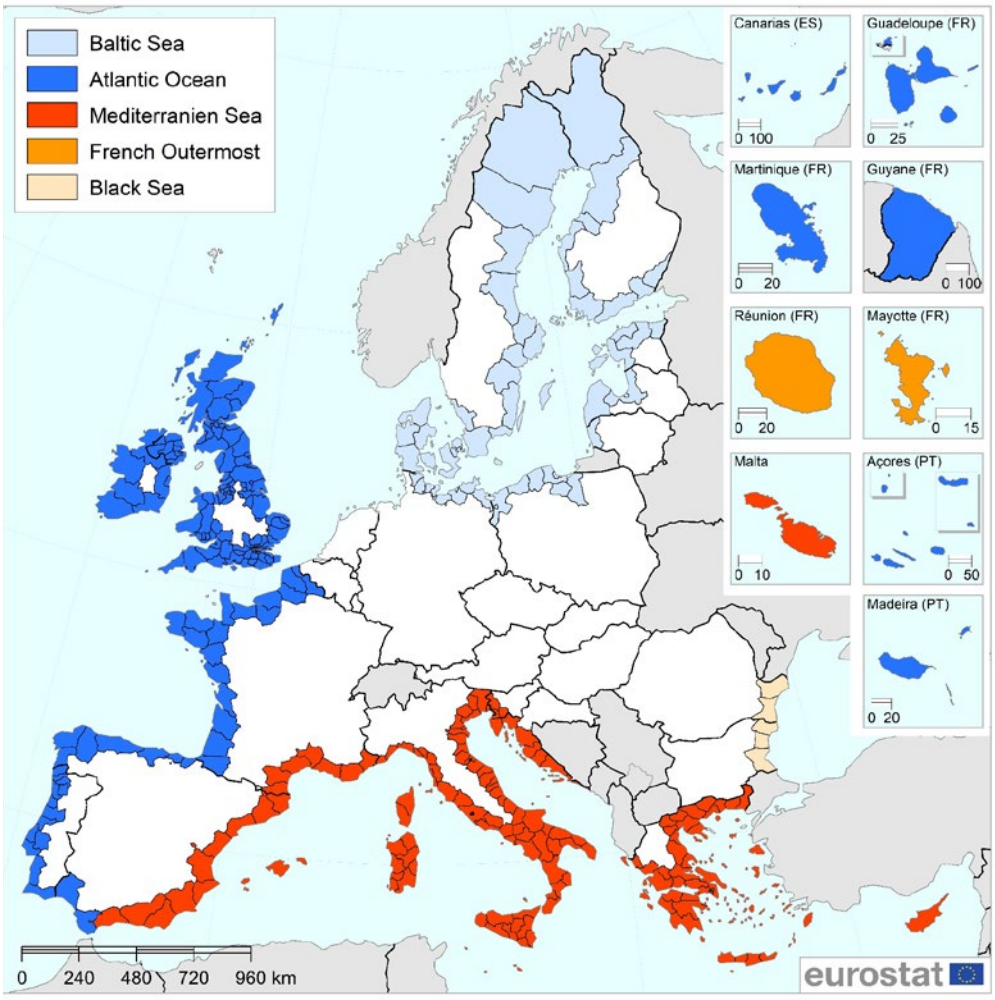
Table A.38 Member States participating in the different sea basins

Northern Waters			Mediterranean				Black Sea
Atlantic	North Sea	Baltic Sea	Mediterranean	West MED	East MED	Adriatic-Ionian	
Strategy	*Sea basin*	*Strategy*	*Sea basin*	*Strategy*	*Sea (sub)-basin*	*Strategy*	*Sea basin*
ES	BE	DE	CY	ES	CY	EL	BG
FR	DE	DK	EL	FR	EL	HR	RO
IE	NL	EE	ES	IT		IT	
PT	UK	FI	FR	MT		SI	
	DK	LT	HR	PT			
	SE	LV	IT				
	FR	PL	MT				
		SE	SI				

Source: Commission Services.

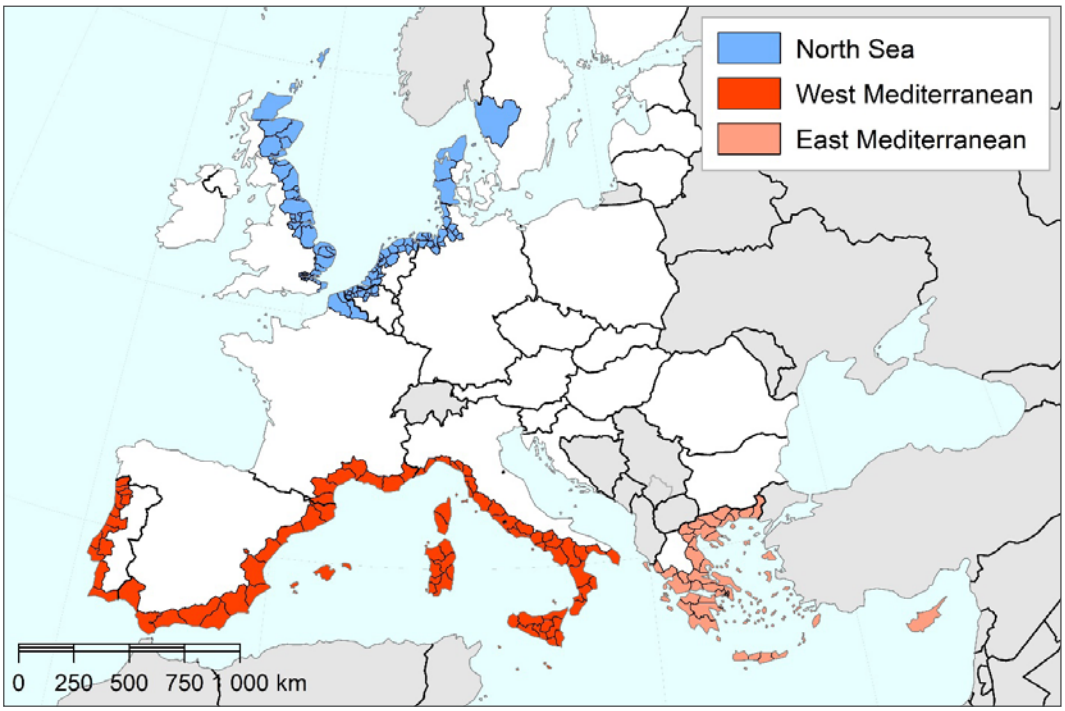
Some of the calculations are based on the GDP and employment by NUTS 2 regions. Figures A.4, A.5 and A.6 present the NUTS 2 regions of each sea basin.

Figure A.4 EU regions belonging to each sea basin



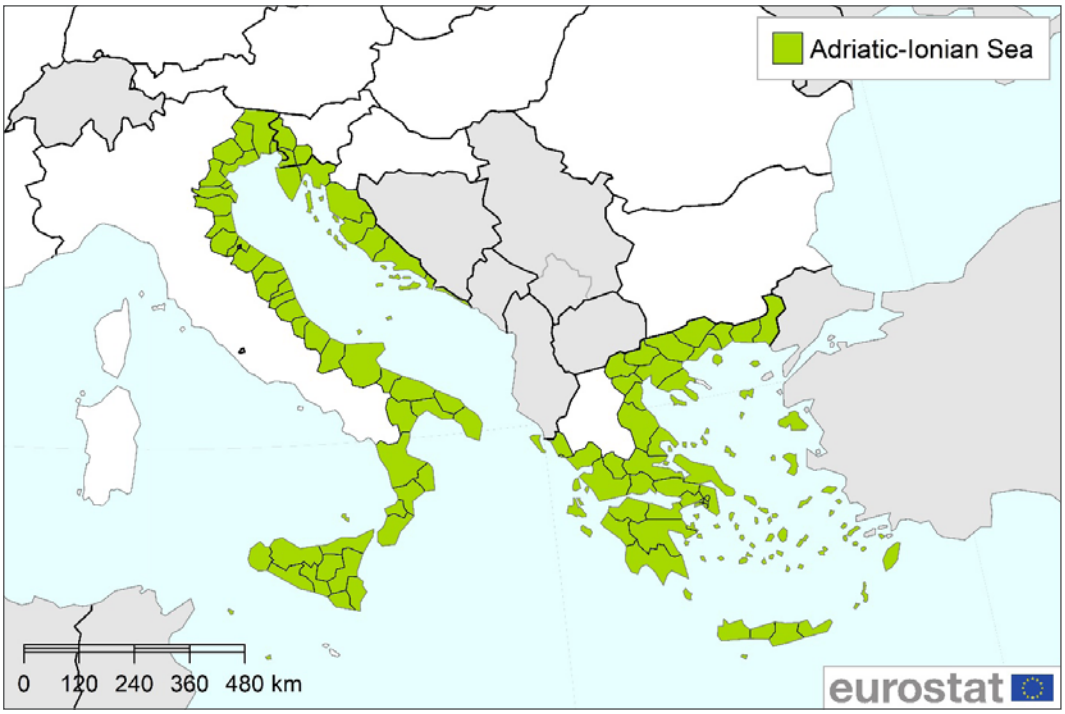
Notes: Classification based on NUTS 2016, level 3. Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat. Cartography: Eurostat - GISCO, 03/2019. The UK is included in this map as it is part of the strategy, however UK figures have not been taken into account or added to any EU totals.
Source: Commission Services.

Figure A.5 EU regions belonging to each sea basin (continuation)



Notes: Classification based on NUTS 2016, level 3. Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat.
Cartography: Eurostat - GISCO, 03/2019. The UK is included in this map as it is part of the strategy, however UK figures have not been taken into account or added to any EU totals.
Source: Commission Services.

Figure A.6 EU regions belonging to each sea basin (continuation)



Notes: Classification based on NUTS 2016, level 3. Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat.
Cartography: Eurostat - GISCO, 03/2019.
Source: Commission Services.

Calculations

The size of the Blue Economy (and for each sector) in each sea basin is calculated as the sum of the Blue Economy of the Member States with a façade to the given sea basin according to the following formulas [1] for GVA and [2] for employment:

[1] $$Sea\ basin_i^{GVA} = \sum\ MS_j^{GVA} . MS_j^{Share}$$

[2] $$Sea\ basin_i^{Employment} = \sum\ MS_j^{Employment} . MS_j^{Share}$$

Where:

i are the different sea basins: Atlantic, North Sea, etc.
j are the Member States (Spain, France, etc.).
share are the proportions assigned to the sea basin according to equation [5].

The Blue Economy of some Members States can be assigned totally to a specific sea basin (e.g. Finland to the Baltic). In these cases, the *share* value is 100%.

In other cases, Member States have several façades (e.g. Spain has the Atlantic façade and the Mediterranean façade). In these cases, the *share* is calculated as the proportion of the NUTS 3 regions in the sea basin with respect to all the coastal NUTS 3 regions in terms for GDP and employment according to formulas [3] to [5].

[3] $$Share_{i,j}^{GVA} = \frac{\sum\ NUTS\ 3\ _{i,j}^{GDP}}{\sum\ NUTS\ 3\ _{Coastal.j}^{GDP}}$$

[4] $$Share_{i,j}^{Employment} = \frac{\sum\ NUTS\ 3\ _{i,j}^{Employment}}{\sum\ NUTS\ 3\ _{Coastal.j}^{Employment}}$$

[5] $$Share_{i,j} = \text{Average}\ (Share_{i,j}^{GVA}, Share_{i,j}^{Employment})$$

Where:

i are the different sea basins: Atlantic, North Sea, etc.
j are the Member States (Spain, France, etc.).

Data for Employment and GDP were provided by Eurostat. Specific proportions were calculated for each year in the time series (2009 – 2017). For missing data, the most recent available year was used to fill in the gap. In any case, no significant variations in the proportions are observed over time.

For instance, in 2016 in Italy, total employment of the NUTS 3 regions participating in the Adriatic – Ionian strategy amounted to 7.3 million people, while all NUTS 3 coastal regions had a total employment of 13.7 million; that is 53.4% of employees. Similarly, the GDP of NUTS 3 regions in the Adriatic Ionian amounted to €450 billion while the GDP of all NUTS 3 coastal regions in Italy amounted to €860 billion; that is 51.9%. The average of both values, i.e. 52.6%, was used to estimate how much of the employment and GVA from the Italian Blue Economy is generated in the regions participating in the Adriatic – Ionian strategy.

Given the goal of obtaining the size of the Blue Economy in each sea basin, only aggregated data per sea basin are published and not data for Member States, which are considered intermediate calculations.

ANNEX 3.3. CHAPTER 6 ECOSYSTEM SERVICES, ECONOMY AND THE ENVIRONMENT

6.5 SUPPLEMENTARY MATERIAL for: QUANTIFICATION OF ECONOMIC LOSS OF COASTAL ECOSYSTEM SERVICES FROM SEA LEVEL RISE

DETAILED RESULTS

Impacts at EU level

The coastal zone in the study area, excluding intertidal flats and open sea, covered approximately 386,000 km^2 of mostly agricultural areas (44%) as well as forests and semi-natural areas (39%). Between 2000 and 2018, the area covered by agricultural declined, with a corresponding expansion of artificial surfaces. A marginal increase in major groups of natural habitats was recorded (forests, wetlands and water). The overall area increased narrowly between 2000 and 2018 (by 183 km^2). The largest share of sea-to-land transitions were observed for sea harbours. Altogether, the annual ecosystem service of the coastal zone in 2018 was 360 billion euros (Table 1), or almost 3% of the combined GDP of the EU27. Between 2000 and 2012, the value of ecosystem services due to land-use transitions and coastal dynamics narrowly increased by 182 million euro, but they declined by 319 million euros between 2012 and 2018. The majority of the decline was caused by contraction of coniferous forests and intense agriculture, which was partially compensated for by the expansion of wetlands, mainly salt marshes.

Projections of future erosion indicate major losses. By 2050, approximately 2000–2300 km^2 of coastal ecosystems would be destroyed by erosion, depending on the scenario (moderate or high emissions). The more valuable habitats would be more strongly affected. Consequently, the share of the 2018 value of ecosystem services lost would be 4 times higher than the share of land lost. Forests and semi-natural areas would be most affected in terms of area (52–53% of total area lost), but loss of highly valuable wetlands would be the main driver of the decline in ecosystem service (75% of services lost).

In the second half of the 21st century, the two emission scenarios diverge. Under moderate emissions, erosion reaches 3800 km^2 by 2100, while emissions under RCP8.5 could lead to destruction of 5000 km^2 of habitats. That is, 1% of the 2018 area under moderate emissions and 1.3% under high emissions scenario. The decline in services would be even greater: 4.3% under moderate emissions and 5.4% under high emissions scenarios (Figure 1). In absolute terms, this is a possible loss of up to 32 billion euros per year (in the upper uncertainty range of high emissions scenario). Around half of the eroded area would be in forests and semi-natural areas (49–50%), but the services of wetlands would make up more than 74% of losses, up to 24 billion euros, or almost a quarter of the 2018 value (Table 2).

The most severely affected type of land cover in absolute terms would be coniferous forests or beaches, sands, and dunes, depending on the scenario. However, beaches, sands, and dunes would be by far the endangered in relative terms. 17–19% is at risk by 2050 and 29–35% by 2100. This translates into second-highest loss in annual services, up to 3 billion euros out of 5.9 billion generated in 2018. Relative losses to salt marshes are second-highest in that category (13–16% by 2100) but also by far the biggest in absolute terms, namely 11–13 billion euro per annum by 2100. Salines, estuaries, inland marshes, and natural grasslands would also be among the most affected in both relative and absolute terms. Agricultural areas associated with an intense mode of production (vineyards, plantations, orchards, permanently irrigated crops, etc.) would be the least affected.

The impacts of coastal erosion also varied between different ecosystem services. As shown in Table 3, the main benefits of the ecosystems are regulating and provisioning services. However, regulating services would be far more affected, losing 7–9% by 2100, compared to a loss of only about 1% for provisioning. Habitat and cultural services are similarly valued at present, but losses of the former are twice as high as those of the latter. On a more detailed level, the most valuable service of the coastal ecosystem is that of waste treatment (91 billion euro). It is provided mostly by wetlands; hence, it would be the second-most affected in relative terms (11–13% by 2100). The highest relative losses would be caused by disturbance moderation (13–15% by 2100), which is also primarily done by wetlands. In contrast, very limited loss (1% or less) would happen to services of climate regulation, soil formation, pollination, genetic resources, or food production.

Impacts at member state level

The scope and importance of coastal ecosystem services varied substantially between countries (Table 4). France had the highest total in 2018, with more than 54 billion euros of annual service, followed by Italy (50 billion euros). However, this only constitutes 2.5-2.8% of national GDP in those countries, similar to the pan-European average. In contrast, services of the third-ranked Greece, totalling 41 billion euros, accounted for more than 18% of GDP. Greece's coastal zone is only narrowly smaller than Italy's (both are approximately 50,000 km^2), but Greece is a much smaller economy. Other countries for which coastal ecosystem services were highly important include Cyprus, Denmark, Estonia, Croatia and Finland. On the other end of the scale, services in Poland and Germany did not exceed 1% of GDP despite long coastlines. Lower importance was only recorded in countries with very short coastlines, namely Belgium and Slovenia.

Impacts of coastal erosion were similarly unevenly distributed (Figure 2). Denmark was projected to lose most services relative to GDP in all scenarios, reaching 1.2-1.6% by 2100. Greece was the second-most affected country by both the middle and end of the century. Losses of more than 0.3% of GDP per annum are also likely in Estonia and Finland, and possible (within 90% confidence interval) in Latvia and Sweden. On the other hand, in Belgium, Poland, and Malta, the impacts would be almost negligible (less than 0.02% of GDP). In addition, the highest absolute losses would occur in France (18–25% share in Europe depending on the scenario, including the uncertainty range), before Denmark (16–19%), and Germany (11–22%) and Greece (10–18%).

Further, analysing the loss as a percentage of 2018 services yielded a different picture. While Denmark again came on top, with projected losses of 9–12% by 2100, it was followed closely by Germany. The Netherlands was also projected to lose a considerable share of its relatively small amount of services (8–9%) by the end of the 21st century. France and Finland could all lose more than 10% of their 2018 services under certain scenarios. Conversely, Belgium, Cyprus, and Lithuania would most likely lose no more than 1%.

Impacts at regional level

The coastal zone in the study area intersects with 328 NUTS 3 regions, of which 282 would be affected by coastal erosion in at least one scenario. The remaining 46 regions mostly did not have direct access to the coastline. The uncertainty in local impacts was large, as can be seen in Figure 3, which presents the minimum and maximum estimates for the year 2100. In the best case, 6 NUTS 3 regions would lose ecosystem services equal to more than 5% of their regional GDP, while 285 regions would lose services worth less than 1% of regional GDP. However, in the worst case, the numbers would be 29 and 240, respectively. Similarly, only 18 regions would lose more than 10% of 2018 services in the best-case scenario but 63 would in the worst-case scenario.

Worst-affected regions are concentrated particularly along the south-eastern coast of the North Sea, Bay of Biscay, and eastern Mediterranean Sea. The ranking of regions varied substantially depending on the method of measuring ecosystem loss (absolute or relative). In absolute terms, the Danish, German, and French regions most frequently appeared on top. The Danish region of North Jutland (Nordjylland -- DK050) and German district of Nordfriesland (DEF07) could lose about 2 billion euros of services. The latter region could incur the highest relative loss in economic terms (40% of GDP in the most extreme case). Many Greek regions were projected to be among the most affected in relative economic terms. Losses relative to 2018 services would be particularly large in several districts of Lower Saxony in Germany, especially Friesland (DE94A) in the range of 59–65% by 2100. Many regions in various parts of France would also be among those with the highest relative impacts, together with some Dutch and Greek regions. In the latter country, Imathia (EL521) could suffer the highest loss among European regions of 65% (under the worst-case scenario). Conversely, the majority of the coasts of the western Mediterranean Sea would be only lightly affected, similar to most parts of the Adriatic Sea, Tyrrhenian Sea, southern Baltic Sea, and Black Sea, as those are relatively sheltered basins with lower storm intensity than the Atlantic Ocean coasts...

Table 1 Coastal zone and ecosystem services in Europe, 2018.

Country	Coastal zone area	Annual coastal ecosystem services value	
	thousand km²	bln euro	as % of GDP
BE	2.7	2.3	0.6
BG	3.0	2.5	2.2
CY	4.8	3.7	15.2
DE	22.6	25.4	0.8
DK	27.6	29.2	12.7
EE	9.5	5.8	17.5
EL	50.2	41.4	18.3
ES	39.7	40.3	3.1
FI	21.5	14.4	7.6
FR	40.3	54.1	2.5
HR	11.5	6.3	7.8
IE	23.3	13.6	4.8
IT	50.2	49.7	2.8
LT	1.5	2.4	3.4
LV	4.9	2.8	6.9
MT	0.3	0.2	1.6
NL	8.7	9.0	1.3
PL	6.2	6.8	0.8
PT	13.9	16.4	6.7
RO	3.8	9.6	2.4
SE	39.5	23.8	6.3
SI	0.4	0.4	0.7
EU27	386.1	360.1	2.8

Table 2 Coastal ecosystem services in Europe currently and projected to be lost in the future, by Corine Land Cover type.

Corine Land Cover type	Area in 2018	Value in 2018	% lost by 2100	
	thousand km²	bln euro	Moderate emissions	High emissions
Artificial surfaces	33.5	23.2	0.6	0.8
Agricultural areas	170.4	122.4	0.5	0.7
Forest and semi natural areas	148.8	70.2	3.3	4.1
Of which: beaches, sands and dunes	1.7	5.9	29.0	34.7
Wetlands	20.6	104.1	11.4	14.1
Of which: Salt marshes	3.1	81.5	13.3	16.4
Water bodies	12.8	40.2	1.5	1.9
Total	**386.1**	**360.1**	**4.3**	**5.4**

Table 3 Coastal ecosystem services in EU27 from all land-use classes currently and projected to be lost in the future, by service type.

Ecosystem service type	Value in 2018	% lost by 2100	
	bln euro	Moderate emissions	High emissions
Regulating services	**169.8**	**7.3**	**9.0**
Waste treatment	91.3	11.0	13.5
Erosion control	34.7	2.7	3.3
Climate regulation	14.0	0.9	1.2
Soil formation	10.3	0.5	0.7
Water regulation	7.9	5.8	7.2
Disturbance moderation	4.4	12.6	15.4
Other (pollination, air quality etc.)	7.2	3.5	4.4
Provisioning services	**115.7**	**0.9**	**1.2**
Food production	63.4	0.8	1.1
Genetic and medicinal resources	32.3	0.8	1.1
Water supply	12.3	1.4	1.8
Raw materials (incl. ornamental resources)	7.7	1.4	1.8
Cultural services	40.0	1.8	2.3
Recreation	37.2	1.5	1.9
Other (spiritual, aesthetic, etc.)	2.9	6.0	7.4
Habitat services	**34.5**	**4.2**	**5.2**
Nursery service and genetic diversity	34.5	4.2	5.2
Total	**360.1**	**4.3**	**5.4**

Table 4 Loss of coa stal ecosystem services in Europe between 2018 and 2100.

Country	Loss in billion euro		Loss as % of 2018 services		Loss as % of 2018 GDP	
	Moderate emissions	High emissions	Moderate emissions	High emissions	Moderate emissions	High emissions
BE	0.01	0.02	0.4	0.8	0.00	0.00
BG	0.06	0.07	2.5	2.9	0.06	0.06
CY	0.03	0.03	0.7	0.9	0.11	0.13
DE	2.31	3.01	9.1	11.9	0.07	0.10
DK	2.69	3.57	9.2	12.2	1.17	1.55
EE	0.14	0.26	2.4	4.4	0.41	0.77
EL	2.17	2.44	5.2	5.9	0.96	1.08
ES	0.96	1.09	2.4	2.7	0.07	0.08
FI	0.48	0.79	3.3	5.5	0.25	0.42
FR	3.54	4.12	6.5	7.6	0.16	0.19
HR	0.10	0.12	1.6	2.0	0.12	0.16
IE	0.33	0.44	2.4	3.2	0.12	0.15
IT	1.10	1.28	2.2	2.6	0.06	0.07
LT	0.02	0.02	0.7	0.9	0.02	0.03
LV	0.07	0.10	2.6	3.6	0.18	0.25
MT	0.00	0.00	1.0	1.1	0.02	0.02
NL	0.73	0.86	8.1	9.5	0.11	0.12
PL	0.07	0.08	1.0	1.2	0.01	0.01
PT	0.16	0.18	1.0	1.1	0.06	0.08
RO	0.30	0.33	3.1	3.4	0.07	0.08
SE	0.38	0.57	1.6	2.4	0.10	0.15
SI	0.01	0.02	3.5	3.7	0.03	0.03
EU27	**15.66**	**19.40**	**4.3**	**5.4**	**0.12**	**0.15**

Figure 1. Historical (2000-2018) and projected (2050 and 2100) coastal ecosystem services per year, in billions of 2018 euros, total for the study area.

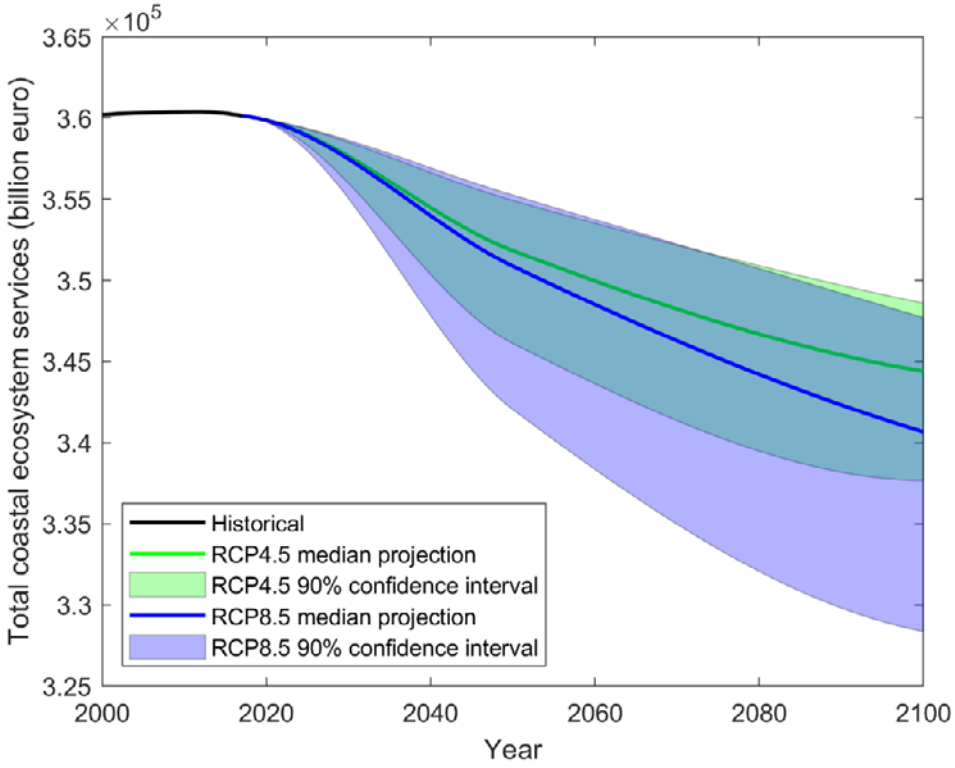


Figure 2. Projected (2050 and 2100) loss of coastal ecosystem services per year, % of 2018 GDP, by country and emission scenario.

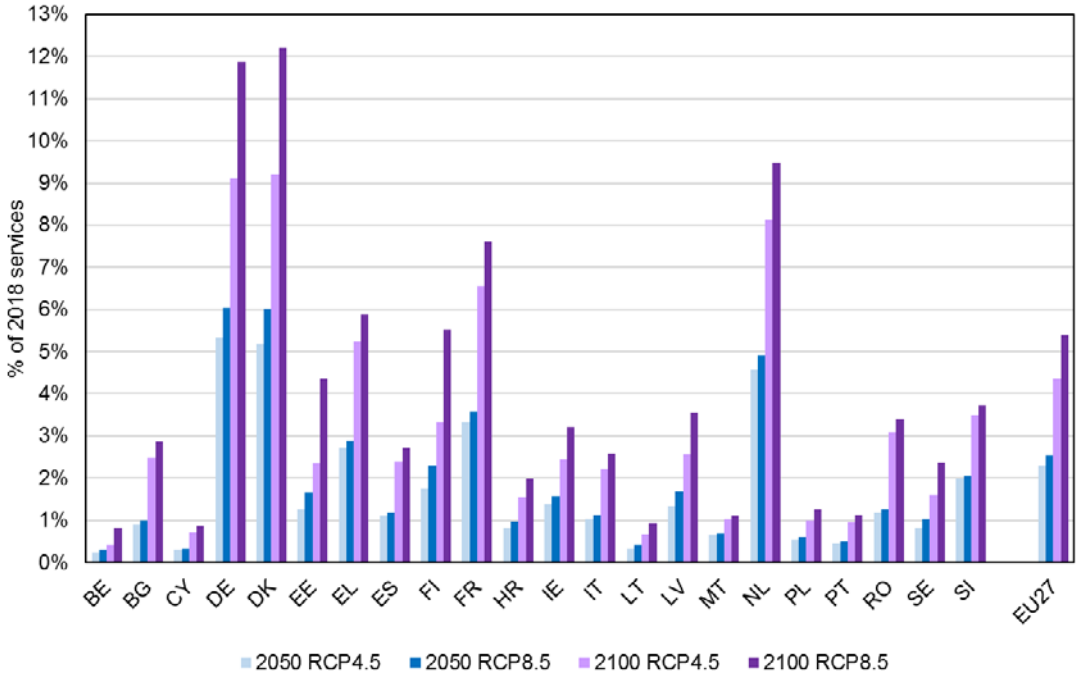
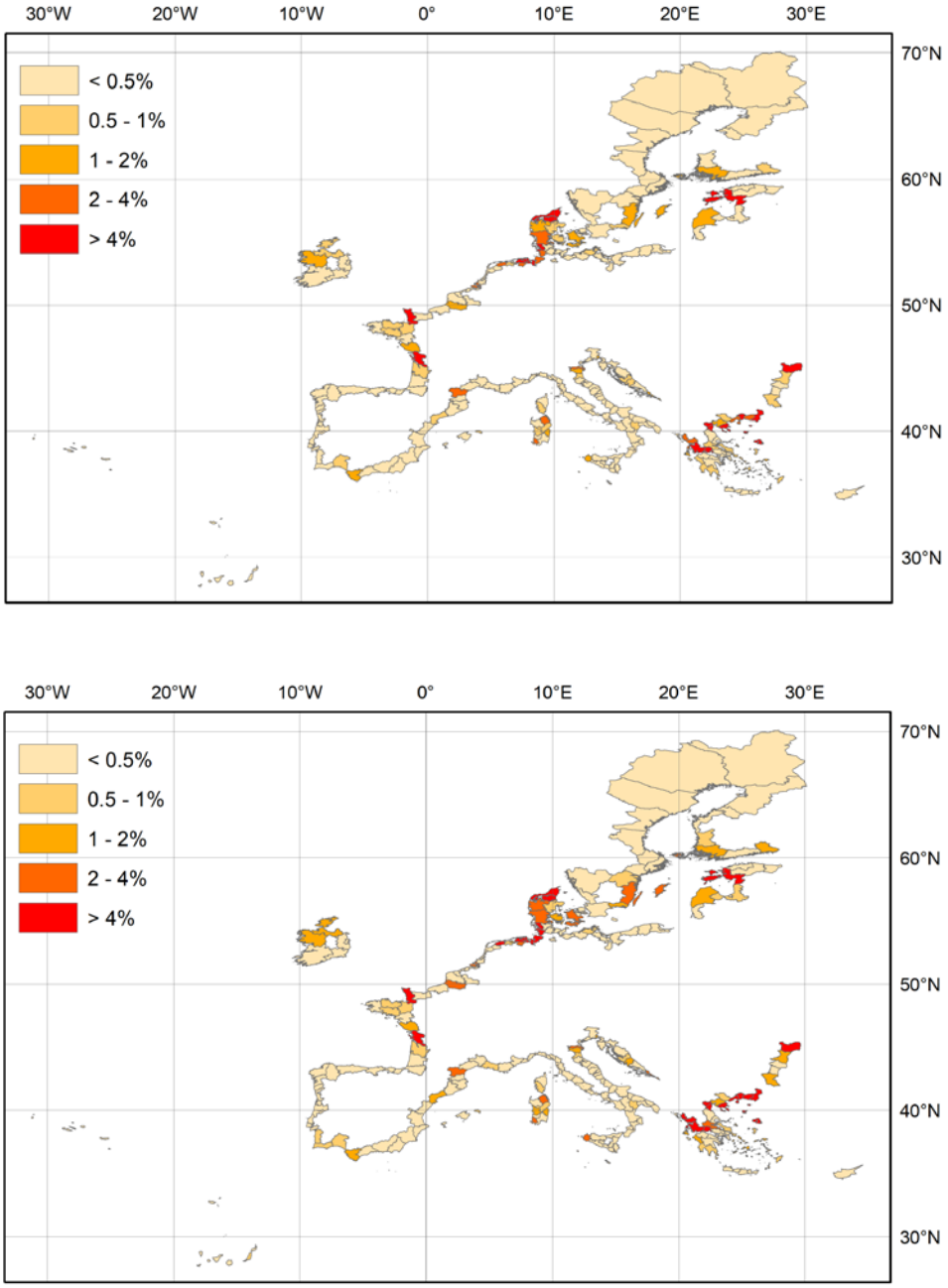


Figure 3. Loss of ecosystem services until 2018 as % of regional GDP by NUTS 3 regions, under moderate (upper panel) and high emissions (lower panel).



DETAILED METHODS

The study analysed 27 countries of the European Union. The methodology combines multiple datasets to obtain projections of ecosystem service loss. The analysis concentrated on projected impacts for years 2050 and 2100, including the uncertainty of the extent of coastal erosion under two future emission scenarios (RCP - Representative Concentration Pathways): RCP4.5 (moderate emissions) and RCP8.5 (high emissions)[1].

Land cover

The basis for computing losses to ecosystem services under coastal erosion comprised detailed land cover and use data. Here, we used Corine Land Cover (CLC) data, which is a European database containing information on the physical and biological cover of the earth's surface, including artificial surfaces, agricultural areas, forests, (semi-)natural areas, wetlands, and water bodies[2]. The information provided by the CLC dataset is generally based on computer-assisted photo-interpretation of satellite images according to a standardised and hierarchical nomenclature distinguishing 44 land cover classes. In this analysis, CLC 2018 is used as the baseline land cover/use for future projections. This version of CLC was based on input satellite images with a spatial resolution of 10 m. The minimum mapping unit of CLC is 25 ha, whereas linear features require a width of at least 100 m to be mapped. The CLC dataset is complemented by CLC-Changes, which shows more detailed changes in land cover between reference years thanks to a smaller minimum mapping unit (5 ha). Due to the higher resolution of CLC-Changes and inclusion of only genuine changes, we used this dataset to identify historical changes during 2000-2006, 2006-2012, and 2012-2018. All CLC data were used in vector format in the latest version available at the time of analysis (v20 dated May 1, 2019).

Coastal erosion

Recent probabilistic projections of sandy shoreline dynamics during the 21st century[3] combined the range of projected SLR, spatial variations of active beach profile slope, ambient shoreline change trends, and future changes in meteorological drivers such as storm surges and waves. The long-term shoreline change is the sum of shoreline response to the SLR and the ambient shoreline change. The ambient change can be the result of different drivers, for example, geological and hydrodynamic factors or human intervention. It is obtained by probabilistically extrapolating historical shoreline change trends from two datasets based on remote sensing[4,5]. These historical trends were derived from the automated analysis of Landsat images taken from 1984 to 2015 that allowed for the detection of surface-water presence along coastal transects.

The SLR-driven retreat was estimated using a modified Bruun rule[6] and considering recent projections of future sea levels under highRCP4.5 and RCP8.5 emission scenarios[7]. The Bruun rule requires the active beach slope as input, which is estimated considering the closure depth as offshore. Here, the closure depth was estimated considering wave height projections from a 6-member ensemble[8], resulting in an equal number of estimates. Then, the slope of the active beach profile[9] was estimated by combining topography from the MERIT digital elevation model with bathymetric data from the GEBCO dataset. In addition, an empirical correction factor was applied. This factor was obtained from several local studies that compared the results of the Bruun rule against more elaborate methodologies. Information about the location of sandy beaches along the global coastline was available from a recently published study[5].

Ecosystem service valuation

The annual value of ecosystem services per hectare of different land cover types was obtained from a global database created by integrating evidence from hundreds of case studies from different parts of the world and adjusting them to a single monetary benchmark[10,11]. The main types of services considered are (1) provisioning services (e.g., food, water, raw materials, and genetic resources), (2) regulating services (e.g., regulation of water and air quality, waste treatment, erosion prevention), (3) habitat services (nursery service, genetic diversity), and (4) cultural services (e.g., recreation and aesthetics)[10].

In total, estimates for 17 land cover/use classes were available. They were adapted to CLC classes similarly to a previous study[12]. Importantly, zero value was assigned to CLC class *sea and ocean*, as the focus of the analysis is on the ecosystem services lost in coastal erosion without considering that some losses could be offset by services of the open ocean. Nonetheless, these services are estimated to be much lower than those of provided by terrestrial or coastal ecosystem. Further, the ecosystem value data were converted from the purchasing power of the US dollar in the United States in 2007 to euros according to their purchasing power in the European Union (28 countries before the departure of the United Kingdom) in 2018. US dollars were converted to euros firstly using purchasing power parity for actual individual consumption in 2007 and then adjusted the result to the 2018 price level using the deflator for gross domestic product (GDP)[13]. The final valuation of services per CLC class is shown in Table 6. Apart from the total value of all services, the value of each type of ecosystem service was also calculated for a more detailed analysis of the impact of coastal erosion.

Table 6. Value of coastal ecosystem services by CLC land cover/use class used in this analysis.

CLC classification				Value per ha (euro)
Level 1	Level 2	Level 3	Codes	
Artificial surfaces	Urban fabric	*All categories*	111, 112	8971
	Artificial, non-agricultural vegetated areas	*All categories*	141, 142	8971
	All other categories	*All categories*	121–133	0
Agricultural areas	Arable land	*All categories*	211–213	7497
	Permanent crops	*All categories*	221–223	7497
	Pastures	Pastures	231	5611
	Heterogeneous agricultural areas	*All categories*	241–243	7497
Forest and semi natural areas	Forests	*All categories*	311–313	4225
	Scrub and/or herbaceous vegetation associations	Natural grasslands; moors and heathland; sclerophyllous vegetation	321–323	5611
		Transitional woodland-shrub	324	2139
	Open spaces with little or no vegetation	Beaches, dunes, sands	331	34,586
		Bare rocks; burnt areas	332, 334	0
		Sparsely vegetated areas	333	5611
Wetlands	Inland wetlands	Inland marshes	411	34,586
		Peat bogs	412	0
	Maritime wetlands	Salt marshes; salines	421, 422	261,062
		Intertidal flats	423	0
Water bodies	Inland waters	*All categories*	511, 512	16,851
	Marine waters	Coastal lagoons; estuaries	521, 522	38,943
		Sea and ocean	523	0

Spatial and statistical analysis

The base coastline was extracted from CLC 2018 (in vector format) by taking the line adjacent to CLC classes *sea and ocean*, *coastal lagoons*, *estuaries*, or *intertidal flats* and any other class than the aforementioned four. Then, a 10 km buffer was generated around the coastline, forming the ``coastal zone'' that is of interest for this study. To analyse the distribution of services by countries and regions, the coastal zone buffer was further intersected with a vector layer of NUTS 3 regions (2016 version). Eurostat's NUTS layer reproduces the coastline in less detail than the CLC layers and inconsistently omits certain areas on the interface of land and sea. Therefore, it was adjusted the layer by “extrapolating” the NUTS regions to the full extent of our coastal zone buffer using a nearest-neighbour analysis. The historical development of ecosystem services was calculated by intersecting four CLC layers (2000, 2006, 2012, 2018) and three CLC-Changes layers (2000--2006, 2006--2012, 2012--2018) with the coastal zone layer. The values from Table 6 were then multiplied by the area of CLC patches belonging to a particular NUTS region.

Coastal erosion projections were obtained in the form of a point layer with varying distances between the points, which represent the beach transects used in the original study[2]. The erosion values were assigned to CLC coastline segments according to the nearest-neighbour approach but only within a radius of 10 km. The coastline segments were split into much smaller fragments (50 m on average) at each vertex to allow the assignment of erosion data to the coastline would be more precise. The coastline with erosion values was the basis for generating buffers around the segments corresponding to the predicted intensity of erosion. Twelve scenarios were considered: a combination of two time periods (2050, 2100), two emission scenarios (RCP4.5 and RCP8.5), and three percentiles of the uncertainty distribution of the projections (5th, 50th, and 95th).

However, the erosion projections assume an unlimited backshore space for shoreline retreat. This is not realistic as erosion could be slowed or stopped due to barriers such as hard protection structures, build-up areas, or geological features. Therefore, the projections were further constrained the erosion by introducing two types of barriers into the analysis. First, artificial surfaces representing various anthropogenic structures were extracted from the *Imperviousness Density 2015* dataset with a 100 m resolution[14]. Second, topographic barriers representing high ground that are unlikely to be easily eroded were obtained from a pan-European elevation model EU-DEM[15]. Areas with an elevation of 10 m above sea level and more were considered as barriers. The segmented coastline was used to generate transects of variable density at 50 m apart on average. Each transect was intersected with the barriers, erasing areas that are invulnerable to erosion. Parts of the transects that were no longer connected directly to the coastline were removed. The remaining parts of the transects were used to clip the erosion buffers to generate the final erosion layers under the 12 scenarios. Through intersection with the CLC 2018 layer, the loss in land and ecosystem services was obtained.

To analyse impacts at national and regional scales, the value of services lost is presented not only in absolute terms or relative to their value in 2018, but also in relative economic terms. For this purpose, GDP data in purchasing power parities from Eurostat[13] at both the national (2018) and regional (NUTS 3) levels were used (2018 or latest available, adjusted to 2018 price level). Two regions of Ireland (Mid-West and South-West) were merged for this analysis due to the lack of separate regional GDP estimates.

Limitations and uncertainties

The study has focused on the negative effects of one process - coastal erosion. Notwithstanding the uncertainties and limitations of the datasets involved (land cover, erosion projections, ecosystem service valuation, and artificial and topographic barriers to erosion), which are discussed below, ecosystem services could decrease (or increase) due to factors that were not analysed in this study. For instance, coastal erosion could be compensated in some locations with land accretion. However, it is difficult to assess what ecosystem would develop and in what timeframe. The destruction of habitats could also have indirect effects. Salt marshes, the second-most affected land cover type according to this study, are particularly well-known for wave attenuation and their role in reducing erosion and flooding.

Further, ecosystems could be lost through episodic or permanent flooding of land that could occur due to mean SLR, increase in extreme sea levels, or the aforementioned loss of protective habitats. Coastal erosion could open new areas to inundations; for example, a coastal lagoon could be exposed by the loss of a lido, changing the lagoon's characteristics, and losing some of its ecosystem services. Other habitats could also be negatively affected by saltwater intrusions. There is also the possibility of habitat migration. In particular, coastal wetlands are expected to migrate landwards in response to SLR. However, this could happen only if there is enough accommodation space. Europe's coasts are heavily built-up and densely populated with many managed land-use types (especially urban and agricultural); hence, space for habitat migration is limited. Finally, the effect of the destruction of coastal ecosystems is assumed to be linear (proportional to the area lost), but this might not be the case because of the complexity of natural environment.

In the future, ecosystem service value could increase or decrease through changes in land cover and use caused by human activities, especially the expansion of urban, industrial, and infrastructure-related land. Mitigation action could prevent many of the losses indicated in the study but are not considered beyond their past influence on coastal erosion intensity. At the same time, coastal erosion mitigation is not always compatible with protecting ecosystem services. Conventional hard measures, which are short-lived and expensive, alter the coastal environment. This brief list of potential additional effects on coastal ecosystems highlights the complexity of the topic.

The datasets used in the study generally have the best available resolution. However, the minimum size of features in CLC is often too low to capture important aspects of the coastal zones, especially beaches, as they are often less than 100 m in width. Still, the uncertainty in the projections of coastal erosion is more important. It is challenging on a continental scale and implies some limitations due to the lack of data, predictive tools, and the availability of computational resources. Most significantly, the dataset used here[2] is limited to coasts with sandy beaches. Further, an important component of the projections is ambient shoreline trends that were obtained by extrapolating historical trends to the future. However, this assumes that the processes that introduce, displace, and remove sediment along the coast will not change in the future. Furthermore, the resolution of the remote sensing data (30 m) may be too coarse for parts of the European coastline.

The erosion projections also partially use the Bruun rule to estimate shoreline retreat due to SLR, which is not always optimal for this kind of analysis. As there is no European dataset of sandy beach width, the baseline projections assume unlimited backshore space for shoreline retreat. Due to limited data on coastal barriers, two proxies are introduced here: artificial barriers based on soil sealing data and topographic barriers based on the elevation data. The exact interaction of the coastline with these barriers is uncertain, but it still provides an improvement in terms of constraining erosion to areas where it is most likely to occur.

Finally, there is uncertainty in the economic analysis. Ecosystem services have a specific value and are measurable, but there is great diversity in methods used to estimate their actual value. Different studies used various approaches deviating from the “willingness to pay” concept utilised in the estimates applied here, such as market prices, replacement costs, production costs, travel costs or opinion polls. Detailed methods and discussion can be found in a paper by Paprotny et al.[16].

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ACRONYMS

ABNJ	Areas Beyond National Jurisdiction
AFD	French Development Agency, Agence Française de Développement
ASC	Aquaculture Stewardship Council
BCR	Benefit to cost ratio
BE	Blue Economy
BEI	Blue Economy Indicators
BER	Blue Economy Report
Blue SOS	Blue Sustainable Ocean Strategy
BRI	Belt and Road Initiative
CBD	Convention on biological diversity
CCS	Carbon Capture and Storage
CEF	Connecting Europe Facility
CF	Cohesion Fund
CFP	Common Fisheries Policy
CICES	Common International Classification of Ecosystem Services
CLC	Corine Land Cover
CMES	Copernicus Marine Environment Monitoring Service
CMF	French Maritime Cluster
CMO	The common organisation of the markets in fishery and aquaculture products, CMO Regulation
CO2(e)	Carbon dioxide (equivalent)
CRII (+)	Coronavirus Response Investment Initiative (Plus)
DCF	Data Collection Framework
DCT	Deepwater Container Terminal
DG MARE	Directorate-General for Maritime Affairs and Fisheries, European Commission
DGMP	Directorate-General for Maritime Policy of the Ministry of Sea, Portugal
E/R	Engineers
EAP	Environmental Action Program
EBRD	European Bank for Reconstruction and Development
ECB	European Central Bank
ECHA	European Chemicals Agency
ED	Electrodialysis
EDA	European Defence Agency
EEA	European Economic Area
EEAG	State Aid Guidelines for Environmental protection and Energy
EEZ	Exclusive Economic Zone
EFSA	European Food Safety Authority
EFSI	European Fund for Strategic Investment
EGD	European Green Deal
EIB	European Investment Bank
EIF	European Investment Fund
EIT	European Institute of Innovation and Technology
EMB	The European Marine Board
EMFF	European Maritime and Fisheries Fund
EMODNET	European Marine Observation and Data Network
EPC	Engineering, procurement and construction
ERDF	European Regional Development Fund
ES	Ecosystem services
ESA	European System of National and Regional Accounts
ESIF	European Structural and Investment Funds
ESLs	Extreme Sea Levels
ESM	European Stability Mechanism
ESPO	European Sea Ports Organisation
ETS	EU Emissions Trading System
EU	European Union (28 Member States, including the UK)
EU-27	European Union (27 Member States, without the UK)
EUSAIR	EU Strategy for the Adriatic and Ionian Region
EUSBSR	EU Strategy for the Baltic Sea Region
FAO	Food and Agriculture Organisation of the United Nations
FCR	Food conversion ratio
FiT	Feed-in–tariffs
FMFO	Fishmeal and fish oil
FPV	Floating solar photovoltaic
FTE	Full-time equivalent
GDP	Gross Domestic Product
GES	Good Environmental Status
GHG(s)	Greenhouse gas(es)
GT	Gigatonnes
GVA	Gross value added (at factor cost)
GW	Gigawatt
H&S	Health and safety
HELCOM	Helsinki Commission
ICMA	Ministerial Commission for Maritime Affairs
ICPC	International Cable Protection Committee
IMF	International Monetary Fund
IMO	International Maritime Organisation

IMP	Integrated Maritime Policy
IMR	Inspection, maintenance and repair vessels
INE	National Statistical Institute of Portugal
IOC	UNESCO's Intergovernmental Oceanographic Commission
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	International Panel on Climate Change
ISA	International Seabed Authority
JPI Oceans	Joint Programming Initiative Healthy and Productive Seas and Oceans
JRC	Joint Research Centre, European Commission
KfW Group	German Development Bank
KIP INCA	The Knowledge and Innovation Project on an Integrated system for Natural Capital and ecosystem services Accounting
Km	Kilometre
KW	Kilowatt
LFS	Labour Force Survey
LFSO	Low sulphur fuel
LNG	Liquefied Natural Gas
MAES	Mapping and Assessment of Ecosystems and Services
MEA	Millennium Ecosystem Assessment
MEAs	Maritime Economic Activities
MED	Multi effect evaporation desalination
MEPC	Marine Environment Protection Committee of the IMO
MFF	Multiannual Financial Framework
MGO	Marine gas oil
MMF	Marine Modelling Framework
MoS	Motorways of the Sea
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MRE	Marine renewable energy
MRV	Monitoring, reporting and verification
MS	Member State
MSC	Marine Stewardship Council
MSF	Multistage flash desalination
MSFD	Marine Strategy Framework Directive
MSP	Maritime spatial planning
MSY	Maximum Sustainable Yield
Mt	Megatonne
MUPs	Multi-use platforms
MW	Megawatt

NA	National Accounts
NACE	Nomenclature des Activités Économiques dans la Communauté Européenne
NAPs	National Allocation Plans
NCA	Natural capital accounting
NDCs	Nationally Determined Contributions (under the Paris Agreement)
NDT	Non-destructive Testing
NF	Nanofiltration
NGOs	Non-governmental organisations
NOAA	National Oceanic and Atmospheric Administration
NUTS	Nomenclature of Territorial Units for Statistics
OCTs	Overseas Countries and Territories
OCV	Offshore construction vessels
OEM	Original Equipment Manufacturer
ONCCV	Other non-cargo carrying vessels
ORs	Outermost Regions
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
OSV	Offshore support vessels
OTEC	Ocean Thermal Energy Conversion
OWC	Oscillating Water Column
PET	Plastic type: polyethylene terephthalate
POP	Persistent Organic Pollutants
PPR	Primary production rate
PRFs	Port waste reception facilities
PRODCOM	Eurostat statistics on the production of manufactured goods
R&D	Research and development
RCP	Representative Concentration Pathway
RD&I	Research, Development, and Innovation
RED	Reverse Electro Dialysis
REEs	Rare earth elements
REPs	Regional Entrepreneurial Ports
RES	Renewable energy sources
RESM	Regional Earth System Model
RO	Reverse osmosis
ROV	Remotely operated vehicle(s)
SAS	Satellite Account for the Sea
SBS	Eurostat Structural Business Statistics
SDG	Sustainable Development Goal
SEEA (EEA)	System of Environmental-Economic Accounting (Experimental Ecosystem Accounting)
SFPAs	Sustainable Fisheries Partnership Agreements

SLR	Sea Level Rise
SMEs	Small and Medium Enterprises
SNA	System of national accounts
SOx	Sulphur Oxides
SPF	Small pelagic fish
SPM	Single-point Mooring
SPMs	Spatial Protection Measures
SPV	Special Purpose Vehicle
SSNP	Sečovlje Salina Nature Park, Slovenia
SSPs	Shared Socio-economic Pathways
SURE	Support to mitigate Unemployment Risks in an Emergency
TEEB	The Economics of Ecosystems and Biodiversity
TEN-T	Trans-European Transport Network
TLP	Tension-leg platform
TNO	The Netherlands Organisation for Applied Scientific Research
TRL	Technology readiness level
TTS	Tonnage Tax System
TW	Terawatt
UN	United Nations
UNCLOS	United Nations Convention of the Law of the Sea
US	United States of America
VALMARE	Valuing Marine Ecosystems Services
VASAB	Visions and Strategies Around the Baltic Sea
VAT	Value Added Tax
WFD	Water Framework Directive
WWTF	Waste Water Treatment Plants
$	US Dollar
€	Euro

Member State codes

BE	Belgium
BG	Bulgaria
CZ	Czechia
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden

GLOSSARY

Comparative advantage. When an individual, firm or nation is able to produce a particular product at a lower opportunity cost than another individual, firm or nation. Forms the basis on which countries trade with one another.

Economic growth. An increase in the output of goods and services in a country between two periods.

Factor cost. A measure of output reflecting the costs of the factors of production used, rather than market prices, which may differ because of indirect tax and subsidies (see GDP).

Factors of production. The ingredients of economic activity / the human and natural resources needed to produce any good or service: land, labour, capital and enterprise.

Gross domestic product (GDP). The total market value of all final goods and services produced during a given time period within a country's borders. Equal to the total income of the nation's households or the total expenditures on the nation's output.

Gross operating surplus. The surplus generated by operating activities after the labour factor input has been recompensed. It can be calculated from the value added at factor cost less the personnel costs. It is the balance available to the unit, which allows it to compensate the providers of own funds and debt, to pay taxes, and eventually finance all or a part of the investment.

Gross investment in tangible goods. Investment during the reference period in all tangible goods. Included are new and existing tangible capital goods, whether bought from third parties or produced for own use (i.e. Capitalised production of tangible capital goods), having a useful life of more than one year including non-produced tangible goods such as land. Investments in intangible and financial assets are excluded.

Number of persons employed. Total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams).

Nominal value. The value of anything expressed simply in the money of the day. Since inflation means that money can lose its value over time, figures in real value adjust the nominal figures to remove the inflationary distortions.

Personnel costs. The total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home workers) in return for work done by the latter during the reference period. Personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions. Personnel costs are made up of wages, salaries, and employers' social security costs.

Sustainability. The ability to endure over time. Sustainable growth requires that resources be used at a rate at which they are able to replenish and that the environment is not spoiled in during the production process.

Tangible assets. Assets one can touch: buildings, machinery, gold, works of art, etc. Contrast with intangible assets.

Turnover. The total invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties; it includes all duties and taxes on the goods or services invoiced by the unit with the exception of VAT, invoiced by the unit to its customer and other similar deductible taxes directly linked to turnover; it also includes all other charges (transport, packaging, etc.) passed on to the customer.

Value added at factor costs (GVA). The gross income from operating activities after adjusting to operating subsidies and indirect taxes. Value added at factor costs is calculated 'gross' as value adjustments (such as depreciation and impairment losses) are not subtracted. GVA can be calculated from turnover, plus capitalised production, plus other operating income (including operating subsidies), plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production. Alternatively, GVA can be calculated from gross operating surplus by adding personnel costs.

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