European Commission

THE 2018 ANNUAL ECONOMIC REPORT ON **EU BLUE ECONOMY**

Maritime Affairs and Fisheries

Disclaimer

This document has been prepared by DG Maritime Affairs and Fisheries jointly with the Joint Research Centre. The views expressed do not necessarily correspond to those of the European Commission and the European Commission cannot be held responsible for any use of the information contained herein.

Linguistic version	Media/Volume	Catalogue number	ISBN	ISSN*	DOI
EN BOOK	PRINTED/Volume_01	KL-AR-18-001-EN-C	978-92-79-81756-4	2599-6576	10.2771/851319
EN PDF	PDF/Volume_01	KL-AR-18-001-EN-N	978-92-79-81757-1	2599-6584	10.2771/305342
EN EPUB	eBook/Volume_01	KL-AR-18-001-EN-E	978-92-79-86999-0	2599-6584	10.2771/617678

* The ISSN remains valid as long as the title of the serial remains unchanged. Please inform us of any title changes and/or the cessation of publication.

Foreword

The “Blue” in “Blue Economy” stands for the seas and oceans. As a vital component of Europe’s coastal economies, oceans can also contribute to our continent’s overall prosperity. They can produce investment, jobs and economic growth – and the heathier they are, the more productive they’ll be. Therefore, the Blue Economy must be a Sustainable Blue Economy.

The European Commission has undertaken to measure the trends, performance and progress of the Blue Economy and systematically monitor these. This first Annual Economic Report of the EU Blue Economy looks not only at established maritime sectors such as ports, shipbuilding, transport, etc., but also at some innovative sectors now emerging. It provides a set of economic data that, we hope, can inform policy-making, help academic research and guide investments in the Blue Economy.

The youngest born in a family of reports already covering the EU fishing fleet, the EU aquaculture sector and the EU processing sector, the report complements the ones already produced by other international organisations and maritime nations. Year after year, we will strive to update and refine its contents to make it a must read for any blue economy professional.

CONTENTS

WHAT IS THE BLUE ECONOMY?

All economic activities related to oceans, seas and coasts. Blue economy covers a wide range of interlinked established and emerging sectors.

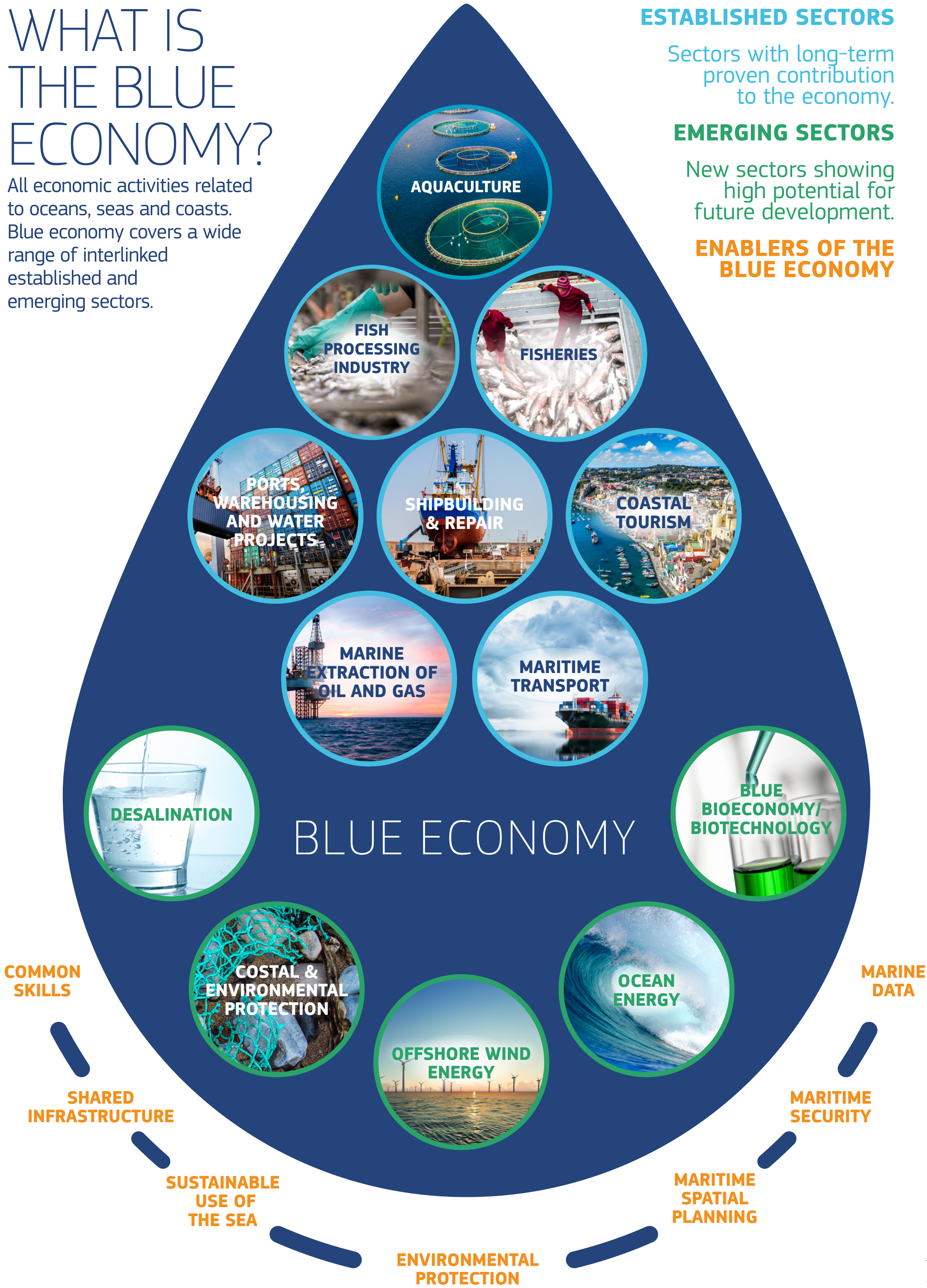
ESTABLISHED SECTORS

Sectors with long-term proven contribution to the economy.

EMERGING SECTORS

New sectors showing high potential for future development.

ENABLERS OF THE BLUE ECONOMY



EXECUTIVE SUMMARY

The Annual Report on the EU Blue Economy aims to describe the scope and size of the blue economy in the European Union, creating a baseline to support policymakers and stakeholders in the quest for sustainable development of oceans, seas and coastal resources. It will monitor developments in the EU blue economy annually and examine the drivers behind trends.

The report examines not only established sectors (meaning, for the purposes of this report, those that have traditionally contributed to the blue economy) but also emerging and innovative sectors, which bring new opportunities for investment and hold huge potential for future development. It describes the most recent trends in several socioeconomic indicators and analyses the drivers behind such trends. Analyses are provided for the EU as a whole and by sector and industry for each Member State. Reflecting the availability of comparable datasets across all Member States, the focus of this first report is primarily on the established sectors.

The established sectors include: extraction and commercialisation of marine living resources (capture fisheries, aquaculture, fish processing, retail and wholesale trade); marine extraction of oil and gas; port activities (warehousing and storage, cargo handling, construction of water projects); shipbuilding and repair; maritime transport, and coastal tourism. The fisheries and aquaculture sectors are analysed using data collected under the EU Data Collection Framework[1]. Analyses for all other established sectors are based entirely on the Structural Business Statistics (SBS) provided by Eurostat[2].

Analyses for the emerging sectors are based on other, mostly industry-based data. Such data sources are relatively limited and detailed analyses are currently unavailable. The intention is to progressively include information and analyses on emerging sectors in future reports as SBS become available. Data on natural capital and ecosystem services are even more scarce and fragmented; thus, similar efforts will be deployed to value and monitor them in future annual reports on the blue economy.

While there are still many challenges to be met, this report aims to serve as a first step to assessing the drivers and potential for oceans and coasts to provide for sustainable economic growth and to support the development of management policies that will ensure that growth is sustainable.

Chapter 1 discusses the concept of the blue economy and why it is important, citing recent studies that attempt to define its scope and size in the EU relative to the ocean economy worldwide. Such studies highlight the growing importance and future potential of the blue economy for economic growth and development.

Chapter 2 considers the challenges involved in describing the blue economy and identifies the data sources currently available to measure its size and contribution to the EU economy, focusing on six established economic sectors. It outlines some of the main challenges and limitations encountered in assessing the current and potential value of the EU blue economy, in particular the emerging sectors.

Chapter 3 provides baseline estimates of the direct socio-economic impact of the six sectors described in Chapter 2, and their contribution to the EU blue economy in terms of employment and value added (GVA). Coastal tourism is the largest contributor in terms of jobs, value added and profits, contributing significantly more to jobs than to GVA and/or profit. In contrast, the offshore oil and gas sector currently accounts for only a small fraction

1. 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.

2. http://ec.europa.eu/eurostat/web/products-datasets/-/sbs_na_ind_r2

of the total jobs but contributes one fifth to overall blue economy-based profits. This share, however, has declined over time. Extraction of marine living resources, also a key contributor to employment, has been expanding since 2009, often performing better than the EU economy at large. Shipbuilding and repair derives most of its value added from upstream and downstream activities; spillover effects resulting from the sector's recent downturn during the economic crisis were widely felt throughout the economy. However, the shipbuilding industry is recovering and there are some niche segments in which the EU has a competitive technological advantage, such as cruise vessels and military vessels, the value added of which doubled between 2009 and 2016. Other sectors, such as maritime transport and port activities, are also showing signs of recovery after a period of decline.

Chapter 4 looks deeper into the current status of and recent trends in the six established blue economy sectors by diving into their sub-sectors in different Member States, to gain insight into where new opportunities and sustainable competitive advantage may be found.

In absolute terms, the United Kingdom is the largest contributor to the GVA of the EU blue economy, followed by Spain and then Italy, France and Denmark. Spain accounts for one fifth of total employment, followed by Italy, the United Kingdom and Greece. Combined, these four Member States account for more than half of the total blue economy-related jobs.

The results indicate that in relative terms, the blue economy of some Member States (e.g. Portugal, Spain and Belgium) has grown more strongly than their national economies. Portugal's blue economy-related GVA grew 27 % between 2009 and 2016, against 4 % for its national GDP. At national level, the contribution of the blue economy to total national GDP significantly exceeds the EU average in several Member States. This is particularly the case for Croatia, Denmark and Greece. The blue economy share is well above the average in the Mediterranean and Iberian Peninsula regions, with Mediterranean states accounting for four of the five largest shares.

Largely due to its developed offshore oil & gas sector, the United Kingdom accounts for a quarter of total EU spending on wages and salaries. The United Kingdom, Germany and Italy together contribute to half of the blue economy wages and salaries paid in the EU-28. The United Kingdom also leads in blue economy-based profits and is the top investor, injecting 60 % of the total amount invested in the established sectors in the EU. Denmark has recently boosted investment in its blue economy sectors and the top three investors — the United Kingdom, Denmark and Germany — together accounted for 80 % of net investment in 2016.

Chapter 5 considers the available data on emerging sectors within the blue economy. Although some are more established than others, these sectors have yet to achieve their full potential. The first part of the chapter covers renewable energy and mainly focuses on offshore wind energy and ocean energy (tidal and wave energy). It then summarises the available information on the blue bioeconomy (such as biotechnology), coastal protection, desalination, seabed mining and multi-use platforms. In addition to these sectors, various other emerging sectors require further investigation and research: maritime surveillance, security and defence, natural capital and ecosystem services.

Currently, reliable data on emerging sectors are too limited to permit any detailed socioeconomic analyses. This means the size and contribution to the blue economy, as presented in Chapters 3 and 4, are probably underestimates,. Moreover, the value of the natural capital and ecosystem services they provide have not been considered due to lack of data and a common valuation methodology.

Chapter 6 summarises the results and of some blue economy case studies in the EU. A remarkable effort to promote the blue economy can be found in the case study on the Port of Vigo (Spain), where strategies have been put in place to promote jobs, growth and investment in order to exploit new opportunities. As seen in Chapter 5, there is great potential to expand the EU blue economy in emerging sectors, in particular renewable energy and biotechnology. A case study on emerging sectors in Ireland shows that the turnover of marine biotechnology almost doubled from 2014 to 2016. A third case study, also concerning Ireland, looks specifically at ecosystem services. Finally, an in-depth analysis of investments and employment in the ocean energy sectors is included in a case study, providing more detailed information on the sector and its prospects, with growth projections.

Chapter 7 provides an overview of the blue economy of each of the EU-28 Member States for 2009-2016. These country profiles will form the basis of more detailed future analyses.

Key figures[3] for the six established sectors analysed in the 2018 Annual Report on the EU Blue Economy, based on Eurostat and DCF data (including the proportional (percentage) change between 2009 and 2016):

- turnover[4] in 2016 was estimated at EUR 566.2 billion (+7.2 %);
- gross value added stood at EUR 174.2 billion (+9.7 %);
- gross profit stood at EUR 95.1 billion in 2016 (+8.1 %);
- employment (in number of persons employed) stood at 3.5 million in 2016 (+2 %);
- net investment in tangible goods stood at EUR 22.2 billion (+71.7 %) (excludes maritime transport and coastal tourism);
- a net investment ratio (net investment to GVA) of 29 % was reported for 2016, up from 18 % in 2009;
- average annual salaries, at EUR 28 800 in 2016, increased by 14.2 % compared to 2009 (EUR 25 200) (excludes coastal tourism).

3. In nominal terms, direct impact only.

4. It should be noted that considering turnover can lead to double counting along the value chain. This may be particularly relevant in certain sectors, for example, the living resource sector.

CHAPTER 1: **INTRODUCTION**

THE BLUE ECONOMY CONCEPT

THE RATIONALE FOR THE 'BLUE ECONOMY' CONCEPT

Water covers 72 % of Earth's surface and ocean and coastal ecosystems provide human beings with considerable economic and ecological services. Expanding human activity, however, increasingly challenges the resilience of the marine and coastal resource base. The oceans' potential to meet sustainable development needs is enormous, but only if human activity can be managed in a way that ensures they are healthy and productive.

The concept of the blue economy emphasises conservation and sustainable management based on the idea that healthy ocean ecosystems are more productive and are fundamental to sustainable, ocean-based economies. It embraces the same desired outcomes inherent in the concept of the 'green economy'.

Sustainable management implies that economic activity is in balance with the long-term capacity of ocean ecosystems to support such activity. Sustainability in this sense is central to the EU common fisheries policy and to the UN's Sustainable Development Goal (SDG) No 14 (conserve and sustainably use the oceans, seas and marine resources for sustainable development).

With increasing recognition of the importance of the world's oceans and coasts, and the realisation that their natural capital is declining, many countries have placed greater focus on reassessing the value of their oceans and coasts and actively establishing strategies to develop a sustainable blue economy.

The Organisation for Economic Cooperation and Development (OECD) has stated that *'realising the full potential of the ocean will therefore demand responsible, sustainable approaches to its economic development'*[5].

And the Commission has made its commitment clear: *'our responsibility today is to make sure that maritime economic development leads to a sustainable and competitive blue economy'*[6].

5. OECD(2016). The Ocean Economy in 2030, OECD Publishing, Paris. http://dx.doi.org/9789264251724-en.

6. Commission Staff Working Document: Report on the Blue Growth Strategy: Towards more sustainable growth and jobs in the blue economy. SWD(2017) 128 final of 31 March 2017.

PURPOSE OF THE ANNUAL ECONOMIC REPORT

This first annual report follows a 2012 Commission communication on 'Blue Growth'[7], an initiative to harness the untapped potential of Europe's oceans, seas and coast for jobs and economic growth, and a 2017 Commission report on the Blue Growth strategy[8]. The report takes stock of progress in the six established sectors, i.e., those that have traditionally contributed to the blue economy (extraction and commercialisation of marine living resources, marine extraction of oil and natural gas, maritime transport, port activities, shipbuilding and coastal tourism). It also looks into five innovative, high-potential maritime sectors identified in the Blue Growth strategy: blue energy (offshore wind and ocean energy), aquaculture, coastal and maritime tourism, blue biotechnology and seabed mining. It points to a lack of public and private funding as an obstacle to the full potential of these sectors.

This first annual economic report is another step forward for the Blue Growth strategy. The blue economy's long-term potential in terms of jobs, growth and investments can only be completely realised if more effective and coordinated steps are taken to integrate environmental, economic and social aspects of ocean management. This calls for progress and developments in the blue economy to be measured and monitored. Assessment of the state and scope of the blue economy and investment opportunities is intended to support evidence-based policy- and decision-making, and provide direction in ocean stewardship and governance.

Hence, the report will monitor the scope and progress of the blue economic sectors. It aims to quantify their current size and long-term potential in terms of jobs, growth and investment.

One of the main challenges in monitoring the blue economy, apart from the lack of data for certain maritime sectors, are the discrepancies between Member States' relevant national accounts and the economic sectors considered 'blue'. The lack of consistent and comparable statistical data on the different sectors of the blue economy makes it difficult for governments and stakeholders to make informed decisions.

This report and supporting datasets aim to provide consistent information and analyses. The goal is not merely to describe the blue economy but to look also into drivers behind recent, and future, short-term trends. For this, the collection of harmonised, reliable and accurate data across Member States needs to be ensured, while fostering further collaboration between national statistics and EUROSTAT.

Due to data constraints, this first edition focuses on six established sectors but the objective is to progressively add data on and analyses of emerging and innovative sectors and to assess their potential contribution to the EU's blue economy. Still, valuing our natural capital and the many ecosystem services resulting from it, such as carbon sequestration, continues to be very challenging without price markets for these (i.e. non-market goods and services). The report also describes the difficulties associated with methodological choices, for example how to separate on-land from offshore activities in sectors such as wind energy and vessel equipment.

7. Blue Growth - Opportunities for marine and maritime sustainable growth, COM(2012) 494.

8. SWD(2017) 128 final of 31 March 2017.

CHAPTER 2:
DESCRIBING THE EU BLUE ECONOMY

WHAT DOES THE BLUE ECONOMY INCLUDE?

There are many different views of what the blue economy is; definitions vary widely. Deciding what the blue economy includes is a challenge in itself, given the difficulty of estimating the extent of coastal and ocean activities, and their direct and indirect impacts. These challenges are exacerbated by the paucity of data for certain maritime sectors and the lack of comparability between Member States' data.

A delineation of the blue economy largely depends on the sectors included and the extent to which indirect upstream and downstream effects can be identified and measured. Hence, deciding what sectors and activities to include when analysing the current state and size of the blue economy, is an important first step.

For the purposes of this report, blue economy includes economic activities that are:

(a) marine-based, including those undertaken in the ocean, sea and coastal areas, such as capture fisheries and aquaculture, offshore oil and gas, offshore wind energy, ocean energy, desalination, shipping and marine transport, and marine and coastal tourism; and

(b) marine-related activities which use products and/or produce products and services for the ocean and marine-based activities; for example, seafood processing, marine biotechnology, shipbuilding and repair, port activities, communication, equipment, maritime insurance and maritime surveillance.

Yet the blue economy also includes those parts of the public sector with direct coastal and ocean responsibilities (national defence, the coast guard, marine environmental protection, etc.), as well as marine education and research. The ocean also has economic value that is not easy to quantify in general, in terms of habitats for marine life, carbon sequestration, coastal protection, waste recycling and storing, and processes that influence climate and biodiversity. New, emerging and innovative activities are also developing rapidly. These activities also need to be included and measured to comprehensively assess the blue economy.

For the purpose of this report, the EU's blue economy encompasses all sectoral and cross-sectoral economic activities related to oceans, seas and coasts, including those in the EU's outermost regions and landlocked countries. This includes the closest direct and indirect support activities necessary for the sustainable functioning and development of these economic sectors throughout the single market. It includes also emerging sectors and economic value based on natural capital and non-market goods and services. This definition is fully in line with the definitions adopted by the OECD[9] and the World Bank[10].

It is important to note that a comprehensive assessment of the blue economy requires the value of natural capital[11] and the ecosystem services[12] stemming from that natural capital to be estimated. Nevertheless, for a variety of reasons, it has proven impossible to provide such valuations in the present report.

10. OECD(2016). The Ocean Economy in 2030, OECD Publishing, Paris. http://dx.doi.org/9789264251724-en.
For the OECD, 'the ocean economy encompasses ocean-based industries (such as shipping, fishing, offshore wind and marine biotechnology), but also the natural assets and ecosystem services that the ocean provides (fish, shipping lanes, CO_2 absorption and the like)'.

11. World Bank and United Nations Department of Economic and Social Affairs. 2017. *The potential of the blue economy. Increasing long-term benefits of the sustainable use of marine resources for small island developing states and coastal least developed countries.* World Bank, Washington DC: 'the 'blue economy' concept seeks to promote economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring environmental sustainability of the oceans and coastal areas'.

12. Defined as 'an economic metaphor for the limited stocks of physical and biological resources found on Earth, and the limited capacity of ecosystems to provide ecosystems services'. TEEB(2010), The economics of ecosystems and biodiversity: mainstreaming the economics of nature: A synthesis of the approach, conclusions and recommendations of TEEB.

13. Defined as 'the direct and indirect contribution of ecosystems to human wellbeing'. It can be understood also as 'the flow of value to human societies as a result of the state and quantity of natural capital' or as the dividend society receives from natural capital. TEEB(2010).

METHODOLOGICAL FRAMEWORK

All analyses of the direct impact of established blue economy sectors are based on two data sources: (1) Structural Business Statistics (SBS) from Eurostat for industry, construction and trade, and (2) the EU Data Collection Framework (DCF) for the primary sectors (capture fisheries and aquaculture).

As there is a two-year time lag in the release of Eurostat SBS and DCF socioeconomic data, the latest year for which data is available is 2016, the reference year for the current report.

SBS covers the 'business economy', according to the NACE activity classification (NACE Rev.2 Sections B to N and Division 95) but does not cover agriculture, forestry and fishing, nor public administration and (largely) non-market services such as education and health. SBS is based on data for enterprises, so if an enterprise is active in more than one economic activity, the value added and turnover that it generates, the people it employs, and the values of all other variables are classed under the enterprise's principal activity. The principal activity is normally the one that generates the largest amount of value added.

While certain economic sectors can be clearly identified as fully marine (for example, shipping and maritime transport), for other sectors (such as cargo handling, warehousing and extraction of oil and gas), the maritime portion of activity cannot be extracted directly from the general NACE code without more specific knowledge. In many cases, there is little or no information available to accurately estimate marine activity. To ensure that the marine activity of these sectors is included, assumptions and proxies were used, where available. For example, the ratio of offshore to onshore oil and gas production was available for some Member States.

Coastal tourism is dealt with differently. Coastal tourism is defined as when at least one night is spent in a municipality with a coastline or with 50 % of its territory within 10 km of the sea (certain major cities are treated differently, e.g. Rome and Amsterdam). At present there is insufficient data to estimate activity for day trips.

Analyses for the time series 2009 to 2016 are concentrated on a small set of variables and indicators which were available for all or most sectors and include: employment (number of persons employed), wages and salaries, turnover, gross value added, gross operating surplus (profit) and investments (gross and net). From these, additional indicators were estimated, such as: average wage (wages and salaries/number of persons employed); GVA to turnover, profit margin (gross operating surplus to turnover), labour productivity (GVA per person employed) and net investment ratio (net investment / GVA).

The established sectors included in this first report are listed below, identified by the NACE code, where relevant, and whether they are considered entirely marine or not, together with the assumptions used to identify the maritime proportion (Figure 1).

THE SIX ESTABLISHED SECTORS

1. EXTRACTION OF MARINE LIVING RESOURCES

The primary sector:

- Capture fisheries (EU fishing fleet)
- Aquaculture sector (onshore and offshore production)

Value chain:

Corresponding NACE sectors

- 10.20 Processing and preserving of fish, crustaceans and molluscs
- 46.38 Wholesale of other food, including fish, crustaceans and molluscs
- 47.23 Retail sale of fish, crustaceans and molluscs in specialised stores

Data assumptions: NACE codes to be split between maritime and non-maritime

Maritime/non-maritime allocation:

1. As NACE 46.38 Wholesale of other food, including fish, crustaceans and molluscs, may include also other items apart from fish, the maritime share is assumed to be 50 %, unless more country-specific information was available.
2. All other sectors are assumed 100 % maritime.

2. OFFSHORE OIL AND NATURAL GAS

Corresponding NACE sectors

- 06.10 Extraction of crude petroleum
- 06.20 Extraction of natural gas
- 09.10 Support activities for petroleum and natural gas extraction

Data assumptions: NACE codes to be split between maritime and non-maritime

Maritime/non-maritime allocation:

1. Primary production of crude oil and primary production of natural gas, both in 1 000 tonnes of oil equivalent, per country, were taken from Eurostat.
2. Offshore oil and gas production ratios were obtained from JRC Offshore Authorities Group.

3. PORTS, WAREHOUSING AND CONSTRUCTION OF WATER PROJECTS

Corresponding NACE sectors: Port activities

- 52.10 Warehousing and storage
- 52.22 Service activities incidental to water transportation
- 52.24 Cargo handling

Corresponding NACE sector: Construction of water projects

- 42.91 Construction of water projects

Data assumptions: NACE codes to be split between maritime and non-maritime

1. NACE 52.22 Service activities incidental to water transportation is assumed to be 100 % maritime. This NACE code also contains services to cruise ships; however, the breakdown between cruise and other ships was not carried out for the current analysis.
2. For NACE 52.24 Cargo handling and 52.10 Warehousing and storage, which also cover non-maritime activity, the maritime-related shares are assumed to be in the order of 50 %, unless

country-specific information was available (for example, for Italy 50 % of cargo handling relates to maritime activity; the same share is applied to warehousing and storage).

3 For NACE 42.91 Construction of water projects, this sector includes the construction of waterways, harbour and river works, pleasure ports (marinas), dams and dykes. Activities such as dredging of waterways are also included — and assumed to be 100 % maritime.

4. SHIPBUILDING AND REPAIR

Corresponding NACE sectors: Shipbuilding and repair

- 30.11 Building of ships and floating structures
- 30.12 Building of pleasure and sporting boats
- 33.15 Repair and maintenance of ships and boats

Data assumptions: NACE codes to be split between maritime and non-maritime

1. All four NACE codes are assumed to be 100 % maritime.
2. NACE 38.31 Dismantling of wrecks was not included as it includes all types of wrecks (cars, computers, televisions etc.) and dismantling of ships mainly takes place outside the EU.

5. MARITIME TRANSPORT

Corresponding NACE sectors to Shipping

- 50.10 Sea and coastal passenger water transport
- 50.20 Sea and coastal freight water transport
- 50.30 Inland passenger water transport
- 50.40 Inland freight water transport
- 77.34 Renting and leasing of water transport equipment

Data assumptions: NACE codes to be split between maritime and non-maritime

1. All four NACE codes included above are assumed to be 100 % maritime.
2. NACE 50.10 Sea and coastal passenger water transport includes both passenger ferry services and cruise passenger, but no breakdown for cruise passengers was carried out for the current analysis.

6. COASTAL TOURISM

(Based on tourist spending in coastal municipalities for the following categories)

Accommodation

Corresponding NACE sectors

- 55.10 Hotels and similar accommodation
- 55.20 Holiday and other short-stay accommodation
- 55.30 Camping grounds, recreational vehicle parks and trailer parks
- 55.90 Other accommodation

Transport

Corresponding NACE sectors

- 47.30 Retail sale of automotive fuel in specialised stores
- 49.10 Passenger rail transport, interurban
- 49.30 Urban and suburban passenger land transport
- 50.10 Sea and coastal passenger water transport
- 51.10 Passenger air transport

Other Expenditures

Corresponding NACE sectors

- 47.6 Retail sale of cultural and recreation goods in specialised stores
- 47.7 Retail sale of other goods in specialised stores
- I56 Food and beverage service activities

Data assumptions: NACE codes to be split between maritime and non-maritime

Maritime/non-maritime allocation:

1. Coastal tourism is defined as tourism where at least one night is spent in a municipality with a coastline or with 50 % of its territory within 10 kilometres of the sea.
2. The four NACE codes listed above are all only partially marine- or coastal-related.
3. To estimate the maritime activity, the percentage of tourist nights spent in coastal municipalities compared to the total (by Member State) was used. Essentially, the size of the activity is then based on analyses of tourist spending on:

   (a) *Accommodation.* The number of nights spent in coastal regions is determined from surveys of tourism destinations. Turnover and employment are calculated assuming that averages for similar types of accommodation (hotels, campsites etc.) are the same for coastal as for non-coastal accommodation in a given country.

   (b) *Transport, food and beverage services and 'other'.* Turnover is estimated from surveys of tourist spending and employment from turnover to employed ratios from SBS. The turnover to employment ratio for retail activities is used to estimate employment generated by spending on 'other'. Separate analyses are made for residents, tourists who reside in the same country, non-residents who come from another EU country and non-EU residents. The transport statistics assume the turnover to employment ratios of the destination country, and assign employment to the destination country. Work is ongoing, together with Eurostat, to improve the methodology and estimates.

Gross value added and gross profit were estimated from turnover using an average of those margins from related sectors to maintain consistency and comparability across sectors and indicators analysed

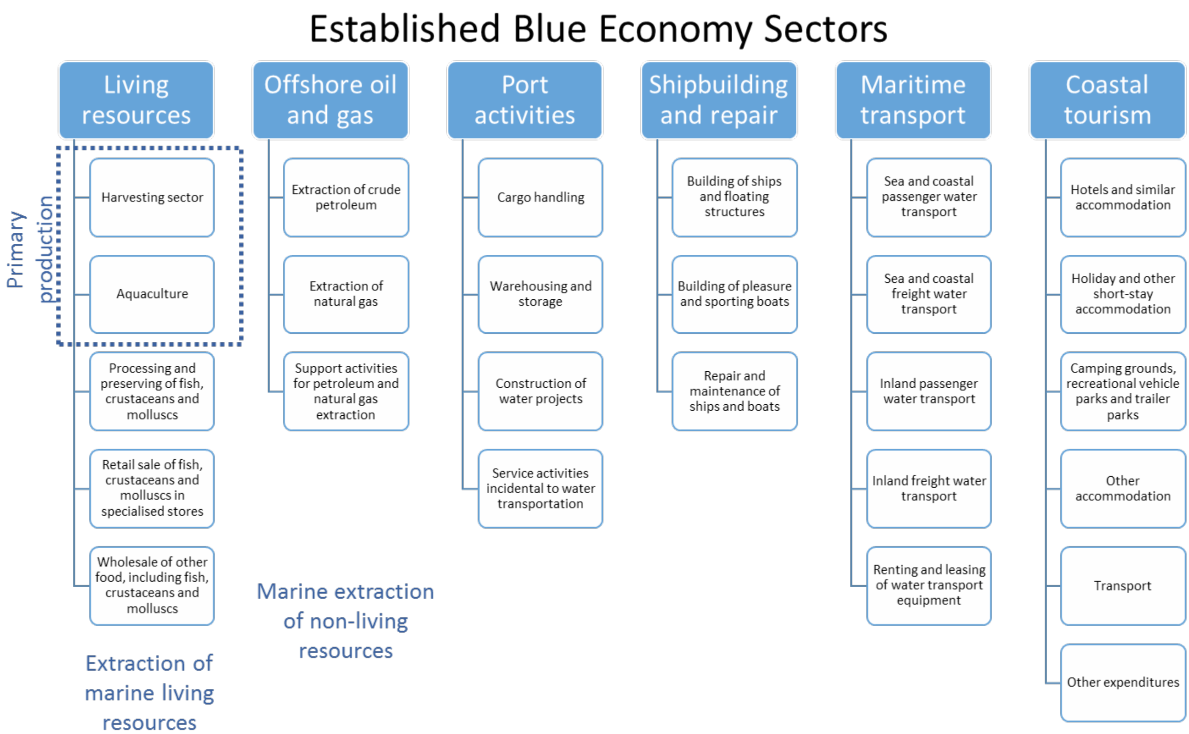


Figure 1 Established blue economic sectors, including the primary sector and industries as according to Eurostat SBS

EMERGING SECTORS

For the emerging sectors, there are currently not enough consistent and comparable data for a detailed socioeconomic analysis. The information and data on these provided throughout the report are mainly industry-based. The emerging blue economy sectors identified are outlined below.

- **Renewable energy**
- **Blue biotechnology**
- **Deep-sea mining**
- **Desalination**
- **Coastal and environmental protection**
- **Defence and security**
- **Marine research and education**

Some sectors, such as desalination, defence and marine research, are by no means new. Others such as biotechnology and renewable energy are already important, in particular the latter where the EU is a worldwide leader in both technology and generation capacity. Coastal and environmental protection is bound to develop rapidly in the wake of climate change and extreme weather conditions (**Figure 2**).

Further evaluation will be provided in future annual reports, when more comparable data is available.

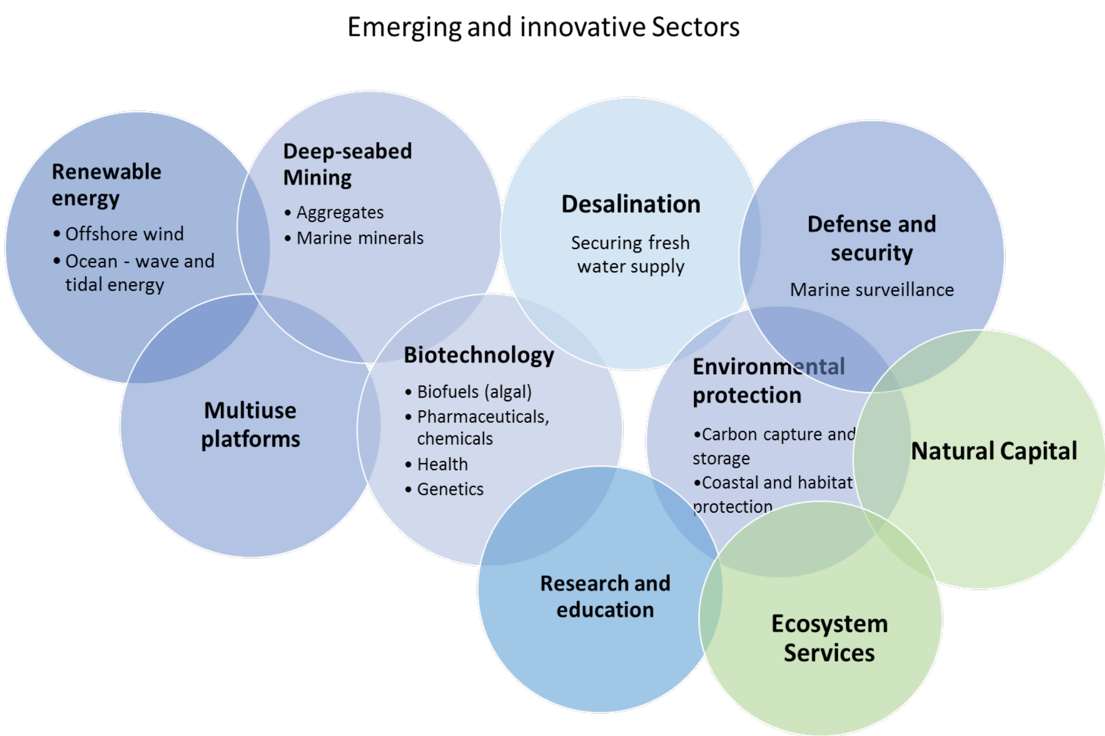


Figure 2 Emerging and additional blue economy sectors and industries (not yet specified in Eurostat SBS)

PREVIOUS MEASURES OF THE SIZE AND SCOPE OF THE EU BLUE ECONOMY

A fundamental question to be answered is how big the EU's blue economy is, or rather, what its contribution to the wider EU economy is.

Since 2011, the EU has conducted two comprehensive studies on the blue economy, briefly outlined below.

COGEA: 'STUDY ON THE ESTABLISHMENT OF A FRAMEWORK FOR PROCESSING AND ANALYSING OF MARITIME ECONOMIC DATA IN EUROPE'

In 2017, the Commission published the report *Study on the establishment of a framework for processing and analysing of maritime economic data in Europe*. This study followed up on several others that had aimed at defining and measuring the blue economy at an EU level, and faced many of the same issues, including the lack of reliable data. The study sought to cross-check the different available data that the Commission has started collecting from a variety of sources, providing further details from additional sources[14].

ECORYS: 'BLUE GROWTH: SCENARIOS AND DRIVERS FOR SUSTAINABLE GROWTH FROM THE OCEANS, SEAS AND COASTS'

The objective of the project was to develop the maritime aspects of the Europe 2020 strategy by providing insight, presenting developments, identifying sectors with economic potential and assessing the impact of those already established.

The study looked at three types of sectors, namely: mature, growth-stage and pre-development. The sectors within the mature category are equivalent to those under 'established sectors' while the growth-stage and pre-development sectors (as used by Ecorys) are termed 'emerging' in this report.

As with most of the studies and reports that look into emerging sectors such as blue biotechnology and deep-seabed mining, Ecorys found that very little data, if any, were available and that although these sectors have huge potential there was no solid socioeconomic information to report.

14. Data used in this study goes up to 2014 and so varies slightly from the data used in the rest of this BE report (which also contains 2015 and 2016 data).

15. The 2016 OECD report does not include GVA or jobs from artisanal capture fisheries or fresh water or artisanal aquaculture.

OECD: 'THE OCEAN ECONOMY IN 2030'

According to this report by the Organisation for Economic Cooperation and Development (OECD) (2016), Europe accounts for 11.6 % of the global ocean economy, as follows, for 2010[15].

Sector	VA (EUR billion)	% of World GVA	Employment (thousand jobs)
Shipbuilding & repair	14.0	25	400
Sea and Coastal transport			
Marine equipment	20.16	12	
Port activities	44.39	23	
Marine and coastal tourism	136.5	35	
Industrial capture fisheries	5.0		
Industrial marine aquaculture	0.85	9	100
Fish processing	11.06	14	
Offshore oil and gas	140.0	27.7	342
Offshore wind energy	2.61	90	

*some of these values may differ from the estimates provided in this report due to different coverage methodology and years of reference.

The OECD report also lists figures from blue economy studies carried out by OECD members, including some EU Member States:

Country	Blue economy as % of total GDP
Belgium	10
France	1.4 – 2.75
Ireland	0.7
The Netherlands	3.3
Portugal	2.5
United Kingdom	4.2

CURRENT STATUS AND RECENT TRENDS

DIRECT IMPACT OF THE BLUE ECONOMY

The established sectors of the blue economy, as covered in this report, directly employed some 3.48 million people in 2016, a 2 % increase compared to 2009, but 5 % more than in 2014 (the lowest level reached in the period analysed) and 3.6 % more than in 2015. While blue economy-based employment remained relatively stable, wages and salaries[16] increased over the period, translating into higher average wages (14.2 % higher than in 2009) (**Figure 3**).

The gross value added (at factor cost, GVA) generated by the blue economy sectors stood at EUR 174.2 billion in 2016, 9.7 % higher than in 2009. Gross profit, at EUR 95.1 billion, was 8.1 % higher than in 2009 (EUR 87.9 billion) (**Figure 3**). Total turnover was estimated at around EUR 566.2 billion, 7.2 % more than in 2009.

Net investment in tangible goods (i.e. purchase minus sale of tangible assets during the year) increased by 71.7 % from 2009 to 2016: from EUR 12.9 billion to EUR 22.2 billion. Similarly, the net investment ratio (net investment to GVA) increased from 18 % in 2009 to 29 % in 2016, reaching its peak in 2014 (30.6 %)[17] (**Figure 4**).

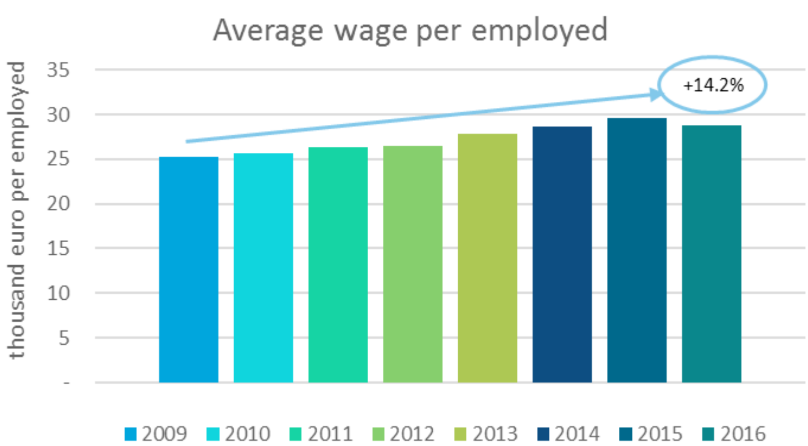
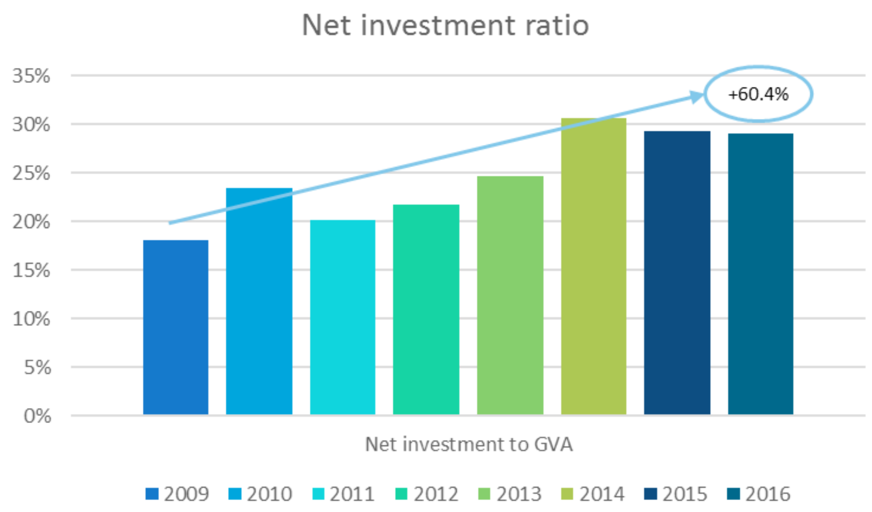


Figure 3 Trends in average wage and profitability indicators (GVA and gross profit), 2009-2016

16. Excludes coastal tourism due to data unavailability.

17. These figures exclude maritime transport and coastal tourism due to a lack of data on net investment.



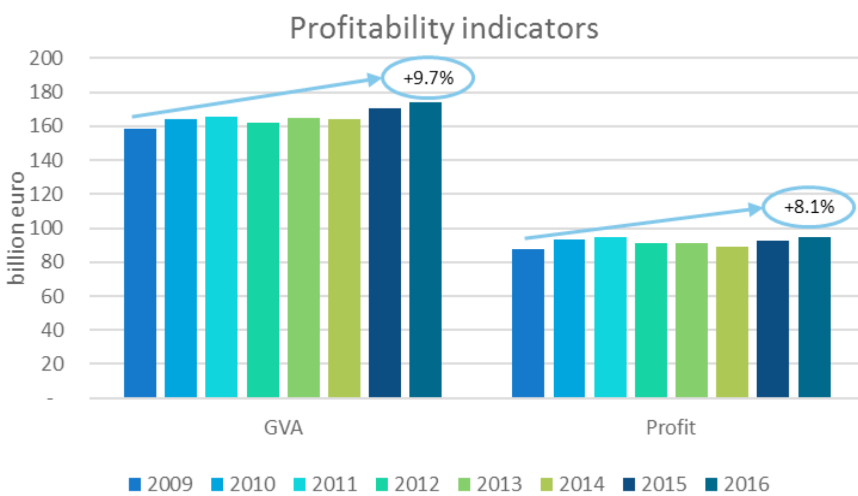


Figure 4 Trends in the net investment ratio (net investment to GVA), 2009-2016

CONTRIBUTION TO THE EU ECONOMY

In 2016, the blue economy[18] contribution to the EU economy[19] accounted to 1.3 % of the EU-28's GDP and just over 1.6 % of its employment. While its share of total employment remained steady in the period analysed (2009-2016), its share of GDP fell steadily until 2015, then picked up in 2016 but still has not reached pre-crisis levels (**Table 1, Figure 5**). There are many diverse factors at play behind these trends, but a key one is that several of the established blue economy sectors such as shipbuilding (e.g. building of pleasure boats), maritime transport and port activities were severely hit by the crisis. It could also be that some land-based emerging sectors are gaining importance faster than their maritime counterparts. For example, wind energy production continues to be cheaper on land, making competition tough for those developing offshore activities, particularly in view of low energy prices. The lack of electrical connections (cables/grids) is also a substantial barrier to the development of offshore wind farms.

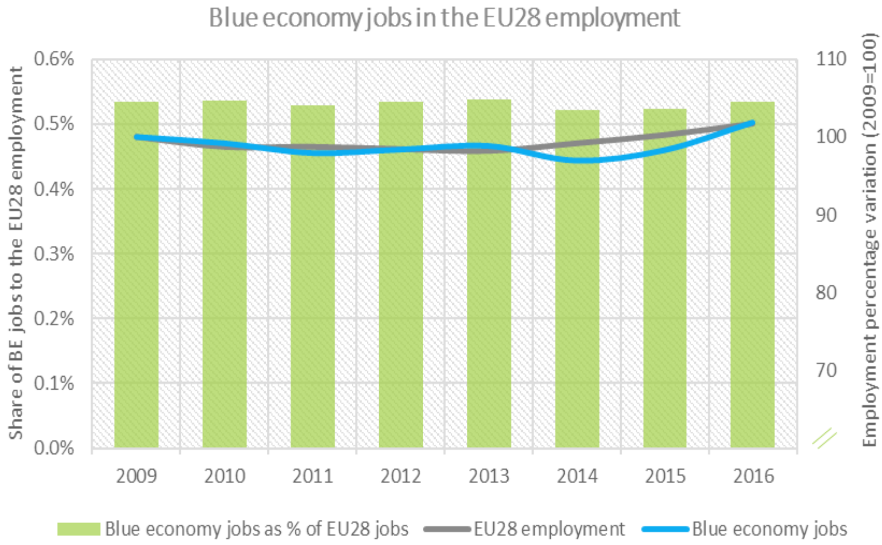
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	509	527	507	541	529	528	531	530	4.0%	
Marine extraction of oil and gas	61	65	65	63	61	64	64	60	-1.9%	
Ports, warehousing and water projects	257	248	241	244	237	249	264	267	3.9%	
Maritime transport	238	228	226	216	215	231	233	235	-1.2%	
Shipbuilding & repair	309	278	264	255	253	255	263	262	-15.2%	
Coastal tourism	2,043	2,043	2,043	2,043	2,082	1,986	2,004	2,127	4.1%	
Total BE jobs	***3,417***	***3,389***	***3,346***	***3,362***	***3,378***	***3,313***	***3,359***	***3,481***	**1.9%**	
EU-28 employment	213,861	211,040	211,053	210,362	209,865	211,939	214,187	217,348	-0.1%	
Blue economy as % of EU-28 jobs	**1.60%**	**1.61%**	**1.59%**	**1.60%**	**1.61%**	**1.56%**	**1.57%**	**1.60%**		

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-08	**Trend**
Living resources	15,209	15,856	16,521	16,777	16,330	17,521	18,082	18,563	22.0%	
Marine extraction of oil and gas	28,082	30,243	30,552	30,876	29,341	26,444	26,398	26,398	-6.0%	
Ports, warehousing and water projects	17,422	16,949	20,770	17,009	17,722	17,850	19,547	19,546	12.2%	
Maritime transport	22,897	24,832	21,511	21,744	23,103	23,282	27,430	27,428	19.8%	
Shipbuilding & repair	10,674	11,617	11,432	11,463	10,955	11,934	11,917	11,878	11.3%	
Coastal tourism	64,524	64,524	64,524	64,524	67,569	67,137	67,472	70,410	9.1%	
Total BE GVA	***158,806***	***164,020***	***165,310***	***162,393***	***165,019***	***164,170***	***170,845***	***174,222***	**9.7%**	
EU-28 GDP	11,101,144	11,512,810	11,820,533	12,057,722	12,159,688	12,573,353	13,242,034	13,331,952	20.1%	
BE as % of EU-28 GDP	**1.43%**	**1.42%**	**1.40%**	**1.35%**	**1.36%**	**1.31%**	**1.29%**	**1.31%**		

Table 1 Summary statistics for the EU blue economy by sector for the period 2009-2016, including contribution to EU total employment and GVA.

18. Includes the established sectors covered in the present report.

19. By gross value added (GVA), which is conceptually close to GDP (gross domestic product). GVA (ESA 2010, 9.31) is defined as output value at basic prices less intermediate consumption valued at purchasers' prices. GVA is calculated before consumption of fixed capital.



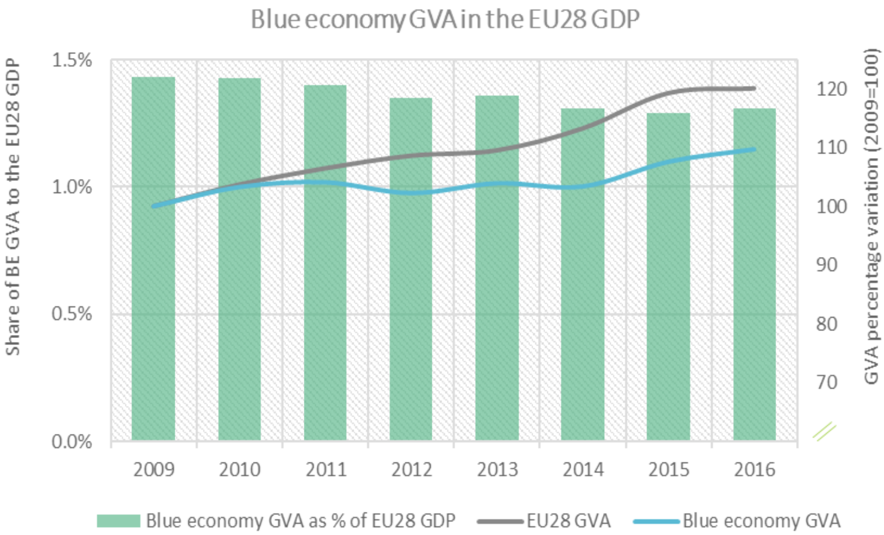


Figure 5 Trends in GVA and employment as a share of the EU-28 total (bars) and the percentage change (2009=100) (lines)

It is observed that some sectors perform significantly better than others. For example, the growth of the living resources sector has been greater than that of the EU-28 GDP (Figure 6). 'Living resources' includes the fisheries sector, which seems to follow a somewhat different path from that of the other sectors in general. The improved performance of the fisheries sector since 2010 is related to the increased efforts under the EU common fisheries policy (CFP) to fish at sustainable levels, among other factors such as lower fuel prices and higher average first sale prices. Available data shows a positive link between sustainable fishing and positive economic performance, in particular in fishing regions in the North Sea and North-East Atlantic, where an increasing number of commercially important fish stocks are being fished at sustainable levels[20].

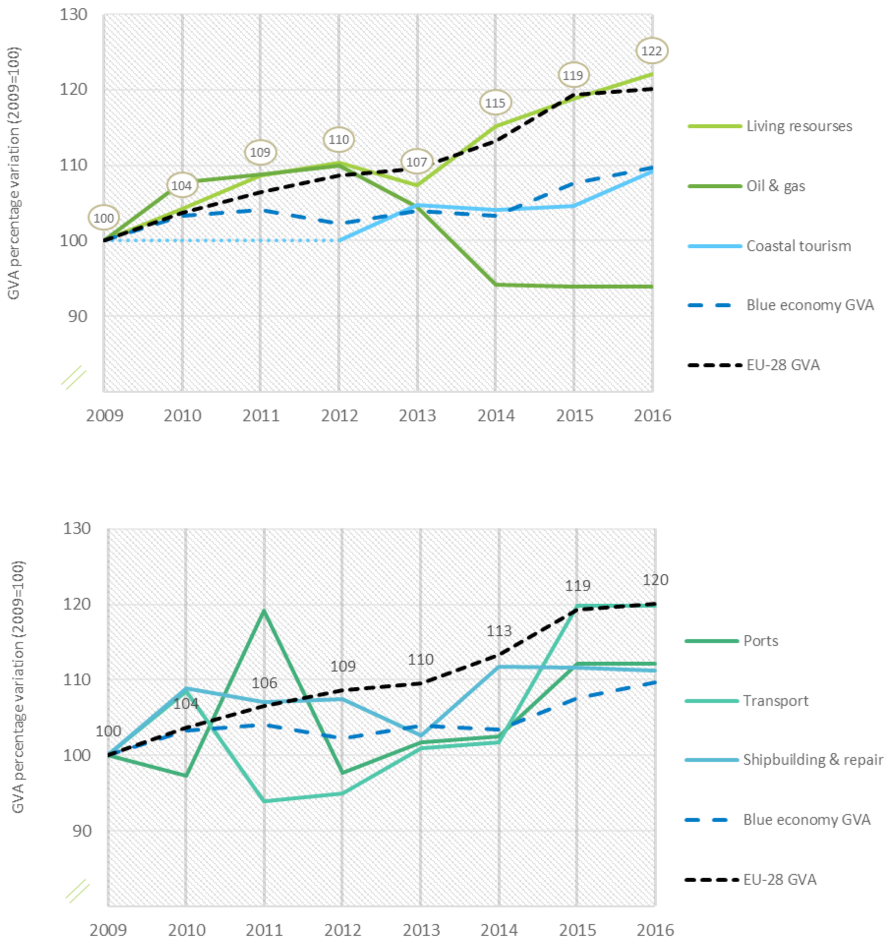


Figure 6 Trends in the percentage change of blue economy-based GVA and EU-28 GVA (2009=100).

20. Fished at or below the maximum sustainable yield (MSY) exploitation rate (FMSY).

Coastal tourism makes the greatest contribution to the EU blue economy in terms of employment, gross value added and profit (**Figure 7**), its share of these has risen over time. The sector's contributions to GVA and profits are lower than to employment. In contrast, marine extraction of oil and natural gas, i.e., offshore oil & gas, accounts for only a tiny fraction of employment but one fifth of overall blue economy-related profits; this share, however, has fallen over time. It is clear that these two sectors have very different levels of labour productivity but also that their contribution to the resilience of coastal areas — measured in terms of jobs — is very different. The offshore oil & gas industry is a highly capitalised sector that requires few employees per unit of output and is concentrated in a few geographical areas. Furthermore, these are generally large, multinational companies, which might have fewer direct links to local coastal communities. In contrast, coastal tourism is labour-intensive, particularly during the high season, and often run by small or medium-sized local or family businesses; it is widespread along the entire EU coastline.

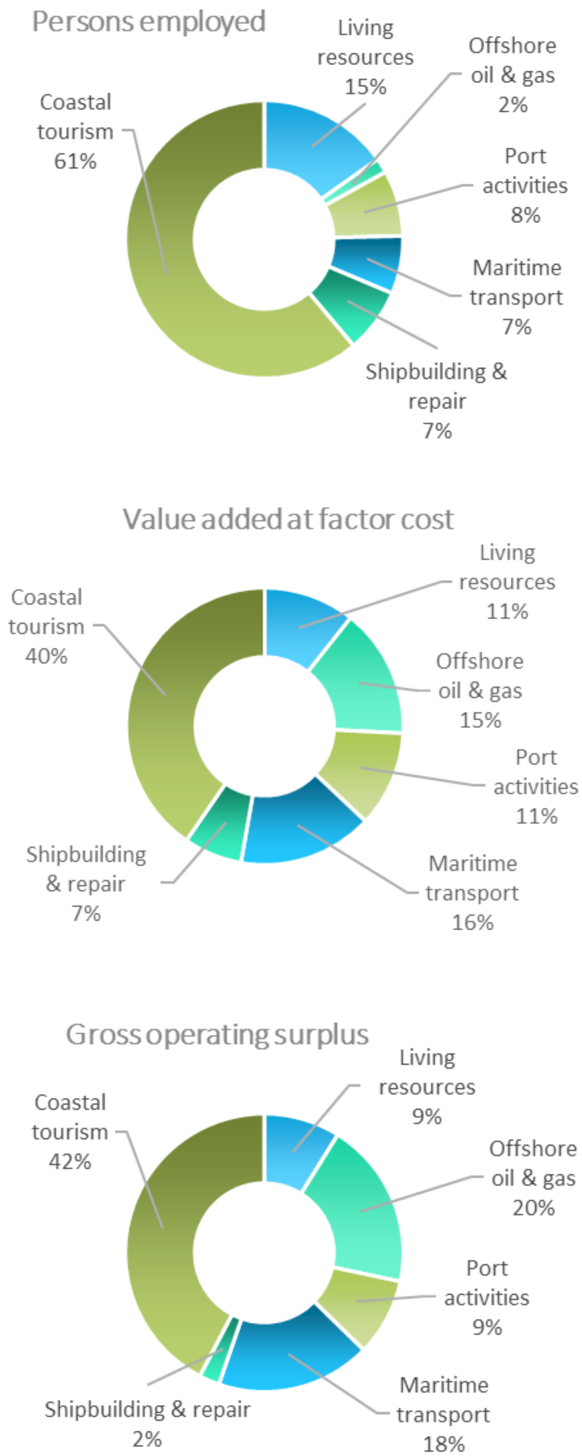


Figure 7 Share of employment, GVA and profits by blue economy sector, 2016

Figure 8 Recent trends in employment, GVA, profit and net investment by blue economy sector

The living resources sector has been expanding since 2010. This is certainly true of the capture fisheries sector, where growth is compatible with the increasingly sustainable exploitation of stocks.

In shipbuilding, most of the value added is from upstream and downstream activities. That means that, beyond its specific contribution, it has important multiplier effects on income and jobs in many sectors of the blue economy. These multiplier effects are quite significant in the capture sector, too. One of the side-effects of restructuring the EU fishing fleet, according to the sector, is that fleet reduction has also reduced ancillary activities, resulting in income and job losses beyond the capture sector.

Comparing 2016 with 2009, it appears that living resources and coastal tourism, on the one hand, and shipbuilding & repair and offshore oil & gas, on the other, moved in different directions during the crisis. The first two may act as buffers to compensate not only job losses but also declines in GVA and gross profits in other industrial sectors (**Figure 8**).

CONTRIBUTION TO NATIONAL ECONOMIES

At national level, the contribution that blue economy sectors represent to national GDPError! Bookmark not defined. significantly exceeds the EU average of 1.3 % in some Member States. This is particularly the case for Croatia, Denmark, Greece, Malta, Cyprus and Estonia (**Figure 9**).

For self-evident reasons, the blue economy's share of GDPError! Bookmark not defined. in landlocked countries is negligible.

In contrast, Mediterranean Member States are responsible for four of the five biggest percentages. The blue economy's contribution to national GDP is also well above the average in the Iberian Peninsula (**Figure 9**).

The percentage for the United Kingdom is above the average but relatively modest. Likewise, the percentages for France Germany, Italy and Poland are also low, although the corresponding figures are high in absolute terms (**Figure 10**).

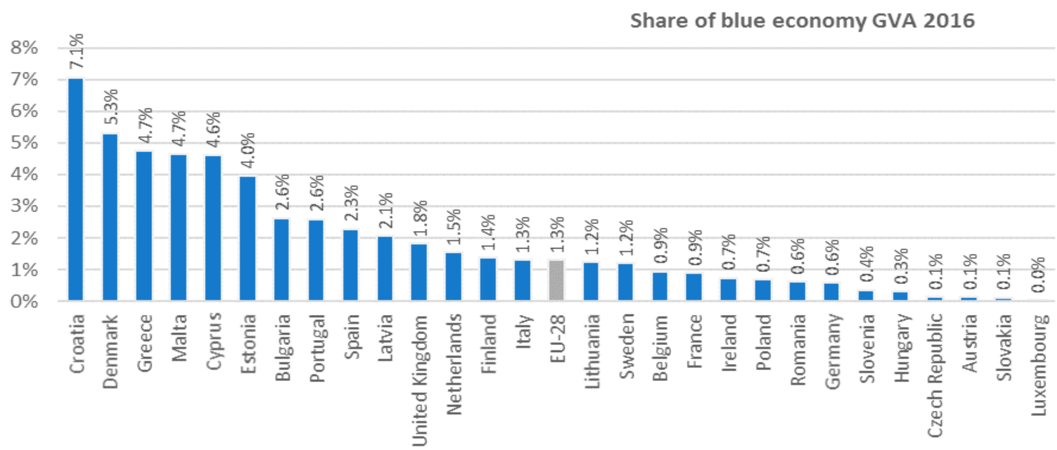
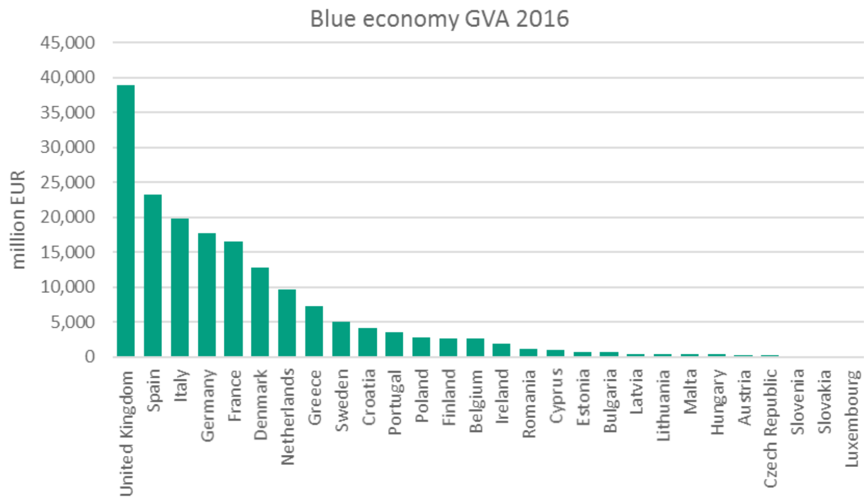


Figure 9 Contribution of the blue economy to national GDPs, 2016

In absolute terms, the GVA generated by blue economy sectors in 2016 was as follows.

- The UK's blue economy sectors were worth around EUR 39 billion, representing 22 % of total EU blue economy GVA.
- Spain's blue economy-related GVA was EUR 23.2 billion in 2016, or 13 % of total blue economy GVA.
- Italy's was EUR 19.7 billion, 11 % of total blue economy GVA, followed by France, at EUR 17.7 billion.
- Croatia, which had the highest blue economy GVA as a percentage of national GDP, ranked 12th, accounting for 1.6 % (EUR 2.8 billion) of the EU total.



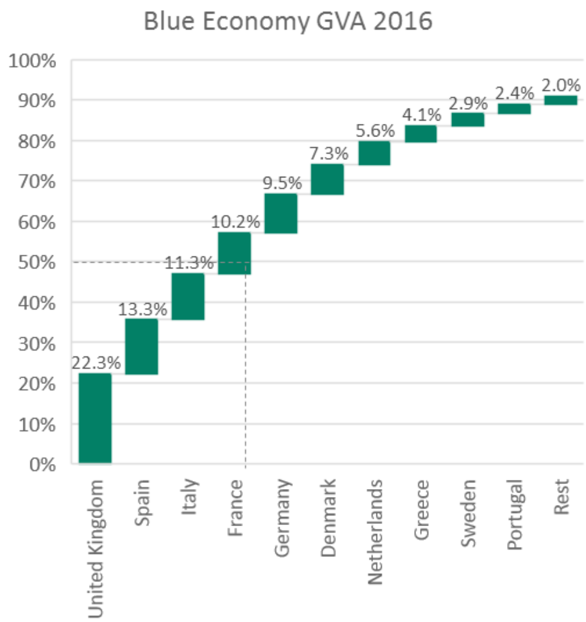
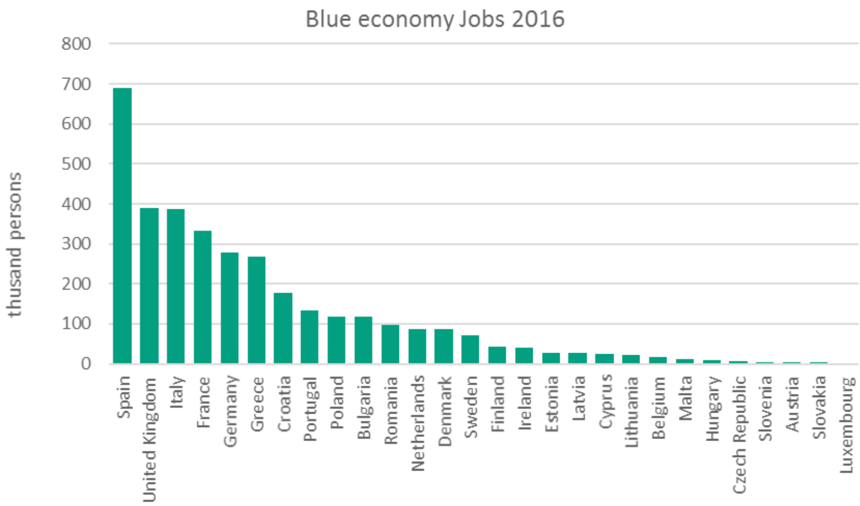


Figure 10 Blue economy-based GVA by Member State (left) and contribution to the EU total, 2016

- In terms of employment, Spain accounts for one fifth of total blue economy-related employment (almost 691 000 jobs); this proportion increased over the period. Italy was second, at 390 000 jobs, with the UK third, followed by Greece. Combined, these four Member States account for more than half of the EU total (**Figure 11**).
- In absolute terms, the five largest EU economies are among the six top countries in terms of jobs.



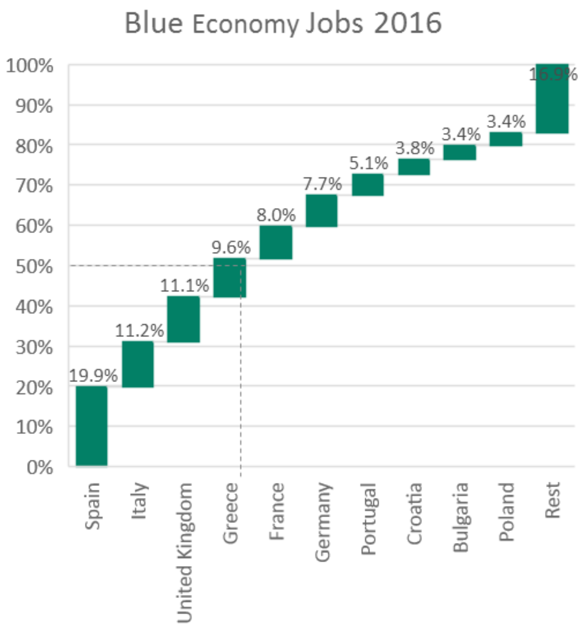


Figure 11 Blue economy-based jobs by Member State (left) and contribution to the EU total, 2016

- The UK, largely due to its highly developed offshore oil & gas sector, accounts for a quarter of the total amount spent on wages and salaries[21]; the figure increased from EUR 7.3 billion in 2009 to EUR 9.8 billion in 2016. The UK, Germany and Italy, the top three countries, account for half of total EU blue economy-based wages and salaries (**Figure 12**).

21. Excludes coastal tourism due to data unavailability

22. Excludes coastal tourism due to data unavailability

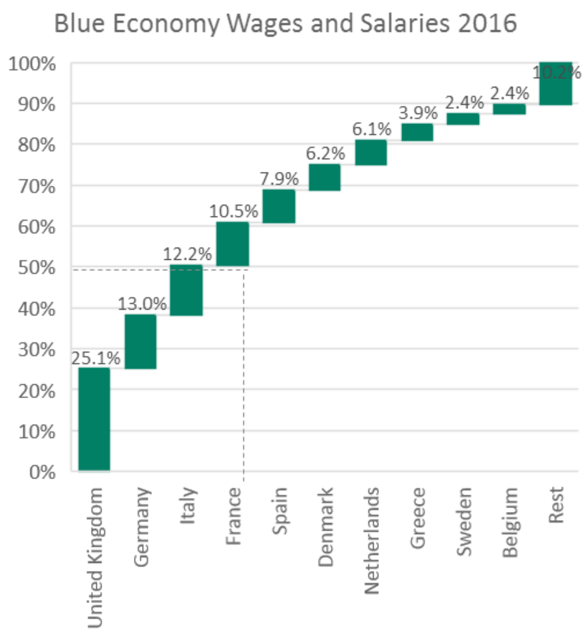
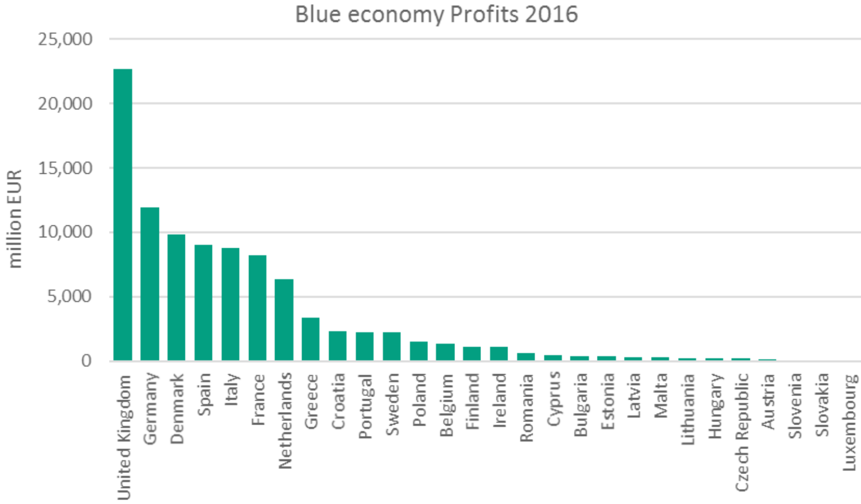


Figure 12 Blue economy wages and salaries[22] by Member State (left) and contribution to the EU total, 2016

- The UK also leads in blue economy-based gross profit (accounting for 24 % of the total), and is the top investor, with 60 % of the total, investing over EUR 13.3 billion in 2016, up from EUR 6.2 billion in 2009 (**Figure 13**).
- The UK, with Spain, Italy and Demark, accounted for 56 % of profits in 2016.
- Denmark sharply increased investment in its blue economy sectors, from EUR 576 million in 2009 to EUR 3.4 billion in 2016 (**Figure 14**).
- The top three investors — UK, Denmark and Germany — together accounted for 80 % of the net investment in 2016.



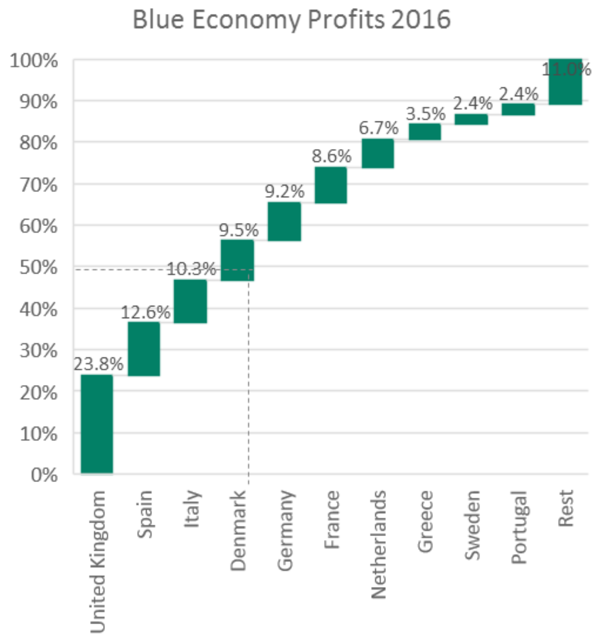
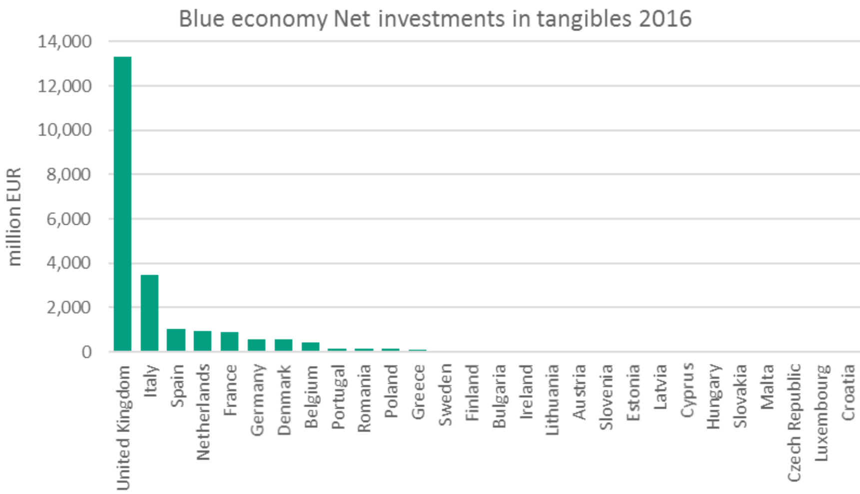


Figure 13 Blue economy-based profits by Member State (left) and share to the EU total, 2016



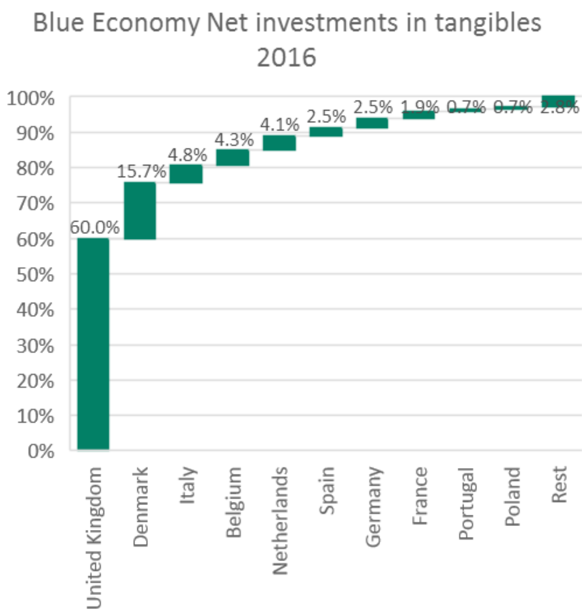


Figure 14 Net investments in tangible goods by Member State (left) and MS share to the EU total, 2016

CHAPTER 3:
THE ESTABLISHED SECTORS

CURRENT STATUS OF AND RECENT TRENDS IN THE ESTABLISHED SECTORS

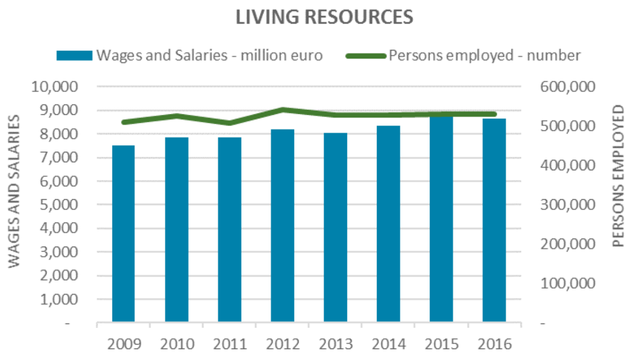
EXTRACTION AND COMMERCIALISATION OF MARINE LIVING RESOURCES

Living resources encompasses the harvesting of renewable biological resources and their conversion into food, feed, bio-based products and bioenergy.

The following analysis of living resources includes: capture fisheries; aquaculture; processing of fish, crustaceans and molluscs; and wholesale and retail sale of fish, crustaceans and molluscs. Due to limited data availability, it does not include the biotechnological and bioenergy industries.

Living resources accounted for 15 % of the jobs, 11 % of the GVA and 9 % of the profits in the total EU blue economy in 2016.

Direct impact 2016: almost 530 000 persons were employed in the sector. Wages and salaries amounted to EUR 8.7 billion, with an average wage of EUR 16 400, up 15 % from 2009 (**Figure 15**). The value added (GVA) generated by the living resource sector amounted to EUR 18.6 billion, a 22 % increase compared to 2009 while gross profit, at EUR 8.4 billion, saw a 37 % rise on 2009 (EUR 6.2 billion). Net investment in the sector was around EUR 2 million per year (Figure 16). Labour productivity, measured as GVA per person employed, steadily increased over the period analysed, reaching EUR 35 000 in 2016 (+17 % on 2009), and was highest in Denmark (EUR 95 000 per person employed), followed by Belgium.



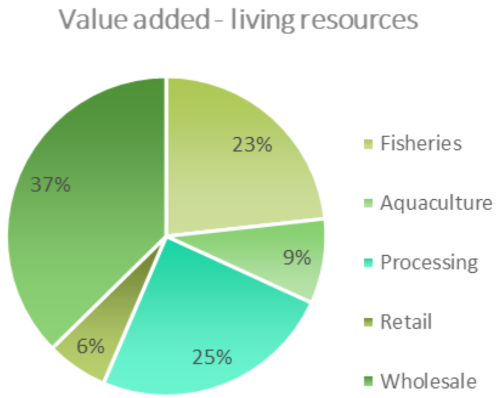
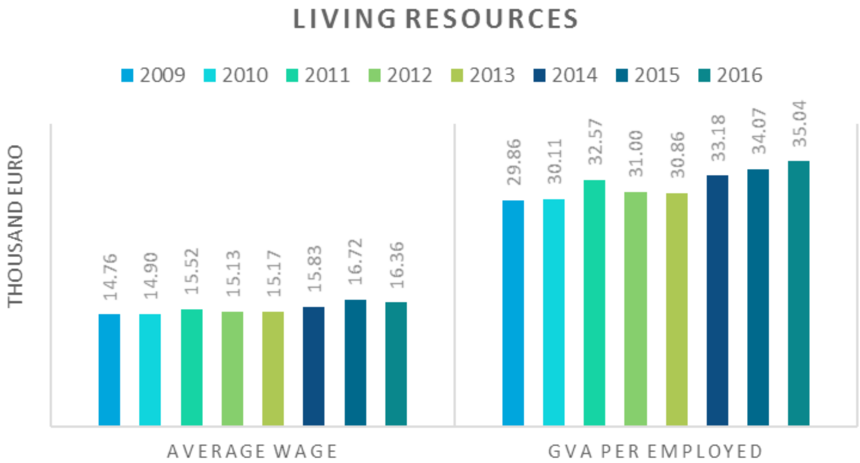
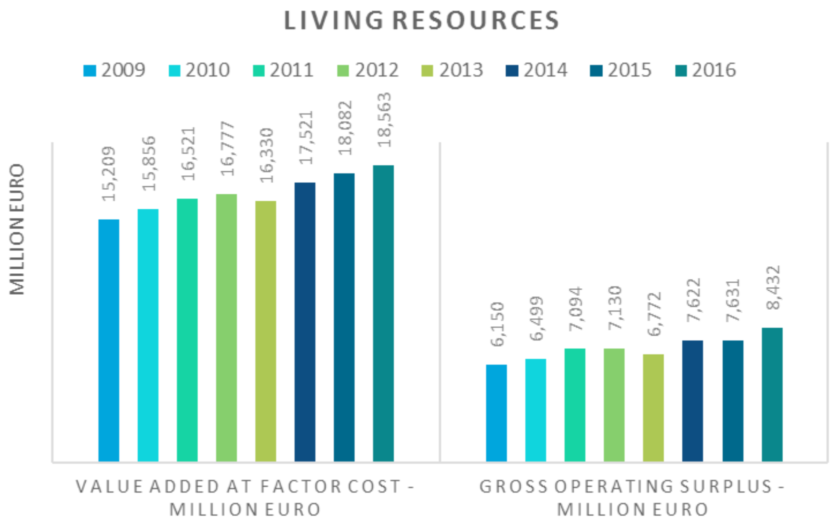


Figure 15 Top: Recent trends in wages and salaries and number of persons employed in living resources; Bottom: Share of GVA by sub-sector in 2016.


LIVING RESOURCES
2009
2010
2011
2012
2013
2014
2015
2016
THOUSAND EURO
14.76
14.90
15.52
15.13
15.17
15.83
16.72
16.36
29.86
30.11
32.57
31.00
30.86
33.18
34.07
35.04
AVERAGE WAGE
GVA PER EMPLOYED


LIVING RESOURCES
2009
2010
2011
2012
2013
2014
2015
2016
MILLION EURO
15,209
15,856
16,521
16,777
16,330
17,521
18,082
18,563
6,150
6,499
7,094
7,130
6,772
7,622
7,631
8,432
VALUE ADDED AT FACTOR COST - MILLION EURO
GROSS OPERATING SURPLUS - MILLION EURO

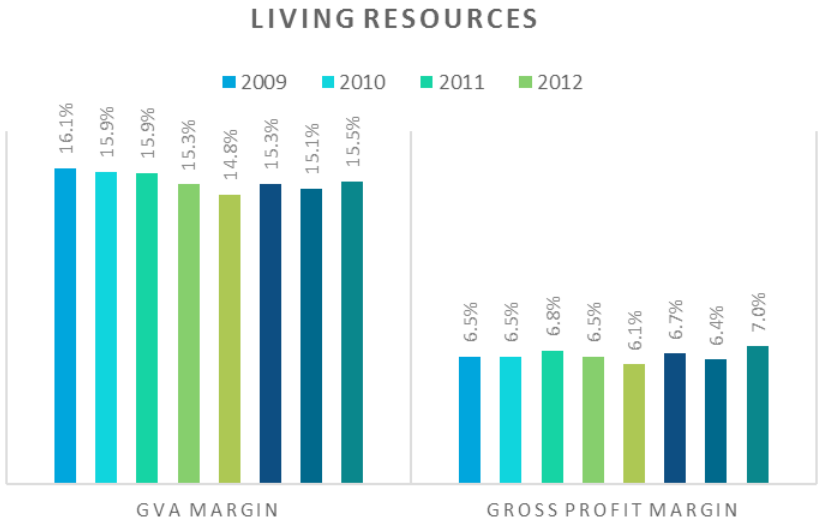


Figure 16 Recent trends in employment, GVA, profit and net investment in living resources

LIVING RESOURCES BY SUB-SECTOR AND MEMBER STATE

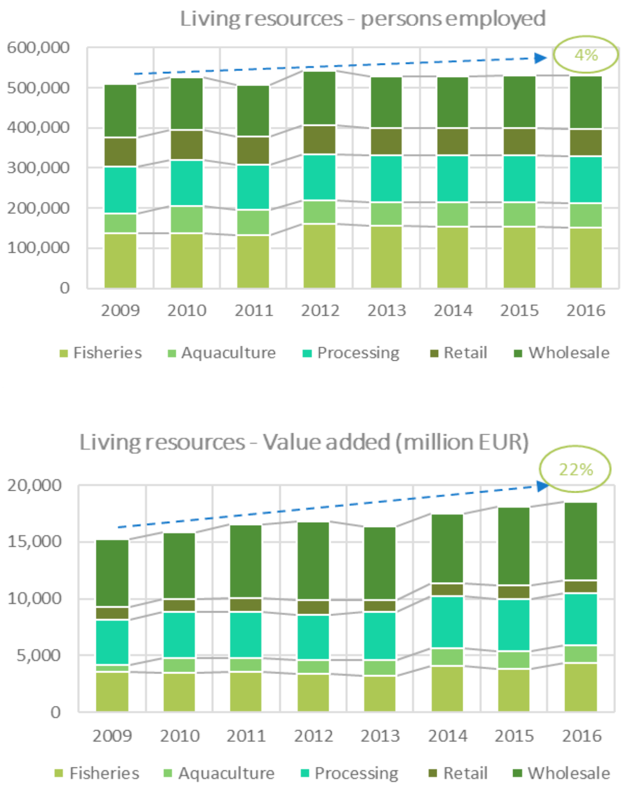


Figure 17 Employment and gross value added by sub-sector in living resources, 2016

Employment and wages: Capture fisheries account for 28 % of jobs in the sector, followed by wholesale with 25 %, fish processing 22 %, retail 13 % and aquaculture 12 %. Employment in the sector increased by 4 % since 2009, due entirely to the primary sector — fisheries (9.5 %) and aquaculture (28 %). All other industries suffered a slight fall in the number of persons employed. Overall, wages and salaries in living resources increased by 15 % compared to 2009; most notably in the aquaculture (+102 %), and retail (+24.5 %) sectors (**Figure 17**).

Gross value added: Most of the value added is generated in wholesale, accounting for 37 % of GVA, followed by processing, at 25 %, then capture fisheries, at 23 %, aquaculture, at 9 %, and retail, at 6 %. Value added in living resources increased by 22 % compared to 2009, in most part due to the primary sector (+43 % compared to 2009). GVA also increased in the other sectors: wholesale (+16.6 %), fish processing (+14 %) and retail (+3 %) (**Figure 17**).

Gross profit: Gross profit, estimated at EUR 8.4 billion in 2016, increased by 37 % compared to 2009, again mostly due to the primary sector (+130 %). In terms of profit, wholesale accounted for 34 % of profit, followed by capture fisheries (26 %), processing (20 %), aquaculture (14 %) and retail (6 %).

Spain clearly leads in the living resource sector, with 22 % of the total jobs and 17 % of the GVA. Moreover, Spain generates the most jobs in all five sub-sectors apart from wholesale, where Germany takes the lead (Figure 18).

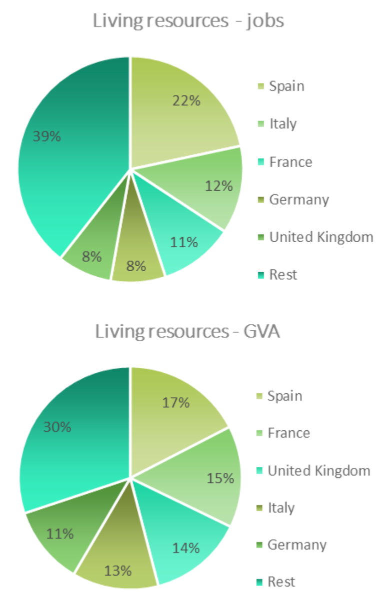


Figure 18 Employment and gross value added by top Member States in living resources, 2016

TOP 5 MEMBER STATES FOR LIVING RESOURCES AND THEIR SHARES OF JOBS AND GVA BY SUB-SECTOR

⚓ FISHERIES

Jobs: Spain 21 %, Italy 17 %, Greece 16 %, Portugal 11 % and France 9 % (= 73.5 % of total)

GVA: Spain 24 %, France 16 %, UK 15 %, Italy 12 % and Denmark 7 % (= 74 % of total)

⚓ AQUACULTURE

Jobs: Spain 32 %, France 26.5 %, Greece 8 %, Italy 8 % and UK 5 % (= 80 % of total)

GVA: France 30 %, UK 21 %, Italy 14.5 %, Spain 12 % and Greece 7.5 % (= 85 % of total)

⚓ PROCESSING AND PRESERVING OF FISH, CRUSTACEANS AND MOLLUSCS

Jobs: Spain 17 %, Poland 16 %, UK 12 %, France 10 % and Portugal 7 % (= 62 % of total)

GVA: UK 18 %, Spain 16 %, France 14 %, Poland 8 % and Germany 8 % (= 64 % of total)

⚓ RETAIL SALE OF FISH, CRUSTACEANS AND MOLLUSCS IN SPECIALISED STORES

Jobs: Spain 31 %, Italy 16 %, Germany 11 %, Portugal 7 % and Netherlands 6 % (= 71 % of total)

GVA: Spain 29 %, France 18 %, Italy 14 %, Germany 13 % and UK 8.5 % (= 82 % of total)

⚓ WHOLESALE OF OTHER FOOD, INCLUDING FISH, CRUSTACEANS AND MOLLUSCS

Jobs: Germany 19.5 %, Spain 17 %, Italy 14.5 %, France 8 % and the Netherlands 7 % (= 66 % of total)

GVA: Germany 22 %, Italy 15 %, Spain 14 %, France 11 % and the UK 9 % (=70.5 % of total)

CAPTURE FISHERIES

The 2017 Annual Economic Report on the EU fishing fleet provides an overview of the structure and economic performance of the 23 coastal EU Member State fishing fleets.

In 2015, the EU fishing fleet numbered 84 420 vessels with a combined gross tonnage of 1.6 million tonnes and engine power of 6.4 million kilowatts. Direct employment stood at 152 700 fishers, corresponding to 114 863 full time equivalents (FTEs). The average annual wage per FTE was estimated at EUR 24 800, ranging from EUR 1 400 in Cyprus to EUR 75 000 in Belgium. The EU fleet landed 5 million tonnes of seafood with a reported landed value of EUR 7.2 billion.

GVA and gross profit (all excluding subsidies) generated by the EU fleet (except Greece) was EUR 3.9 billion and EUR 1.6 billion, respectively. GVA as a proportion of revenue was estimated at 54 %, up from 52 % in 2014 and the gross profit margin at 23 %, up from 22 % in 2014. With a total net profit of EUR 798 million, 11 % of the revenue generated by the EU fleet in 2015 was retained as net profit.

AQUACULTURE

The 2016 Economic Report on the Performance of the EU Aquaculture Sector provides an overview of the sector's structure and economic performance for 2008-2014.

EU aquaculture production is mainly concentrated in five countries: Spain, the United Kingdom, France, Italy and Greece, with 76 % by weight and 75 % by value of the EU-28 total. The number of enterprises is between 14 000 and 15 000, most of which are micro- or small enterprises that employ fewer than 10 people. EU-28 employment in the sector is estimated to be around 80 000 people, with the average yearly wage EUR 23 400 (6 % higher than 2012). The overall picture is of a sector with sluggish growth compared to the rest of the world in production weight terms, but faster growth in production value terms.

Aquaculture is divided into three main sectors:

- **The shellfish sector: profit EUR 165 million.** The main countries are France (mostly oysters), Spain (mussels) and Italy (clams).
- **The marine sector: profit EUR 99 million.** The United Kingdom is the main salmon producer, with Greece covering mostly seabass and seabream.
- **The freshwater sector: profit EUR 87 million.** Italy, France and Denmark are the main producers of trout and, eastern Europe, particularly Poland, is the main producer of carp.

FISH PROCESSING INDUSTRY

Based on the latest data from Eurostat:

- in 2016, the fish processing sector in the EU comprised 3605 enterprises (excludes Cyprus, Malta, Luxembourg) with fish processing as their main activity, employing around 116 594 people;
- income (turnover) amounted to EUR 27.6billion and gross valued added exceeded EUR 4.6 billion (excludes Cyprus, Malta, Luxembourg, Hungary).

Overall, the sector is suffering from low profit margins (around 6.2 %) mainly because of rising costs in energy and raw materials, which cannot be wholly compensated by price increases because of the price pressure from wholesalers and retailers. Nonetheless, fish processing enterprises in many Member States seem to be more efficient in reacting to increasing costs than previously. The Baltic States and Poland report increasing investment and activity.

MARINE EXTRACTION OF OIL & GAS[23]

This offshore sector is facing significant challenges from the depletion of the more accessible reserves together with the development of new onshore techniques and a prolonged low oil price environment.

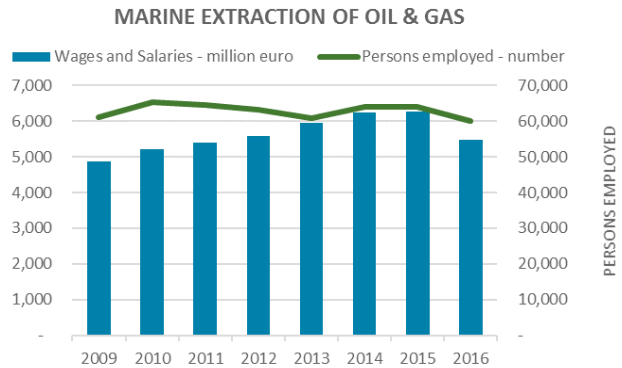
Currently, the EU-28 has around 600 active offshore platforms. Most of the exploration and production is in the North Sea, carried out by the countries around it (i.e. the United Kingdom, Denmark, the Netherlands and Germany). Production in the Baltic is minimal, with production activities mainly along the Polish coast. In the Mediterranean, traditional production areas are located in Spanish, Greek, Maltese and Adriatic waters — mostly Italian but more recently, Croatian. Romania and Bulgaria are hydrocarbon producers in the Black Sea. The sector has developed technologies, infrastructure and operational skills of significant value to Blue Growth. With the depletion of many exploited fields and decommissioning beginning, these strengths could prove very useful for the development of new offshore activities, such as floating offshore windfarms or geothermal power and concepts such as multi-use platforms.

Offshore oil and gas accounted for 15 % of the GVA, 2 % of the jobs and 20 % of the profits of the total EU blue economy in 2016.

Direct impact 2016: around 60 000 people were directly employed in offshore oil and gas and support activities; 2 % less than in 2009. Wages and salaries totalled EUR 5.5 billion (+12 % compared to 2009), with average wages estimated at EUR 91 300, up 14.5 % compared to 2009. GVA amounted to almost EUR 26.4 billion, a 6 % decrease compared to 2009. Gross profits, at EUR 18.5 billion, shrank by 15 % on 2009 (EUR 21.8 billion) (**Figure 19**). Net investments in tangible goods reached almost EUR 17.9 million in 2016, 115 % more than in 2009. The ratio of net investment to GVA was estimated at almost 68 % in 2016, a significant increase from 30 % in 2009. New investment is also pouring into innovation, exploration, and production units further offshore and in deeper waters (**Figure 20**).

Labour productivity, measured as GVA per person employed, was EUR 440 000 in 2016 (4.2 % lower than in 2009). Labour productivity was highest in Denmark, at EUR 1.6 million per person employed, followed by the Netherlands (EUR 1.4 million) and then the United Kingdom (EUR 523 000) (**Figure 21**).

23. For the current report, this sector includes: extraction of crude petroleum; extraction of natural gas; and support activities for petroleum and natural gas extraction.



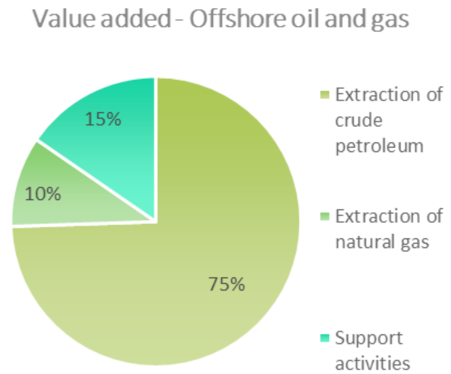
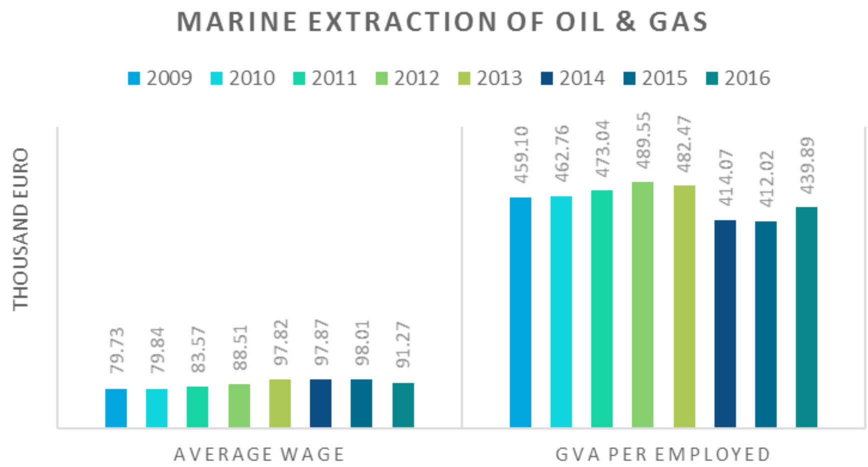
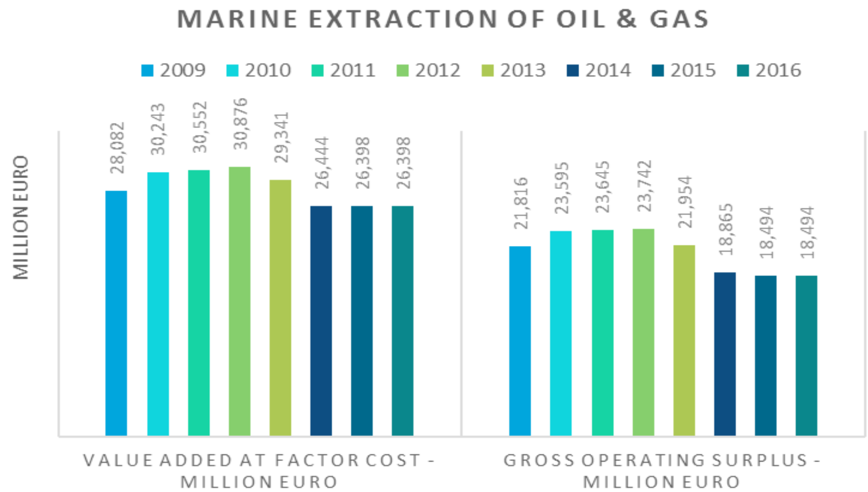
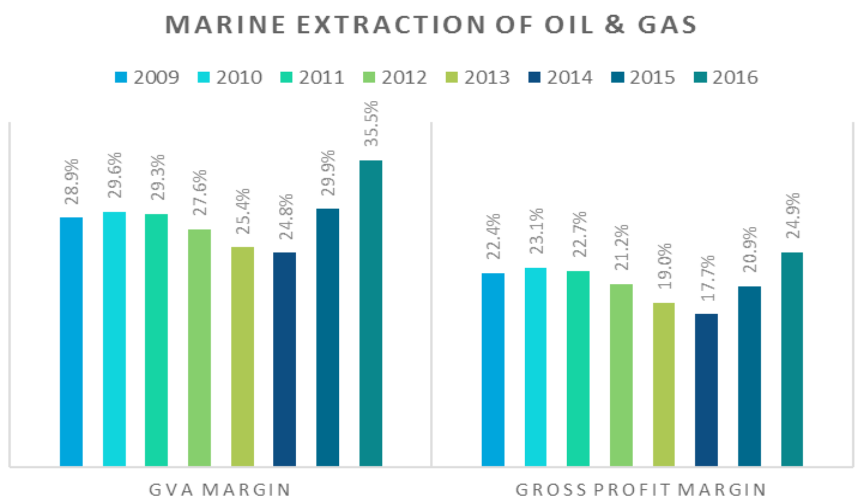


Figure 19 Top: Recent trends in wages and salaries and number of persons employed in marine extraction of oil and gas; Bottom: Share of GVA by sub-sector in 2016


MARINE EXTRACTION OF OIL & GAS
2009
2010
2011
2012
2013
2014
2015
2016
THOUSAND EURO
79.73
79.84
83.57
88.51
97.82
97.87
98.01
91.27
459.10
462.76
473.04
489.55
482.47
414.07
412.02
439.89
AVERAGE WAGE
GVA PER EMPLOYED


MARINE EXTRACTION OF OIL & GAS
2009
2010
2011
2012
2013
2014
2015
2016
MILLION EURO
28,082
30,243
30,552
30,876
29,341
26,444
26,398
26,398
21,816
23,595
23,645
23,742
21,954
18,865
18,494
18,494
VALUE ADDED AT FACTOR COST - MILLION EURO
GROSS OPERATING SURPLUS - MILLION EURO



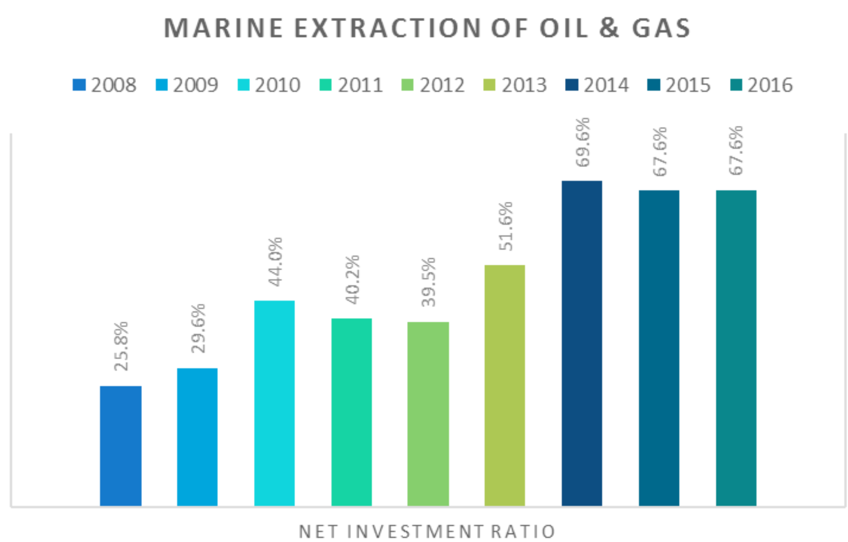


Figure 20 Recent trends in employment, GVA, profit and net investment in marine extraction of oil and gas

OFFSHORE OIL & GAS BY SUB-SECTOR AND MEMBER STATE

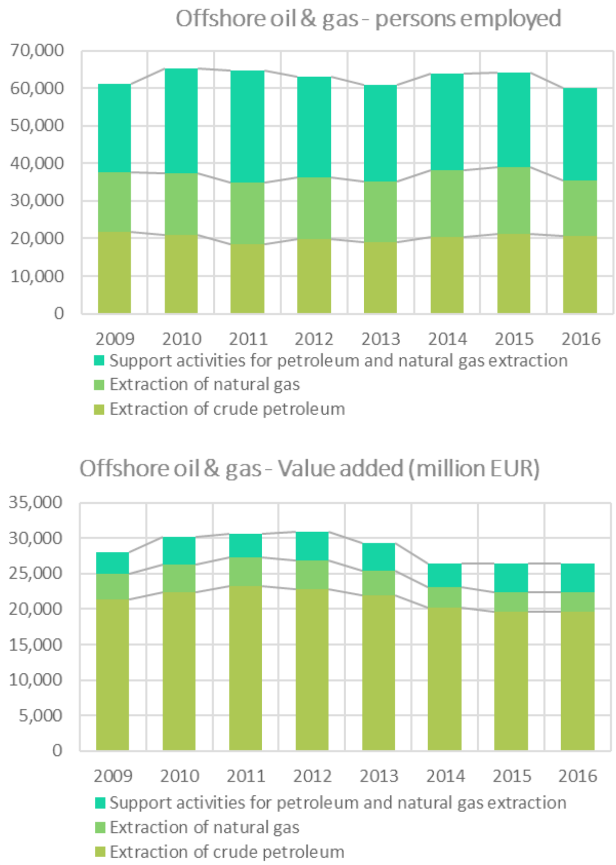


Figure 21 Employment and gross value added by sub-sector in marine extraction of oil and gas, 2016

Employment and wages: Support activities account for 41 % of jobs, followed by extraction of crude oil, at 34 %, and then extraction of natural gas (25 %). Employment in the sector has fallen since 2009, mostly in the extraction of natural gas (down 7.6 %) and crude petroleum (down 5 %).

Gross value added: Extraction of crude petroleum accounts for 74 % of the GVA generated, followed by support activities, at 15 %, and extraction of natural gas, at 10 %. Overall, value added has fallen since 2009: by 24.5 % in extraction of natural gas and by 8.2 % in extraction of crude petroleum. It increased by 29.6 % in support services.

Gross profit: Extraction of crude petroleum accounts for 86 % of the gross profits, with support activities and extraction of natural gas at 7 % each. Gross profit fell across all industries compared to 2009: by 43 % for natural gas, by 10.5 % for crude petroleum and by 28 % in support services.

The United Kingdom clearly leads in this sector, employing 56 % of the people employed and generating 66 % of the GVA in 2016 (Figure 22).

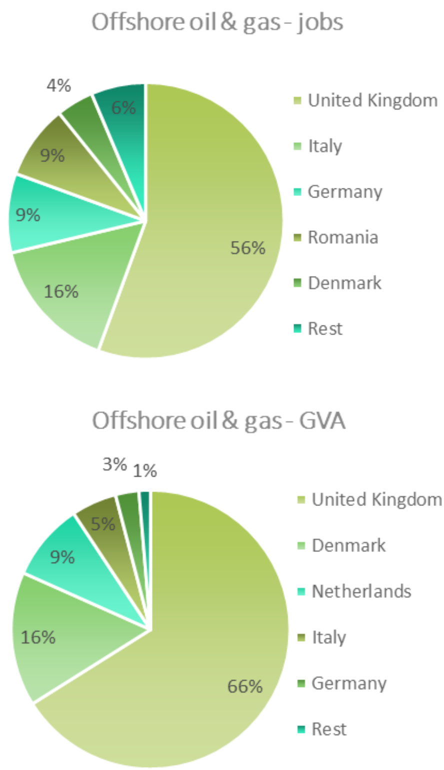


Figure 22 Share of employment and gross value added by top Member States in marine extraction of oil and gas, 2016

TOP 5 MEMBER STATES IN PORT ACTIVITIES AND THEIR SHARE OF JOBS AND GVA BY SUB-SECTOR

⚓ EXTRACTION OF CRUDE PETROLEUM

Jobs: UK 77 %, Romania 14 %, Denmark 4.5 %, Netherlands 2 %, Spain 1.5 % (=98.8 % of total)

GVA: UK 70 %, Denmark 20 %, Netherlands 9 %, France 0.5 % and Italy 0.3 % (=99.7 % of total)

⚓ EXTRACTION OF NATURAL GAS

Jobs: Italy 58 %, Germany 27 %, Romania 9 %, Netherlands 5 % and France 1 % (= 98.7 % of total)

GVA: UK 70 %, Denmark 20 %, Netherlands 9 %, France 0.5 % and Italy 0.3 % (=99.7 % of total)

⚓ SUPPORT ACTIVITIES FOR PETROLEUM AND NATURAL GAS EXTRACTION

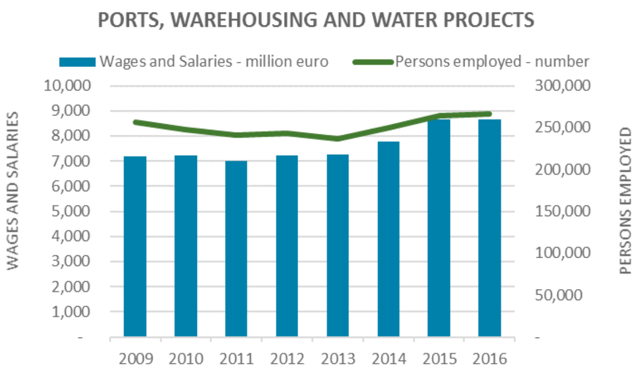
Jobs: UK 70 %, Denmark 7 %, Germany 7 %, Romania 4.2 % and Croatia 4 % (= 92 % of total)

GVA: UK 85 %, Denmark 5 %, Italy 4 %, Croatia 1.3 % and Spain 1.2 % (= 97.7 % of total)

PORTS, WAREHOUSING AND WATER PROJECTS

Ports, as multi-activity transport nodes, play a crucial role in the development of established and emerging maritime sectors. For the purposes of this report, this blue economy sector (also referred to as 'port activities'), includes: cargo handling; warehousing and storage; construction of water projects; and service activities incidental to water transportation.

The economic sectors covered by 'port activities' accounted for 11 % of the GVA, 8 % of the jobs and 9 % of the profits of the total EU blue economy in 2016.



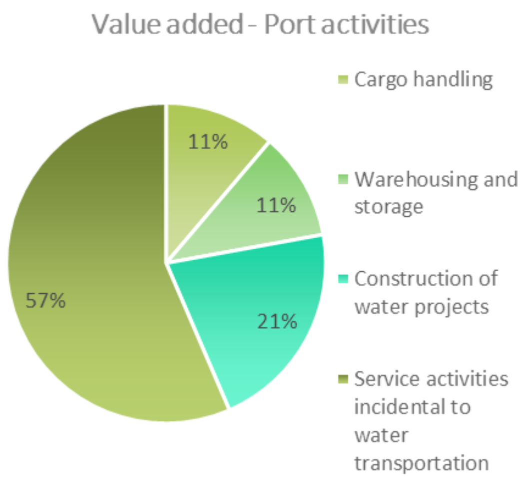
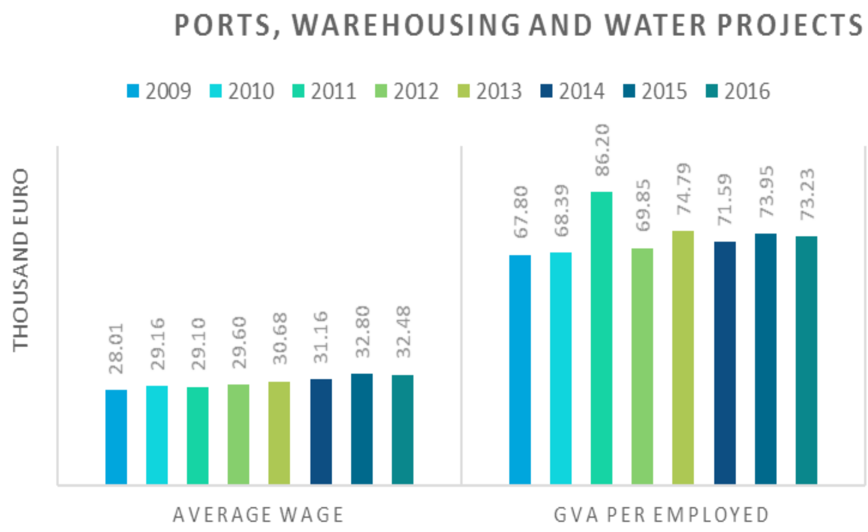


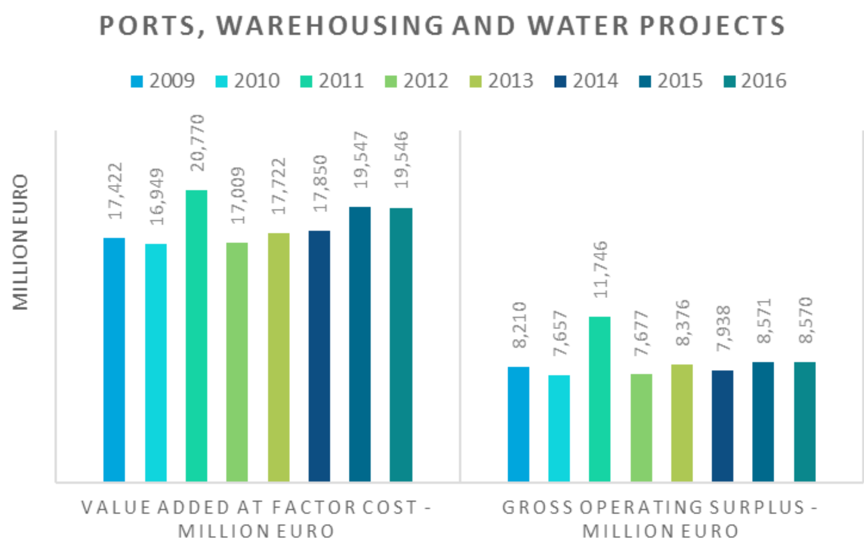
Figure 23 Top: Recent trends in wages and salaries and number of persons employed in port activities; Bottom: Share of GVA by sub-sector in 2016

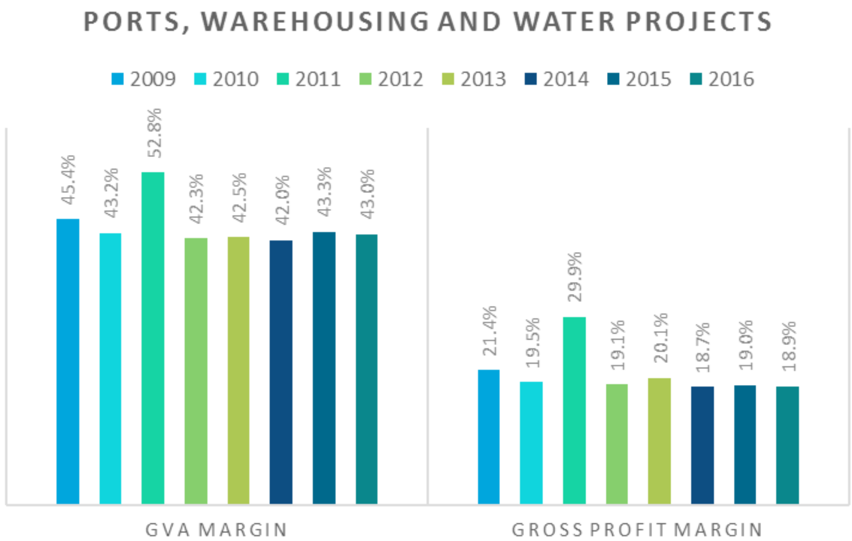
Direct impact 2016: Employment and the average wage have risen in the last few years. This sector offered direct employment to some 267 000 persons in 2016 (4 % more than in 2009) and total wages and salaries increased by 20 %, to EUR 8.7 billion (**Figure 23**). This represented a 16 % increase in the average wage since 2009. The average wage was estimated at EUR 32 500.

The GVA generated by the sector increased by 12 % from 2009, to almost EUR 19.6 billion. Labour productivity, measured as GVA per person employed, steadily increased over the period, reaching EUR 73 200 in 2016, up from EUR 67 800 in 2009. Gross profit, at EUR 8.6 billion, was 4 % higher than in 2009, at EUR 8.2 billion (**Figure 24**).

Labour productivity was highest in Belgium, at EUR 171 000 per person employed, followed by the Netherlands (EUR 141 000 per person employed), Austria (EUR 120 000 per person employed) and the United Kingdom (EUR 111 000 per employed).


PORTS, WAREHOUSING AND WATER PROJECTS
2009
2010
2011
2012
2013
2014
2015
2016
THOUSAND EURO
28.01
29.16
29.10
29.60
30.68
31.16
32.80
32.48
67.80
68.39
86.20
69.85
74.79
71.59
73.95
73.23
AVERAGE WAGE
GVA PER EMPLOYED


PORTS, WAREHOUSING AND WATER PROJECTS
2009
2010
2011
2012
2013
2014
2015
2016
MILLION EURO
17,422
16,949
20,770
17,009
17,722
17,850
19,547
19,546
8,210
7,657
11,746
7,677
8,376
7,938
8,571
8,570
VALUE ADDED AT FACTOR COST - MILLION EURO
GROSS OPERATING SURPLUS - MILLION EURO



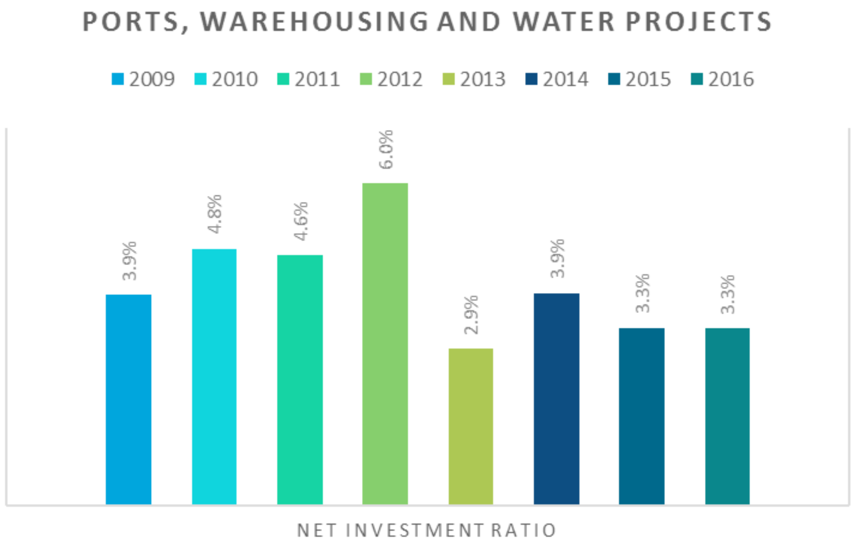


Figure 24 Recent trends in employment, GVA, profit and net investment in ports, warehousing and water projects

PORT ACTIVITIES BY SUB-SECTOR AND MEMBER STATE

Employment and wages: The bulk of the employment (42 %) is located in service activities, with almost 112 000 direct jobs in 2016. Water projects account for 27 % of the employment, followed by warehousing (16 %) and cargo handling (15 %). The number of jobs declined by 24 % in construction of water projects compared to 2009. These losses were counterbalanced mainly by increases in warehousing (up 56 %) and service activities (up 19.6 %) (**Figure 25**).

Gross value added: Similar to employment, most of the value added is generated in service activities, which account for 56 % of the GVA, followed by water projects, at 21 %, then warehousing and cargo handling (11 % each). GVA increased by almost 12.2 % compared to 2009, mainly as a result of growth in warehousing (up 38.5 %) and service activities (up 29 %) and cargo handling (up 13.5 %). Water projects declined by 22.6 % compared to 2009 (**Figure 25**).

Gross profit: Likewise, the bulk of profits are generated in service activities (64 % of profits), followed by water projects (17 %), warehousing (10 %) and cargo handling (9 %). The modest growth (4.4 %) in profits was mostly the result of a decline in water projects (down 39.9 % compared to 2009), as all other industries improved significantly on their 2009 results: cargo handling rose by 27.8 %; warehousing by 16 % and service activities by 23.3 %.

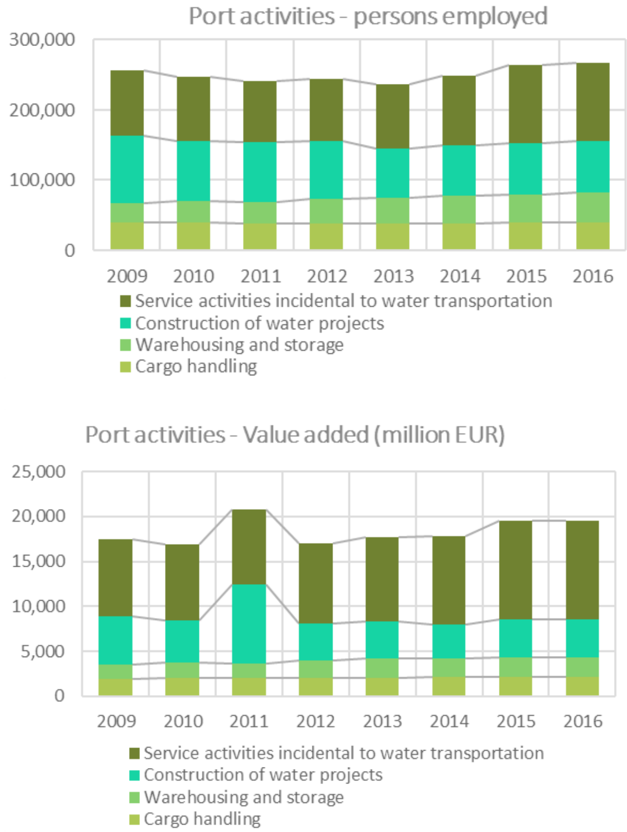


Figure 25 Employment and gross value added by sub-sector in port activities, 2016

The United Kingdom dominates this sector, accounting for 21 % of the GVA while generating 14 % of the jobs. Germany closely follows in terms of jobs, at 13 %, while for GVA the gap widens, with Germany accounting for 13 % of the GVA generated (Figure 26).

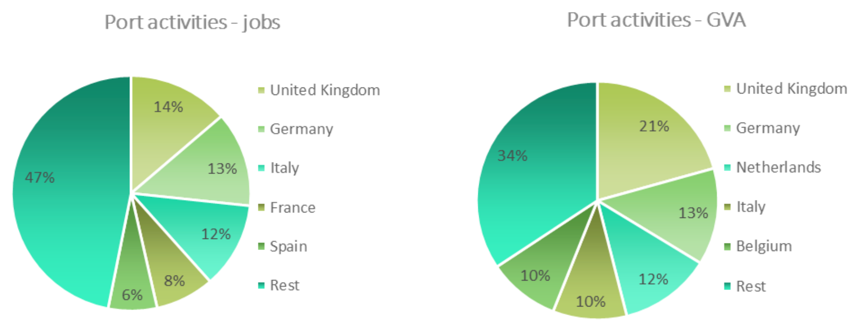


Figure 26 Member State share of employment and gross value added in Port activities, 2016

TOP 5 MEMBER STATES IN PORT ACTIVITIES AND THEIR SHARE OF JOBS AND GVA BY SUB-SECTOR

⚓ CARGO HANDLING

Jobs: Italy 29 %, Spain 9 %, Netherlands 9 %, Germany 8.5 %, Latvia 6 % (= 61 % of total)

GVA: Netherlands 19 %, Italy 15 %, Germany 12 %, Spain 11 %, Belgium 8 % (= 65 % of total)

⚓ WAREHOUSING AND STORAGE

Jobs: UK 23 %, Germany 19 %, Czech Republic 15 %, Hungary 9 % and France 8 % (= 74 % of total)

GVA: UK 22 %, Germany 15 %, France 10 %, Czech Republic 9 % and Austria 8 % (= 64.5 % of total)

⚓ CONSTRUCTION OF WATER PROJECTS

Jobs: Spain 19 %, Netherlands 11 %, Poland 10 %, Italy 9 % and France 9 % (= 58 % of total)

GVA: Netherlands 20 %, Belgium 20 %, Spain 15 %, Italy 9 % and France 8 % (= 73.5 % of total)

⚓ SERVICE ACTIVITIES INCIDENTAL TO WATER TRANSPORTATION

Jobs: UK 20 %, Germany 18.5 %, Italy 12 %, Greece 12 % and France 9 % (= 71 % of total)

GVA: UK 29 %, Germany 16.5 %, Italy 11 %, Netherlands 9 % and France 8 % (= 73 % of total)

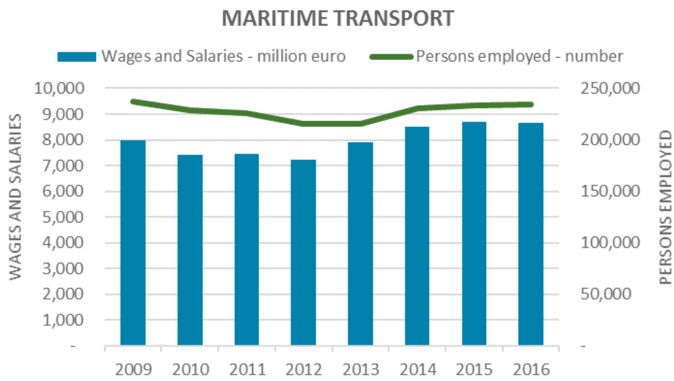
MARITIME TRANSPORT

Maritime transport is essential to the world's economy. With 74 % of the volume of goods entering or leaving Europe by sea, ports are vital gateways, linking its transport corridors both to the rest of the world and within the internal market, and linking peripheral and island areas with the mainland of Europe.

For the purposes of the report, maritime transport includes: sea and coastal passenger water transport, sea and coastal freight water transport, inland passenger water transport, inland freight water transport and the renting and leasing of water transport equipment. Inland transport is considered part of the blue economy here because it includes transport of passengers and freight via rivers, canals, lakes and other inland waterways, including within harbours and ports.

Maritime transport accounted for 16 % of the GVA, 7 % of the jobs and 18 % of the profits of the total EU blue economy in 2016.

Direct impact 2016: Around 235 000 persons were directly employed in the sector (1.2 % less than in 2009). Total wages and salaries amounted to EUR 8.6 billion and the average wage was estimated at EUR 36 900, up 9.8 % compared to 2009 (**Figure 27**). GVA generated by the sector amounted to just over EUR 27 billion, up 20 % compared to 2009. Labour productivity, hitting a low in 2009 (EUR 96 400 per employed), increased in 2016, reaching EUR 117 000. Gross profit, at EUR 17.1 billion, increased by 28 % on 2009 (EUR 13.4 billion). The profit margin was estimated at 15 %, an improvement on 13.3 % in 2009. The investment ratio (gross investment in tangible goods / GVA) was estimated at 44 %, still well below the figure for 2009 (71 %) (**Figure 28**).



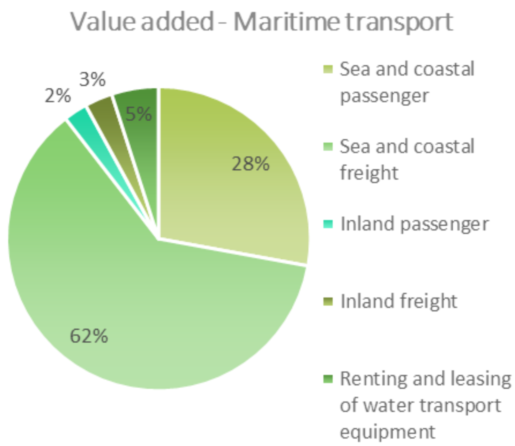
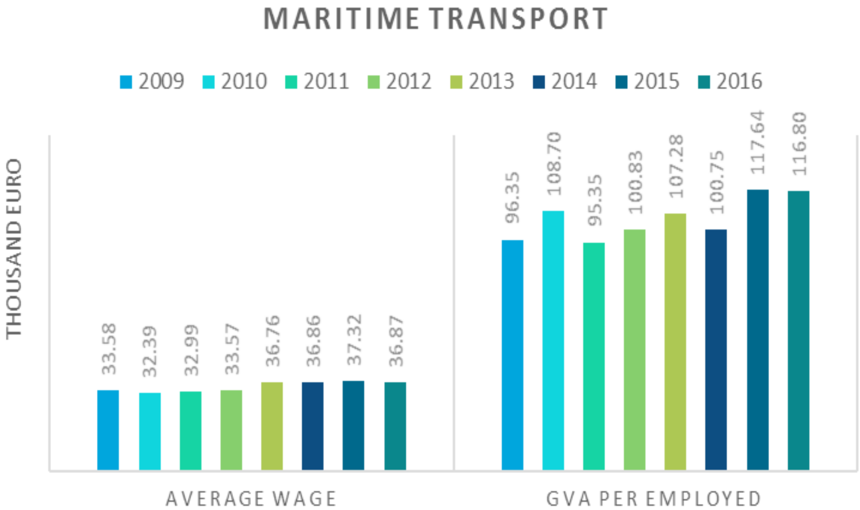
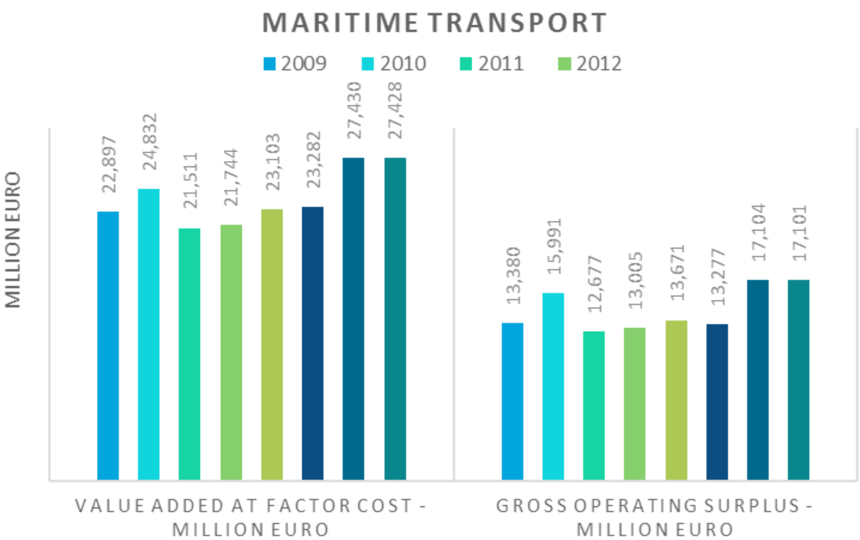
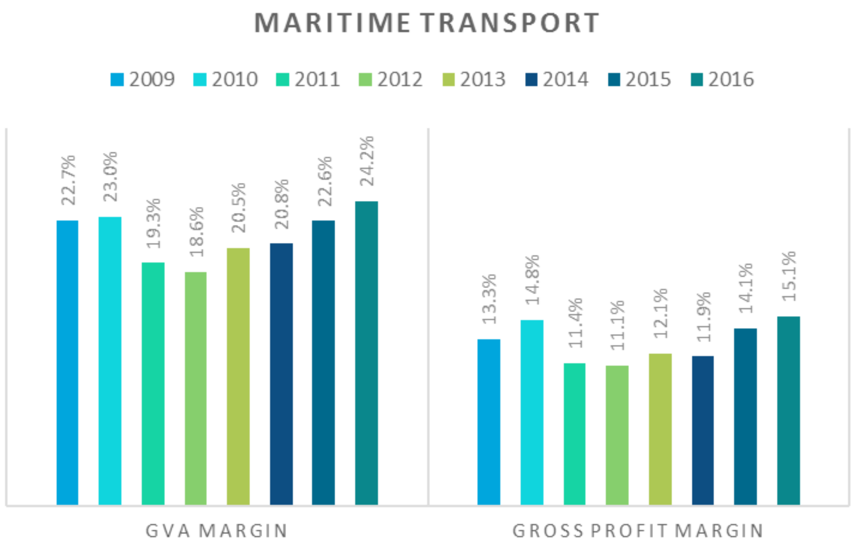


Figure 27 Top: Recent trends in wages and salaries and number of persons employed in maritime transport; Bottom: Share of GVA by sub-sector in 2016


MARITIME TRANSPORT
2009 2010 2011 2012 2013 2014 2015 2016
THOUSAND EURO
33.58 32.39 32.99 33.57 36.76 36.86 37.32 36.87
96.35 108.70 95.35 100.83 107.28 100.75 117.64 116.80
AVERAGE WAGE
GVA PER EMPLOYED


MARITIME TRANSPORT
2009 2010 2011 2012
MILLION EURO
22,897 24,832 21,511 21,744 23,103 23,282 27,430 27,428
13,380 15,991 12,677 13,005 13,671 13,277 17,104 17,101
VALUE ADDED AT FACTOR COST - MILLION EURO
GROSS OPERATING SURPLUS - MILLION EURO



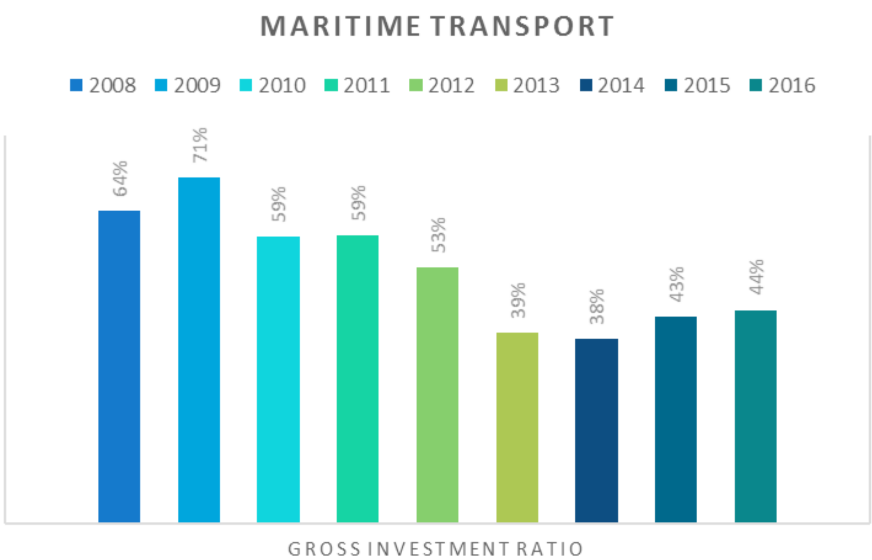
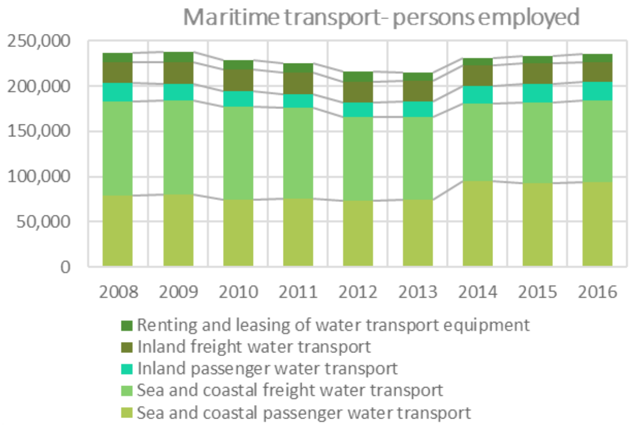


Figure 28 Recent trends in employment, GVA, profit and net investment in maritime transport

MARITIME TRANSPORT BY SUB-SECTOR AND MEMBER STATE



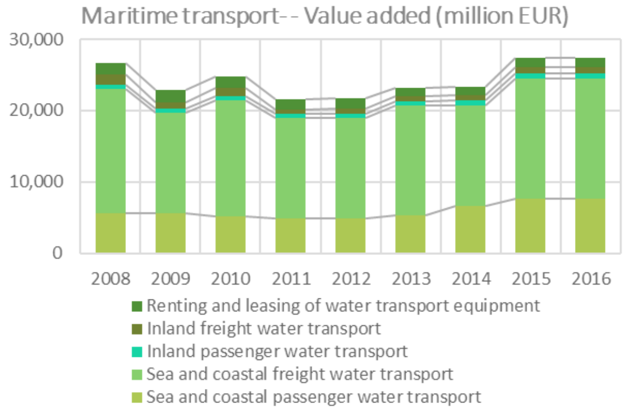


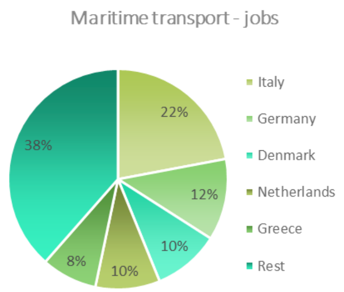
Figure 29 Employment and gross value added by sub-sector in maritime transport, 2016

Employment and wages: Sea and coastal transport account for 78 % of the jobs: 40 % for passenger and 38 % for freight. Inland transport generates a further 18 % (9 % for both passenger and freight transport). Renting of equipment accounts for the remaining 4 %. The fall in employment since 2009 was mostly in sea and coastal freight transport (down 14 %) and renting of equipment (down 30.6 %). By contrast, employment in passenger transport rose: sea and coastal transport by 18 % and inland transport by 11.6 % on 2009 (**Figure 29**).

Gross value added: Most of the value added is generated by sea and coastal freight transport (62 %), followed by sea and coastal passenger transport (28 %), renting of equipment (5 %) and then inland transport — passenger (3 %) and freight (3 %). The increase in GVA since 2009 was again mostly in passenger transportation: sea and coastal transport (up 35 %) and inland transport (up 29 %) (Figure 29).

Gross profit: Broadly in line with GVA, profit is mainly generated by sea and coastal freight transportation (63 %), followed by sea and coastal passenger transport (25 %), renting of equipment (7 %) and then inland transport — passenger (2 %) and freight (3 %). Gross profit increased compared to 2009 in passenger transport, with sea and coastal transport up 71.7 %, inland transport up 46.8 %, and sea and coastal freight transport up 28 %. Inland freight transportation fell by 27 % and renting of equipment fell by 21.4 %.

Italy leads in terms of employment, accounting for 22 % of the total maritime transport jobs, but is third in terms of GVA (at 15 %). Germany accounted for 21 % of the sector's GVA, followed by Denmark (at 16 %) (Figure 30).



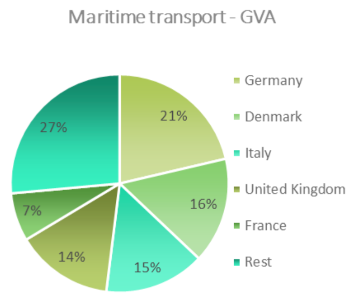


Figure 30 Member State share of employment and gross value added in maritime transport, 2016

TOP 5 MEMBER STATES IN MARITIME TRANSPORT AND THEIR SHARES OF JOBS AND GVA BY SUB-SECTOR

⚓ SEA AND COASTAL PASSENGER WATER TRANSPORT

Jobs: Italy 40 %, Sweden 9 %, Greece 8 %, UK 8.5 %, Finland 6 % (= 70 % of total).

GVA: Italy 27 %, UK 18.5 %, Germany 12 %, Denmark 11 % and Greece 7 % (= 76 % of total)

⚓ SEA AND COASTAL FREIGHT WATER TRANSPORT

Jobs: Denmark 19 %, Germany 15 %, Italy 12 %, Greece 11 % and France 9 % (= 67 % of total)

GVA: Germany 24 %, Denmark 20 %, UK 13 %, Italy 10 % and Netherlands 10 % (= 78 % of total)

⚓ INLAND PASSENGER WATER TRANSPORT

Jobs: Germany 29 %, Netherlands 16 %, France 12 %, Italy 11 % and Sweden 7 % (= 74.5 % of total)

GVA: Germany 32 %, France 19 %, Italy 15 %, Sweden 11 % and UK 8 % (= 85 % of total)

⚓ INLAND FREIGHT WATER TRANSPORT

Jobs: Netherlands 46 %, Germany 19 %, Romania 8 %, France 8 % and Poland 4 % (= 85 % of total)

GVA: Germany 58 %, France 13 %, Belgium 9 %, UK 5 % and Romania 4 % (= 88 % of total)

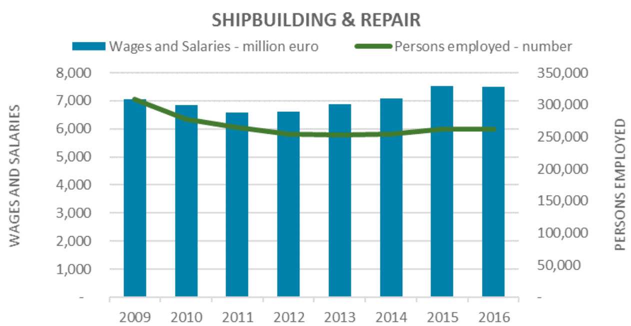
⚓ RENTING AND LEASING OF WATER TRANSPORT EQUIPMENT

Jobs: Croatia 28 %, Greece 15 %, UK 14 %, Germany 13 % and Italy 7 % (= 77 % of total)

GVA: France 39 %, UK 19 %, Belgium 9 %, Germany 8 % and Italy 7.5 % (= 82.5 % of total)

SHIPBUILDING & REPAIR

Low prices for new merchant ships, driven by overcapacity in major market segments, have forced global shipyards to focus attention on new markets and higher technology / high added value products, such as naval vessels, cruise ships, ferries, mega-yachts, and dredgers. They are currently mostly designed and built in Europe. European shipbuilders are reducing costs and restructuring capacity by adjusting their production programmes and optimising the supply chain. Indeed, figures show a significant drop in shipbuilding employment since 2009. The decline, particularly in Germany, Poland and Spain, has not been offset by a slight increase seen in the United Kingdom. The falling oil price has also had an impact on European construction of offshore platforms and supply vessels. Results indicate that the sector is recovering.



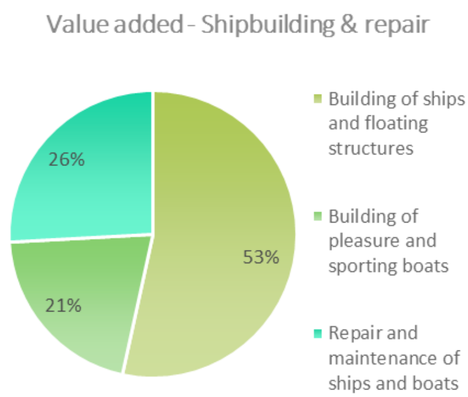
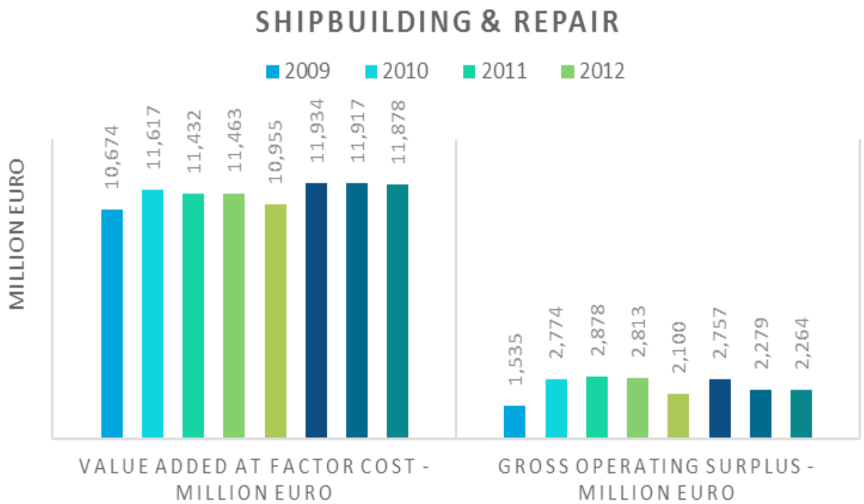
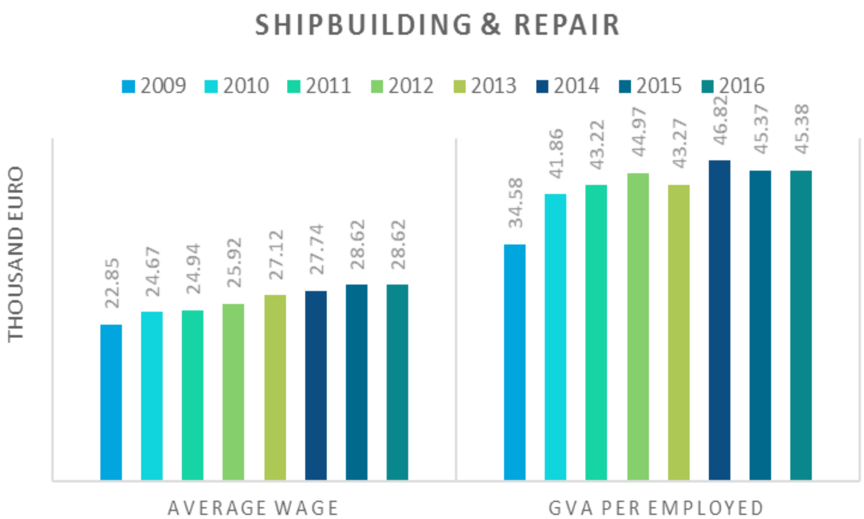


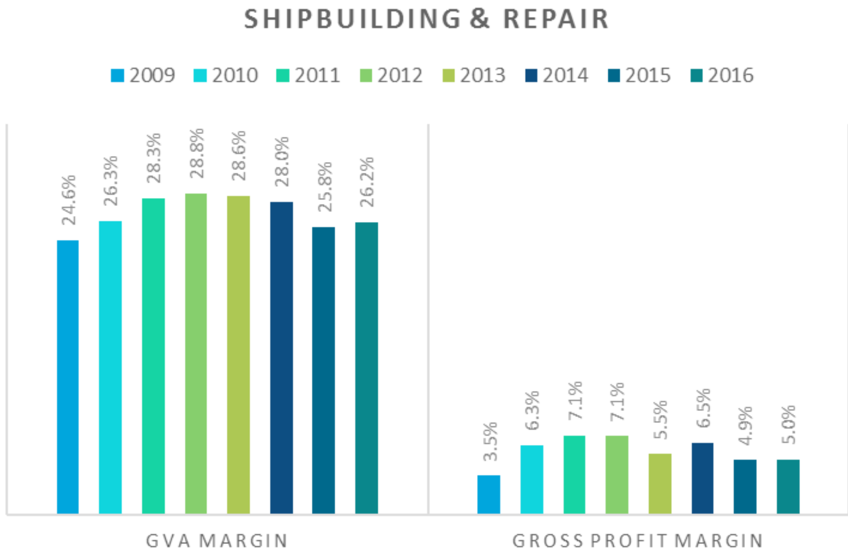
Figure 31 Top: Recent trends in wages and salaries and number of persons employed in shipbuilding and repair; Bottom: Share of GVA by sub-sector in 2016

Shipbuilding and repair accounted for 7 % of the GVA, 7 % of the jobs and 2 % of the profits of the total EU blue economy in 2016 (Figure 31).

Direct impact 2016: Around 262 000 persons were directly employed in the sector (down 15 % since 2009). Total wages and salaries amounted to EUR 7.5 billion and the average wage was estimated at EUR 28 600, up 25 % compared to 2009 (Figure 31). GVA in the sector was just over EUR 11.8 billion, up 11 % compared to 2009. Labour productivity, hitting a low in 2009 (at EUR 96 400 per person employed), increased in 2016, to EUR 117 000. Gross profit, at EUR 2.3 billion, was 47 % higher than the 2009 figure (EUR 1.5 billion) (**Figure 32**).


SHIPBUILDING & REPAIR
2009
2010
2011
2012
MILLION EURO
10,674
11,617
11,432
11,463
10,955
11,934
11,917
11,878
1,535
2,774
2,878
2,813
2,100
2,757
2,279
2,264
VALUE ADDED AT FACTOR COST - MILLION EURO
GROSS OPERATING SURPLUS - MILLION EURO


SHIPBUILDING & REPAIR
2009
2010
2011
2012
2013
2014
2015
2016
THOUSAND EURO
22.85
24.67
24.94
25.92
27.12
27.74
28.62
28.62
34.58
41.86
43.22
44.97
43.27
46.82
45.37
45.38
AVERAGE WAGE
GVA PER EMPLOYED



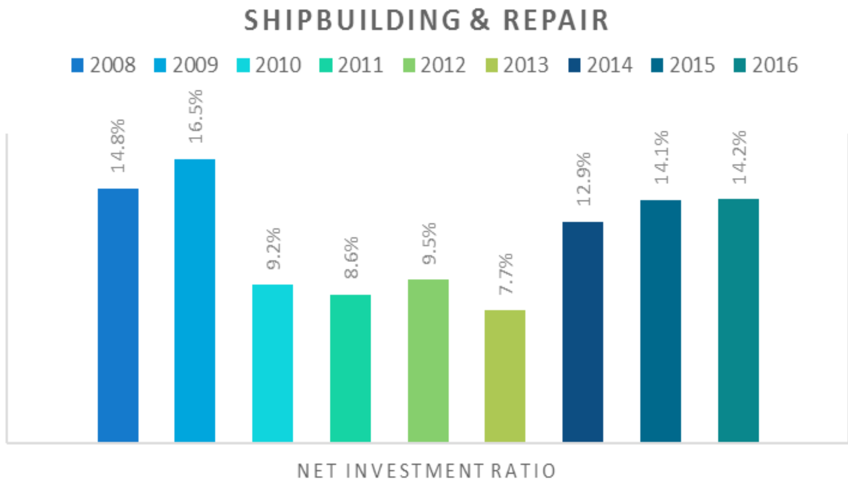


Figure 32 Recent trends in employment, GVA, profit and net investment in shipbuilding and repair

SHIPBUILDING & REPAIR BY SUB-SECTOR AND MEMBER STATE

Employment and wages: Around 122 000 people work in the building of ships and floating structures, accounting for 47 % of the jobs. A fall in employment over the period was mostly in this sub-sector, which saw a 26.5 % decrease in jobs compared to 2009 (**Figure 33**).

Gross value added: Most of the value added is in building of ships and floating structures (53 %), followed by repair and maintenance (26 %) and building of pleasure and sporting boats (21 %). All sub-sectors saw increased GVA compared to 2009: a 7.7 % increase in the building of ships and floating structures; an 18.8 % increase in the building of pleasure and sporting boats and a 13.3 % increase in repair and maintenance (**Figure 33**).

The UK leads in shipbuilding and repair, accounting for 15 % of the jobs and 25 % of the GVA (15 %) (Figure 34).

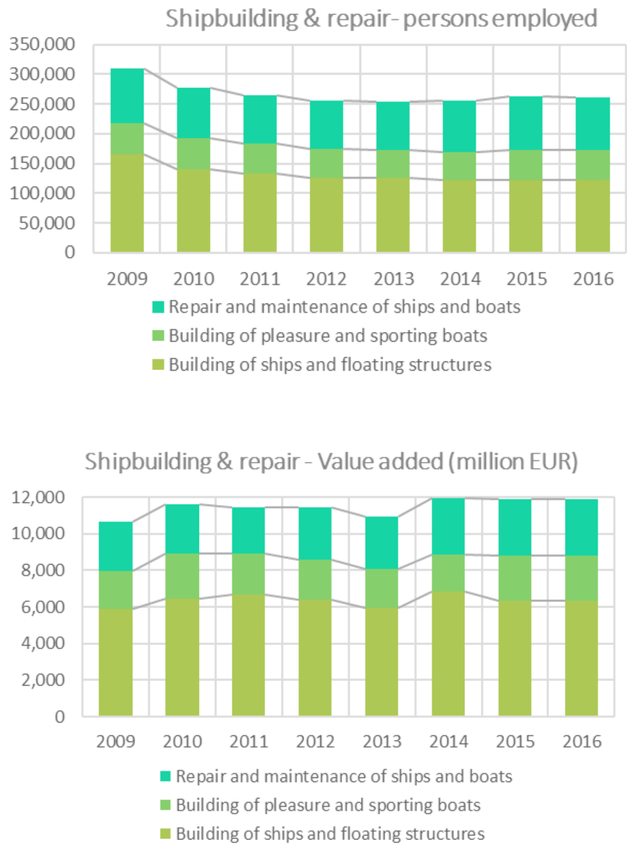


Figure 33 Employment and gross value added by sub-sector in shipbuilding and repair, 2016

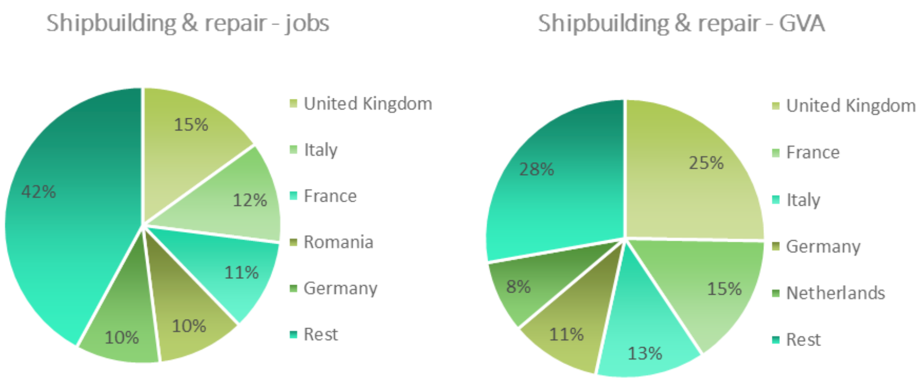


Figure 34 Member State share of employment and gross value added in shipbuilding and repair, 2016

TOP 5 MEMBER STATES IN SHIPBUILDING AND REPAIR AND THEIR SHARES OF JOBS AND GVA BY SUB-SECTOR

⚓ BUILDING OF SHIPS AND FLOATING STRUCTURES

Jobs: UK 18.5 %, Romania 15 %, Italy 13 %, France 12 % and Germany 11 % (= 69 % of total)

GVA: UK 34 %, France 17.5 %, Italy 13 %, Netherlands 8 % and Germany 7 % (= 80 % of total)

⚓ BUILDING OF PLEASURE AND SPORTING BOATS

Jobs: UK 21 %, Germany 16 %, Italy 14 %, France 14 % and Poland 10 % (= 75 % of total)

GVA: Netherlands 20 %, Germany 19 %, UK 17 %, France 16 % and Italy 14 % (= 86 % of total)

⚓ REPAIR AND MAINTENANCE OF SHIPS AND BOATS

Jobs: Spain 12 %, Poland 11.5 %, Italy 9 %, Romania 9 % and France 7 % (= 49 % of total)

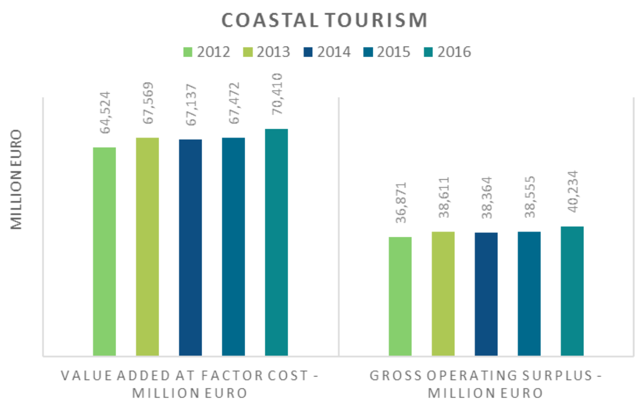
GVA: Spain 16 %, UK 13 %, Italy 12 %, France 11 % and Poland 10 % (= 61 % of total)

COASTAL TOURISM

The coastal and maritime tourism sector is one of the five focus areas of the Blue Growth Strategy. Action by the Commission has focused on community-led local development strategies (CLLD) supported by the European Maritime and Fisheries Fund (EMFF), but also with direct funding for underwater cultural heritage projects. Beyond the EMFF, nautical tourism has received ample support from the European Regional Development Fund (ERDF).

Coastal tourism accounted for 40 % of the GVA, 61 % of the jobs and 42 % of the profits of the total EU blue economy in 2016.

Direct impact 2016: Around 2.127 million persons were directly employed in the sector (up 4 % compared to 2012). GVA generated by the sector amounted to just over EUR 70.4 billion, 9 % % more than in 2012. Gross profit was estimated at EUR 40.2 billion (**Figure 35**) and labour productivity at EUR 33 000 per person employed, a 4.8 % rise on 2012 results.



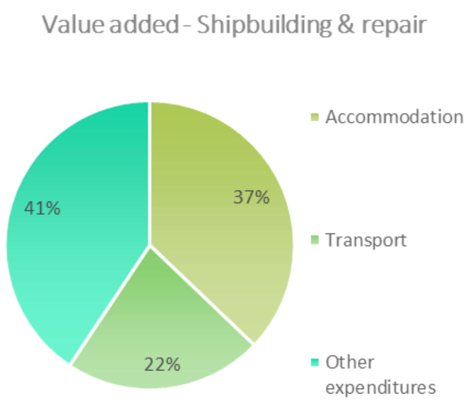


Figure 35 Top: Recent trends in GVA and profit in coastal tourism; Bottom: Share of GVA by sub-sector in 2016

COASTAL TOURISM BY SUB-SECTOR AND MEMBER STATE

Employment: Jobs are distributed as follows: 45 % in accommodation, 14 % in transport and 41 % in 'other expenditures'. The rise in employment over the period was mainly in accommodation (up 5.8 % compared to 2012) (**Figure 36**).

Gross value added: Most of the value added is also generated by accommodation (37 % of the total), which increased 15 % compared to 2012, followed by transport (22 % of the total) (**Figure 36**).

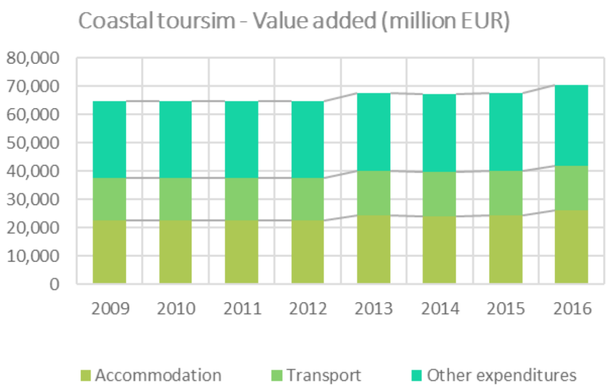
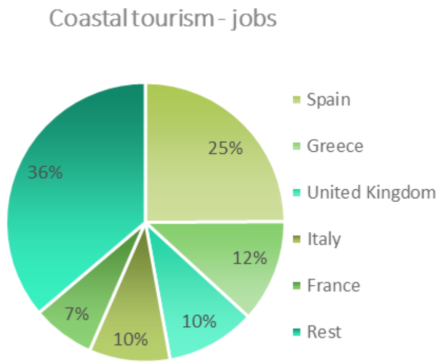


Figure 36 Employment and gross value added by sub-sector in coastal tourism, 2016

Spain clearly dominates the EU coastal tourism sector, accounting for 25 % of the jobs and GVA in the total EU blue economy in 2016 (Figure 37).



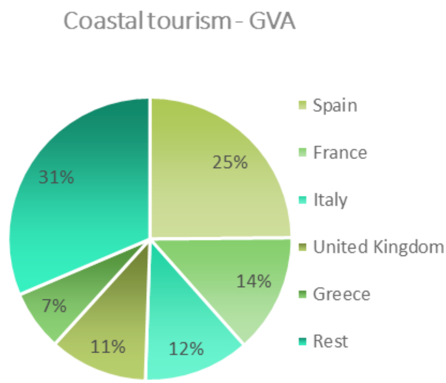


Figure 37 Member State share of employment and gross value added in coastal tourism, 2016

TOP 5 MEMBER STATES IN COASTAL TOURISM AND THEIR SHARES OF JOBS AND GVA BY SUB-SECTOR IN 2016

⚓ ACCOMMODATION

Jobs: Spain 23 %, Greece 13 %, Italy 11 %, UK 9 % and Germany 8 % (= 63.5 % of total).

GVA: Spain 26 %, Italy 14.5 %, France 10 %, UK 10 % and Greece 7.5 % (= 69 % of total)

⚓ TRANSPORT

Jobs: Spain 24 %, France 12 %, UK 10 %, Greece 9 % and Germany 8.5 % (= 64 % of total)

GVA: Spain 24 %, France 13 %, UK 12 %, Italy 11 % and Germany 7.5 % (= 67 % of total)

⚓ OTHER EXPENDITURES (DURABLES, RESTAURANTS, ETC.)

Jobs: Spain 27 %, UK 12 %, Greece 12 %, France 8 % and Italy 8 % (= 67 % of total)

GVA: Spain 24 %, France 17 %, UK 12 %, Italy 10.5 % and Greece 6 % (= 69 % of total).

CHAPTER 4:
EMERGING SECTORS

BLUE ECONOMY EMERGING SECTORS

This chapter looks at the available data for what are categorised for the purpose of this report as emerging sectors in the blue economy. Although some of these are more established than others, they are emerging in the sense that they have yet to achieve their full potential. With the exception of offshore wind energy and, to a lesser extent, wave and tidal energy, the lack of data is the main obstacle to analysing these sectors. Previous studies carried out by the OECD and the European Commission have pointed out that more should be done to improve data collection and quality. Nonetheless, the available data show some interesting trends and clear potential. In the absence of economic indicators, such as those used for the established sectors, alternative indicators such as output and production capacity have been used.

The first part of the chapter covers renewable energy and mainly focuses on offshore wind energy and ocean energy (i.e. tidal and wave energy), followed by the emerging activities of the blue bioeconomy (such as biotechnology), coastal protection, desalination and deep-seabed mining.

Offshore wind is the most well-established of the emerging sectors and for which more reliable and accurate data are available. Onshore wind farms have been around for many years and are a booming industry. Offshore wind energy seems to be headed in the same direction. It is worth noting that most of the activity within the industry took place in the EU, which is responsible for 91 % of global offshore wind capacity (in GW).

Renewable energy encompasses not only offshore wind, but various forms of **ocean energy**, such as wave and tidal energy. Currently both are being further developed and much is being invested in research and innovation. In fact, the JRC estimates that this sector in Europe currently accounts for between 1 800 and 2 050 jobs, 1 450 of them in research and development.

Moreover, data from a JRC[24] study shows that the EU is an important player in this sector; it hosts half of the world's tidal energy developers and 60 % of wave energy developers. Although renewable energy is probably the emerging sector for which more information and data are available, a wide range of other industries have great potential.

The emerging activities of the **blue bioeconomy**, such as **biotechnology** and **biofuels**, have various applications of different types. They have had an impact in the healthcare and pharmaceutical sectors. In agriculture, veterinary products and aquaculture, the blue bioeconomy has helped to produce vaccines and improve animal feed. In industrial processes and manufacturing, it has led to the use of enzymes in the production of detergents, pulp and paper, textiles, and biomass. Finally, in energy production, blue biotechnology can produce large amounts of oil using micro-algae. In terms of socioeconomic data, it is still difficult to find consistent and accurate information. Most of it comes from the private sector, and it is not necessarily being collected regularly or following strict criteria. However, the OECD estimated the sector at USD 2.8 billion in 2010, and this is projected to increase to around USD 4.6 billion worldwide by 2017. Data provided by the industry claims that the EU algae biomass sector currently employs 14 000 people and is worth EUR 1.69 billion; that figure includes research and development, equipment production and jobs in the larger supply chain that depend on output from the algae sector.

24. Magagna D; Monfardini R; Uihlein A. JRC Ocean Energy Status Report: 2016 Edition EUR 28407 EN. Luxembourg (Luxembourg): Publications Office of the European Union; 2016. JRC104799

Another sector with great potential is **desalination**. Some EU countries have started investing in this sector, and the biggest plant in the EU is to be found in Almeria, in southern Spain. Although still emerging, this may prove to be a key sector, given that some countries and cities are already experiencing water shortages. Data on desalination are practically non-existent.

Deep-seabed mining is an emerging sector for which lack of data is also a problem, alongside lack of knowledge. Data is lacking, as is the case for other sectors, because information is not being collected on a regular and consistent basis. This, in turn, is because although exploration projects are under way, no deep-seabed mining project has yet taken place, so it is difficult to assess its socioeconomic potential.

In addition to the sectors mentioned above there are various others that are also emerging and that need further research, so are beyond the scope of this report, such as maritime surveillance, security and defence, natural capital and ecosystem services. These additional sectors have not been included due to a lack of consistent and comparable data. The goal, however, is to include them in future annual blue economy reports.

Most of the information and data on the emerging sectors comes from the following sources:

- OECD report
- Cogea report
- Wind Europe
- JRC.

However, the intention is to gradually and progressively replace these with Eurostat data, which should be comparable and consistent across Member States.

OUTLOOK FOR THE EMERGING SECTORS IN THE BLUE ECONOMY

Growth in the emerging sectors is expected to gain momentum as economic activity in the euro area experiences solid and lasting expansion, securing the foundations for higher potential output and more resilient and inclusive growth. Recovery in the euro area is expected to continue to strengthen at an estimated 2.3 % (0.2 % higher than predicted in the autumn 2017 forecast) and weaken slightly in 2019 to 2.0 % (0.1 % higher), but then remain moderate in the next decade.

Robust job creation is expected to continue to fuel growth in consumer spending. There is recognition of the need to promote new skills and to renew the skills of those who work in the maritime economy. This applies particularly to technical fields in the growing sectors of offshore wind and ocean energy, production of specialised vessels in the defence sector, the design of coastal protection mechanisms, and innovative maritime businesses in many areas.

This positive outlook is supported by the economic evidence gathered in the case studies set out in this report and by industry data. For example, blue biotechnology has seen two-digit growth figures in some Member States in recent years. Industry data shows substantial growth in employment — in offshore wind energy, employment went from less than 20 000 jobs to 160 000 in one decade. Investment plans in offshore wind energy, desalination plans and other emerging sectors corroborate that view. Furthermore, the environmental threats posed by climate change (e.g. sea level rises) call for big investments in coastal protection against erosion — the minimum cost of not adapting to climate change, for example, is estimated at EUR 100-250 billion for the EU as a whole.

MARINE RENEWABLE ENERGY

OFFSHORE WIND ENERGY PRODUCTION

Offshore wind is the fastest growing activity in the blue economy. As wind is steadier at sea than on land, the average capacity factor is higher there, and it also causes less disturbance to the landscape. Installed offshore wind energy capacity is increasing considerably, particularly in the shallow waters of Europe's northern seas.

In 2017, the EU had a total installed capacity of 15.8 GW (whereas 15 years ago it was only around 0.5 GW), from 3 589 grid-connected wind turbines based in 10 European countries. This represents 10 % of current wind energy capacity (both onshore and offshore). By 2020, offshore wind is projected to grow to a total installed capacity of 25 GW (**Figure 38**).

Global market: Over the last two decades, the offshore wind sector has progressed and developed into an industry with enormous potential. The sector is expected to acquire a sizeable market share by 2050.

Future projections are very positive. Globally installed capacity should reach 40-60 GW by 2020[25]. There is a great potential for jobs, most of which will be based in China, Europe, India and the US. By 2030, based on previous employment and capacity estimates, total employment in offshore wind should be approximately of 435 000 FTEs. Europe is expected to account for 56 % of this figure, followed by China, at 23 %, and the US, at 20 %[26].

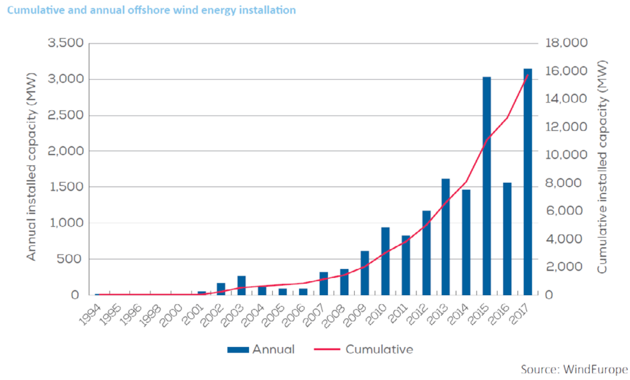


Figure 38 Cumulative and annual offshore wind energy installation for the EU

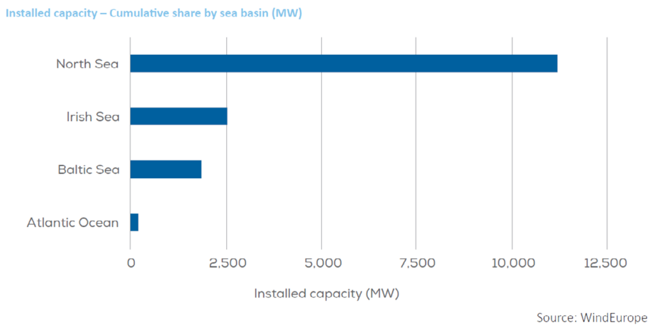


Figure 39 Installed capacity - Cumulative share by Sea basin (MW)

25. OECD. 2016. The Ocean Economy in 2030. OECD Publishing, Paris p. 192.

26. Ibid. p. 211-2

Direct employment in the EU more than doubled between 2014 and 2016, rising constantly to 160 000[27], and now exceeds total employment in the EU fishing fleet.

There is potential for further development and there will be challenges ahead. Floating platforms for offshore wind turbines still need to move to the industrial stage. Floating platforms have a huge potential for development, in particular, in southern Europe's deep waters.

27. https://windeurope.org/about-wind/statistics/offshore/, last accessed 21.2.2018.

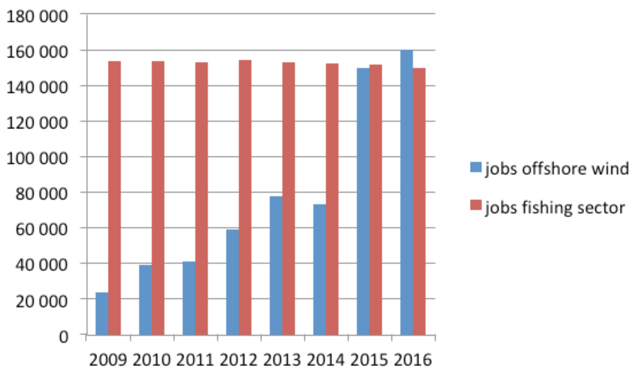


Figure 40 fishing sector jobs and offshore wind sector jobs comparison

OCEAN ENERGY

The ocean contains an enormous source of potential energy. Its resources are not only plentiful and regular in their power delivery but also less variable than other renewable resources such as sun and wind. Ocean energy includes various types of energy production such as tidal, wave, current, osmosis, and ocean thermal energy conversion (OTEC). This report will focus mostly on tidal and wave energy.

Between 2007 and 2015, EUR 2.6 billion was invested in the ocean energy sector in the EU, some 75 % of it coming from private corporate investments. Total employment in the sector is around 2 000 jobs across the complete value chain, including 1 350 direct jobs in R&D. Around 320 organisations operate in the sector, of which 140 participate in the European Commission's research programme Horizon 2020 (H2020)[28]. It is estimated that ocean energy could reach an installed capacity of 100 GW and meet 10 % of EU demand for power by 2050[29]. The potential of the global market has been valued at EUR 653 billion between 2010 and 2050[30]. Over 400 000 jobs could be generated if this industrial target is met. The sector is expected to deliver 100 MW of installed capacity by 2020. According to the Ocean Energy Systems (OES) Implementing Agreement, there is the potential worldwide to develop 337 GW of wave and tidal energy by 2050.

In the EU, many of the projects have involved companies and research centres from various Member States. Finnish wave energy technologies, for instance, are being tested and deployed in Portugal, benefiting from good natural conditions and using the local supply chain.

Europe is a leader in technological development. However, the installation and setting-up of ocean energy devices has been taking place more slowly than expected. The main challenge is scaling up at industrial stage and reducing the cost: the EU is looking to reduce the cost by 75-85 %[31] by 2025.

28. Over the last 10 years approximately EUR 150 million from EU research programmes has been allocated to innovation and development projects.

29. Ocean Energy Strategic Roadmap: Building Ocean Energy for Europe.

30. Carbon Trust. 2011. Marine Renewables Green Growth Paper.

31. Magagna, D.; Monfardini, R.; Uihlein, A. 2016. JRC Ocean Energy Status Report: 2016 Edition. EUR 28407 EN. Luxembourg (Luxembourg): Publications Office of the European Union. JRC104799.

TIDAL ENERGY PRODUCTION

In 2016 there were about 35 active tidal energy developers that had either already tested their devices in open waters or were about to. Twenty of these developers are based in the EU, demonstrating the EU's key role and involvement in driving the sector forward. Other developers can be found in Norway (4) and outside of Europe (10), in the US and South Korea, among other countries.

WAVE ENERGY PRODUCTION

In line with tidal energy, most of the organisations currently developing wave energy devices are EU-based (60 %)[32]. These developers are spread over 10 different Member States, with the United Kingdom hosting the largest number, followed by Denmark and Sweden. In 2016, there were over 50 wave energy developers worldwide that had tested or were close to testing their mechanisms in open water. Twenty-six of these were based in Europe (22 in the EU and 4 in Norway), with the rest based overseas, mainly in Australia and the US.

Most of the funding for wave energy is public and comes from programmes aimed at low-carbon energy technologies. These programmes are mostly based in the EU and their main sources of funding include the NER 300 programme, the European Investment Bank (EIB) InnovFin scheme, and the ERDF. However, some of the funding is national and/or regional. Various agencies in Belgium, France, Ireland, Netherlands, Portugal, Spain, Sweden and the United Kingdom are actively supporting wave energy research and development projects.

32. Magagna, D.; Monfardini, R.; Uihlein, A. 2016. JRC Ocean Energy Status Report: 2016 Edition. EUR 28407 EN. Luxembourg (Luxembourg): Publications Office of the European Union. JRC104799.

BLUE BIOECONOMY (WITH A FOCUS ON BLUE BIOTECHNOLOGY)

The blue bioeconomy comprises those parts of the blue economy that use renewable biological resources from the sea — fish, algae and micro-organisms — to produce food, materials and energy.

The traditional activities of the blue bioeconomy are covered in a previous section on living resources, including capture fisheries, aquaculture and fish processing. In this section, the focus is on *emerging* biotechnology activities.

There is a huge range of marine organisms that can support the development of new products, which may in turn benefit society. Marine biotechnology (blue biotechnology) uses living organisms as either a source or a target of biotechnology applications. They are used in a variety of industrial sectors such as healthcare and pharmaceuticals, animal health, textiles, chemicals, plastic, paper, fuel, food, and feed processing. Taking advantage of biotechnology helps the EU economy grow and provides new jobs, while also supporting sustainable development, public health, and environmental protection.

The main applications of biotechnology in the EU economy fall into four broad groups.

- In healthcare and pharmaceutical applications, biotechnology has led to the discovery and development of advanced medicines, therapies, diagnostics, and vaccines. For example, biotechnological breakthroughs have created new medicines for patients suffering from growth diseases, metabolic diseases, multiple sclerosis, rheumatoid arthritis, cancer, and Alzheimer's disease.
- In agriculture, livestock, veterinary products, and aquaculture, biotechnology has improved animal feed, produced vaccines for livestock, and improved diagnostics for detecting diseases such as BSE, foot and mouth disease, and salmonella. It has also enabled the use of enzymes for more efficient food processing and improved the breeding of plants to obtain desired characteristics.
- In industrial processes and manufacturing, biotechnology has led to the use of enzymes in the production of detergents, pulp and paper, textiles, and biomass. By using fermentation and enzyme biocatalysis instead of traditional chemical synthesis, higher process efficiency can be obtained, decreasing energy and water consumption. This leads to a reduction in toxic waste.
- In energy production, as through the use of micro-algae technology a theoretical volume of 20 000-80 000 litres of oil per hectare per year can be produced[33].

Based on OECD data, the living resources sector was estimated to be worth USD 2.8 billion in 2010, and was projected to increase to around USD 4.6 billion worldwide by 2017[34]. Indeed, data provided by the industry claims that the EU algae biomass sector currently employs 14 000 people and has a value of EUR 1.69 billion, which includes research and development, equipment production and jobs in the larger supply chain that depend on output from the algae sector.

Money for investment is available but scattered across various sources, so attempts to centralise funds are being made. Indeed, efforts to build headline funds relevant to blue living resources are being pursued via the international Blue Forward fund and by the BioBasedIndustries initiative (a public-private partnership fund of EUR 3.7 billion, 25 % H2020 funded)[35].

33. According to European Science Foundation Marine Board (2010), quoted by the OECD report.

34. OECD (2016), The Ocean Economy in 2030, OECD Publishing, Paris p. 197-8.

35. Industry-based data.

DESALINATION

Currently, there is still very little reliable data available on desalination. However, it is clear that it belongs to the blue economy and that its importance may grow hand in hand with the effects of climate change. The OECD refers to it in its report on several occasions under the category alongside carbon capture storage[36]. Seawater desalination can be used for a variety of purposes, including consumer and commercial use and agriculture irrigation.

According to the UN World Water Development Report 2014, there were over 16 000 desalination plants worldwide in 2014, with a total global operating capacity of roughly 70 million m³ per day, a capacity that could potentially double by 2020. Currently, desalination is mostly used in the Middle East (the largest plant is located in Saudi Arabia) and North Africa, which is responsible for 70 % of global capacity. Although Europe's influence in the sector is somewhat limited in comparison (10 % of global capacity), several southern European countries are using desalination for freshwater purposes.

In terms of output, the industry has managed to sustain a constant upward trend, with total growth of 18.1 % between 2009 to 2016 and an average of 2.5 % output growth per year. The increase in output was not matched by an expansion in the number of plants, as the industry was focusing instead on replacing older projects with more efficient and cost-effective ones.

The following graph shows clearly that the productivity rate (output in million tonnes per plant) has been rising for most of the period under analysis, with an overall 20 % increase between 2009 and 2016 and an average of more than 2 % growth per year.

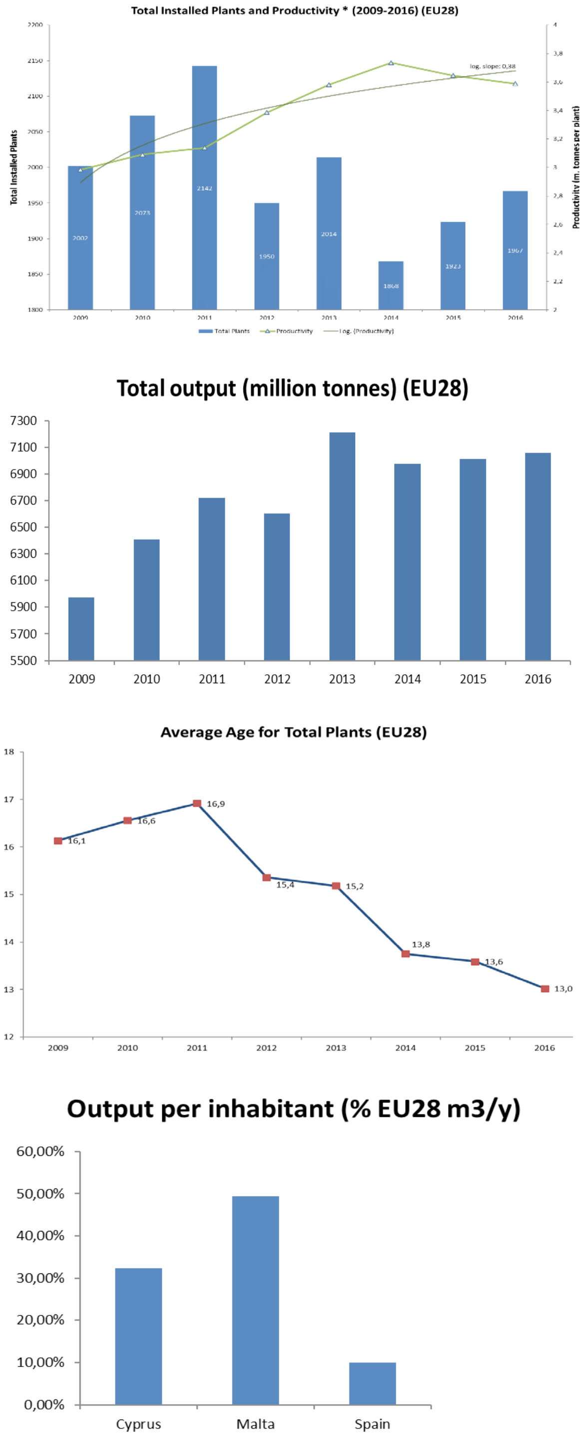


Figure 41 overview of desalination sector

36. OECD. 2016. The Ocean Economy in 2030. OECD Publishing. Paris p. 48.

Spain is the biggest user of desalination output in the EU, with more than 700 desalination plants, mainly along the Mediterranean coast, and in the Balearic Islands and Canary Islands. Desalination in Spain is expected to double over the next 50 years.

Other EU Member States, particularly those in the Mediterranean which, like Spain, are more prone to severe droughts and possible water scarcity, are also using desalination to produce fresh water. Italy produces approximately 576 000 m³ per day, Cyprus 308 000 m³ and Greece 186 000 m³. However, non-Mediterranean countries are investing in the sector as well. The three countries with the highest desalination output per capita were Malta, Cyprus and Spain.

In terms of the distribution of desalination plants across the EU-28, the next graph gives a representation of the industry in the European Union. The bubble size represents the relative output in terms of EU-28 totals, while the vertical axis shows the relative output per inhabitant, highlighting Spain as the country with not only the highest output but the largest number of plants. Malta and Cyprus have considerably fewer projects but their output per capita is far higher than that of the rest of the Member States.

38. http://climate-adapt.eea.europa.eu/metadata/adaptation-options/desalinisation last accessed 20/02/2018.

39. The ratio of current water extraction to long-term average available water.

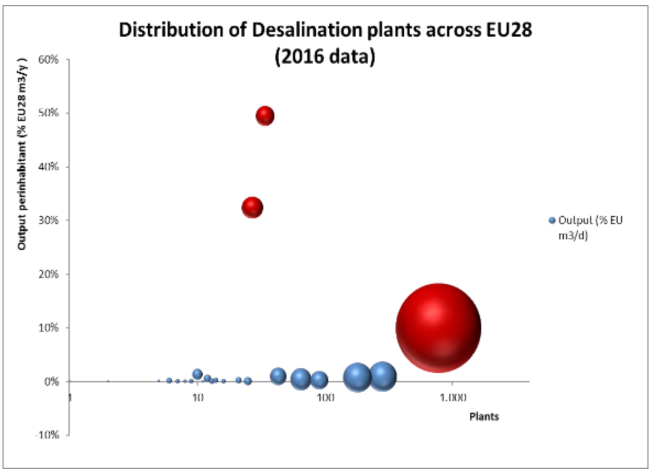


Figure 42 Distribution of desalination plants across EU 28

Investment and operational costs are still high. Desalination is particularly sensitive to electricity prices, as energy consumption can account for half of operating costs. Almost all desalination plants in southern Spain are running below capacity. Costs have fallen significantly due to technological improvements, but raw water quality, terms of financing and most importantly energy costs have a major impact on the sector[38].

OUTLOOK FOR THE DESALINATION INDUSTRY

As outlined above, the desalination industry output is highly correlated with the need to provide water resources to the population. Therefore, it is expected that even more desalination projects will be implemented in the coming years.

The water exploitation index[39] could act as the main proxy for demand in order to make some accurate forecasts for the industry. As shown below, the EU-28 average rate is growing fast. With this in mind, we can expect local authorities to invest in new facilities, with a view to creating sustainable economies of scale.

DEEP-SEABED MINING

Marine and deep-seabed mining refers to the production, extraction and processing of non-living resources in the seabed or in seawater, which may include minerals and metals from the seabed, or marine aggregates such as limestone or gravel, and extraction of minerals dissolved in seawater. The retrieval of minerals may ensure future supply, and may help fill a gap in the market where recycling is either not possible or inadequate, or where the burden on terrestrial mines would be too great. Commercial interest in this sector is therefore rising, and a recent public consultation showed widespread support for including research in this sector in the EU's research programmes. Looking specifically at deep-seabed mining, there are three main types of mineral deposits: manganese nodules, cobalt-rich ferromanganese crusts and seafloor massive sulphide. Regardless of the difficulties in assessing this, many argue that the deep sea has huge potential in terms of supplying mineral resources. According to several sources (such as the OECD), interest in this sector has risen in recent years, though it is still at a preliminary exploration stage.

According to the OECD there are currently 26 licences for exploration in the world, some of which have been granted to European states: two in the EU (Italy and Portugal, Azores) and one in Norway, for which unfortunately there is no detailed information available[40]. Belgium, France, Germany and the United Kingdom, and a group including Bulgaria, the Czech Republic, Poland and Slovakia, have sponsored licences in the Clarion-Clipperton zone, the mid-Atlantic ridge and/or the Indian Ocean[41].

Moreover, the International Seabed Authority is finalising the adoption of rules that will permit states or organisations to extract minerals in areas outside their national jurisdiction. The latter is key, as most proposed deep seabed mining activity is in non-EU waters. Despite this, because of the lack of knowledge of the deep-sea environment, a careful approach is necessary. The European Commission is thus engaged in a variety of studies and projects aimed at shedding light on the benefits, drawbacks and knowledge gaps associated with this type of mining. In fact, EU research programmes has provided EUR 27 million in funding for three major projects in this particular sector (in 2013, 2014 and 2016).

Since actual production of minerals has not yet begun, there are no examples of deep-seabed mining that can serve as a model for analysing and evaluating the sector.

40. OECD. 2016. The Ocean Economy in 2030. OECD Publishing. Paris p. 196-7.

41. Commission Staff Working Document: Report on the Blue Growth Strategy: Towards more sustainable growth and jobs in the blue economy. SWD(2017) 128 final of 31 March 2017.

COASTAL AND ENVIRONMENTAL PROTECTION

The Coastal and Environmental Protection sector indicates growth potential for technologies, infrastructure and operational skills to develop supportive engineering mechanisms for European shorelines.

Urbanisation, the population and economic activities in deltas and coastal regions are all steadily growing, and the viability of many businesses in European coastal zones is threatened by flooding, coastal erosion and the additional pressures of rising seas levels (1.7 mm/year)[42]. Additional efforts should be made to mitigate the growing pressure of landward intrusion and damage to coastal ecosystems caused by flooding, coastal erosion and further loss of flat and low-lying areas.

Previous records[43] indicate that 35 % of the total GDP of the 23 European coastal Member States is generated in the area within 50 km of the coast — an area, moreover, which is home to one third of the EU population. The value of economic assets within 500 metres of the coastline is estimated at EUR 500-1 000 billion. Higher population densities are found in southern Europe and on the North Sea coasts; lower densities can be observed alongside the Baltic (Eurostat).

The annual turnover of coastal protection activities is currently roughly estimated at EUR 1 billion to EUR 5 billion per year[44]. The sector is expected to see continued growth among the Member States, at a moderate but steady pace. The minimum cost of not adapting to climate change is estimated at between EUR 100 billion and EUR 250 billion for the EU as a whole[45].

The majority of impact areas are actively retreating, thereby further reducing the recreational value of land. The costs and benefits of additional coastal protection measures have been examined extensively, through collaborative research projects to evaluate the potential of engineering techniques against flood-risk and land-loss costs across Europe. The results show that by 2020, the net benefit of adaptation (defined as the damage cost of not adapting to change, minus the cost of adapting, minus the residual damage cost of adapting) ranges between EUR 3.8 billion (low predicted sea-level rise) and EUR 4.2 billion (high predicted sea-level rise)[46].

These results highlight the need for further developments in long-term approaches to implementing coastal protection and adaptation strategies, which should build on the framework of Integrated Coastal Zone Management. Directives are currently in place to protect the marine environment and contribute to sustainable use of its marine resources, e.g. the Marine Strategy Framework Directive[47], under which Member States are taking action to achieve or maintain good environmental status in the marine environment by the year 2020 at the latest. Other initiatives are successfully restoring degraded ecosystems and their services. The European Biodiversity Strategy contributes to the EU's sustainable growth and helps to strengthen the fishing industry, attract tourists, and increase real estate value[48].

42. http://ec.europa.eu/environment/iczm/state_coast.htm, last accessed: 22.3.2018.

43. European Commission. 2009. The Economics of Climate Change Adaptation in EU Coastal Areas — Summary Report. Socio-Economic Studies in the Field of the Integrated Maritime Policy for the European Union. (Luxembourg) Report Office for Official Publications of the European Communities. ISBN: KL-80-09-614-EN-C.

44. Ecorys, Deltares, Oceanic. 2012. Blue Growth Study — Scenarios and drivers for Sustainable Growth from the Oceans, Seas and Coasts. Published 15.8.2012.

45. COM(2013) 216, An EU strategy on adaptation to climate change.

46. European Commission. 2009. The Economics of Climate Change Adaptation in EU Coastal Areas — Summary Report. Socio-Economic Studies in the Field of the Integrated Maritime Policy for the European Union. (Luxembourg) Report Office for Official Publications of the European Communities. ISBN: KL-80-09-614-EN-C.

47. Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

48. Commission Staff Working Document, Report on the Blue Growth Strategy — Towards more sustainable growth and jobs in the blue economy.

CHAPTER 5:
CASE STUDIES

BLUE ECONOMY CASE STUDIES IN EUROPE

A number of relevant case studies have been included as part of this report and can be found below. The first, on Blue Growth in the Port of Vigo (Spain), will illustrate the various projects that have been undertaken by the port to create further jobs and sustainably manage and exploit resources. The second case study provides an analysis on the emerging sectors in one particular Member State, Ireland. This study highlights the current situation of the emerging sectors in Ireland but also the potential that these sectors have and the difficulties and challenges they face. This is very much in line with the section on emerging sectors in this report, albeit at a more advanced stage.

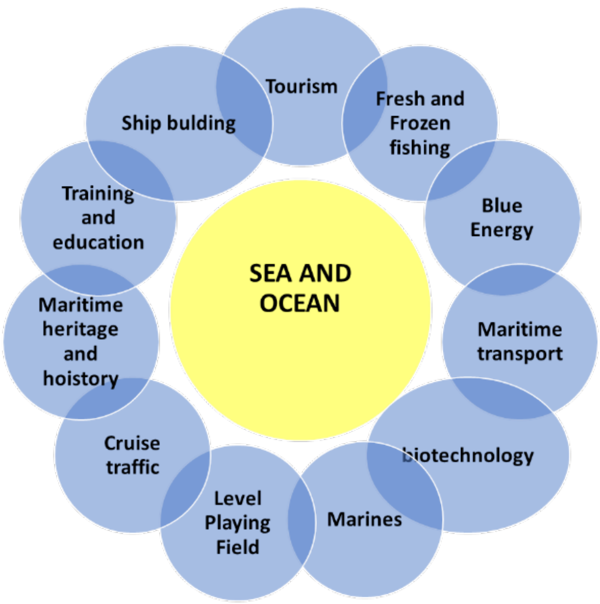
The third case study, also based on Ireland, will look more specifically at ecosystem services. Although this topic has not been fully covered by the report, it is introduced by this case study, and will be addressed in further annual blue economy reports when more reliable data is available. Finally, an in-depth analysis of investments and employment in the ocean energy sections is also included. This case study gives more detailed information on the sector, which was evaluated earlier in this report, and also provides a future outlook with growth projections.

Future reports will contain additional case studies and may look at following up on the case studies below. The aim of this section is to give a more in-depth and more detailed view of some of the sectors and activities that are helping the blue economy thrive by creating jobs and promoting investment across the EU as a whole.

CASE STUDY 1 - THE BLUE GROWTH STRATEGY IN THE PORT OF VIGO

The Blue Growth strategy was launched by the European Commission in 2012 after acknowledging the importance of the oceans in the EU economy. The strategy is part of the Europe 2020 strategy and focuses on sectors that can generate sustainable marine economic activities.

The Port of Vigo decided as a whole to implement the strategy, given its position as a hub of knowledge with high capacity to promote growth based on cross-cutting sectors, institutions and specialisations.



As a result, in 2016, the Port of Vigo designed its own Blue Growth strategy, working together with the *Ports of State Authority, the Galician Regional Fisheries Ministry, the Galician Agency for Innovation, the Campus do Mar* (joint research institutions and universities managed from the University of Vigo), and the *Free Trade Zone Consortium of Vigo*. The strategy should be aligned with international, regional, national and local policies dealing with innovation, education, regional development and so. Therefore, the main institutions covering these areas should take part as promoters of the initiative.

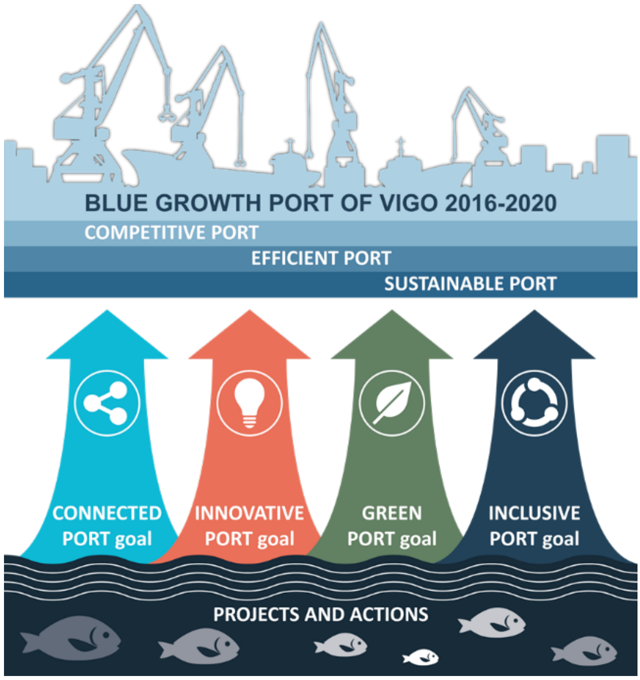
The first step was to identify 14 thematic areas on the basis of those already established by the Commission. These involved sectors and knowledge areas such as fresh fishing, frozen fishing, Merchandise, RoRo (roll-on roll-off ships), Smart ViPort, cruise traffic, history, blue careers, blue technology and blue energy.

More than 250 people, representatives of the 'quadruple helix' of innovation — administration, education and research, private sector and civil society — were invited to participate in a design process to identify the challenges, projects and actions to be carried out by 2020. The main aim was to foster growth through innovation and competitiveness.

In line with the various thematic areas, there are currently up to 45 projects and 45 actions, all of which are integrated into four objectives, also defined by the Blue Growth community.

- **Connecting Port:** strengthen maritime transport infrastructure and industrial and logistical processes, connecting the port to the end user;
- **Innovative Port:** includes knowledge transfer, entrepreneurship and research and development;
- **Green Port:** promotes coastal and marine conservation through responsible use of natural resources and energy efficiency;
- **Inclusive Port:** focuses on job creation, improving professional skills and encouraging social innovation.

In July 2016, work began on implementing the blue growth plan, led by the Port of Vigo Authority and supported by the partners mentioned above. Two years later, all stakeholders who were involved at the beginning of the process are still working on it, whilst other have been added.



Best practices on design and implementation can already be identified. They are key to ensuring that core blue economy principles are being complied with in all projects and actions for coastal areas. As a result, the following criteria were designed:

- consultation with all interest groups included in the plan and obtaining their consent;
- implementation of envisaged projects and actions;
- meeting objectives and outcomes as set at sector and plan level.

The progress and implementation of the Blue Growth initiative has sparked great interest at both national and international level. This interest is mainly focused on keeping the working groups going and on following the implementation of the plan:

The **results of the projects are set out below:**

STATE OF PROJECTS	No OF PROJECTS	No OF PROJECTS / TOTAL PROJECTS
Under implementation EU co-funding	15 3	33 %
Submitted (waiting for resolution)	3	6 %
To be submitted (preparing proposal)	8	18 %
Funding search	23	51 %
Active projects (under implementation, submitted and under preparation)	24	53 %
TOTAL	45	
People involved through working groups	More than 300 from different economic sectors	

Some of the projects that have been undertaken are described below:

- **Fish Market 4.0.**

Under this project, energetically self-sufficient and innovative processes will be implemented to achieve more efficiency, transparency and better working conditions throughout the value chain, from discharge to commercialisation.

- **MARINNLEG**

The Marinnleg Foundation is a public-private fisheries sector alliance, which aims to strengthen legal analyses. It actively promotes research projects, studies and training that focus on the sector's competitiveness.

- **TUTATIS — nZE Cíes**

This project's goal is to make the Cíes islands (off the Galician Coast) self-sufficient through sustainable use of their natural resources and by meeting their water and energy demands with renewable energy.

- **NÁUTICAL-SPORTING ASSOCIATION FOR THE RÍA DE VIGO**

This is a public-private association looking to bolster and improve the competitiveness of the nautical sports sector at international level.

- **BLUE CAREER TRAINING**

This is a project to promote and update the qualifications of professionals in the port industry, making them more adaptable and employable.

- **PORT GREENING - CRABS AT THE DOCK**

The project aims to achieve better use of marine resources; this involves restoring degraded ecosystems and incorporating algae which may capture CO_2, leading to the (re)appearance of indigenous species and others.

- **MULTIFUNCTIONAL BOAT AND THE MODERNISATION OF THE SHELLFISH INDUSTRY**

This is a project to design and build a multifunctional boat to improve the efficiency of the sector through automation of operations, while monitoring environmental impacts to ensure sustainable exploitation.

IMPACT ASSESSMENT

The Blue Growth initiative has a long-term vision based on creating jobs, increasing incomes, attracting investment, increasing energy self-sufficiency and other goals. The success of the Blue Growth strategy must be measured from the beginning of the process; this is the only way to ensure its impact on the economy, society and the environment.

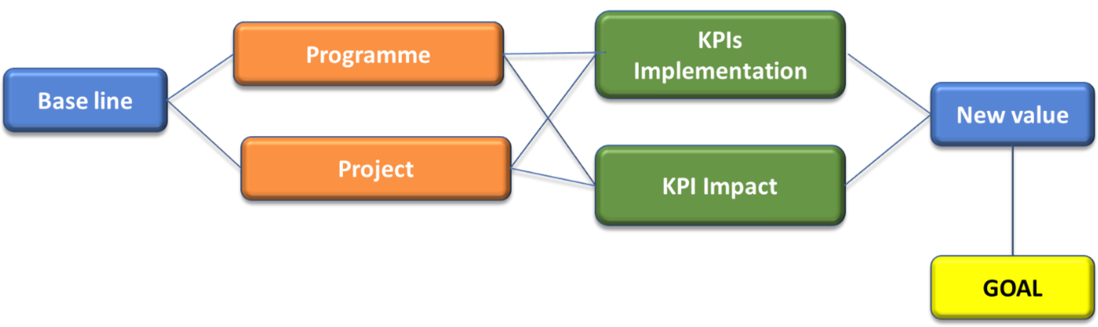
This will be achieved by carrying out an impact assessment, which focuses on:

- making decisions on continuing, strengthening and amending the design of the Blue Growth plan;
- assessing the suitability and progress of the plan, particularly in terms of its methodology.

In this way, the impact measurement strategy is in place from the outset. This includes a significant effort to design a specific methodology and specific tools.

The main aim is to evaluate the impact of the plan on the blue economy. This is achieved as follows:

- implementation: the degree to which the plan has been implemented;
- impact: whether or not the objectives were met.



A specific tool that will allow stakeholders to have direct updated information on the achievement of key performance indicators is under implementation and will be available soon. The tool will be accessible to the public. The key performance indicators are related to initiative objectives:

COMMUNICATION

The Blue Growth community, which are the main beneficiaries of the initiative, need information about progress on implementing the plan, specifically on the main results to be achieved, as well as the plan's activities and initiatives. To meet this need, a communication strategy is in place from the very beginning. This includes a website, social networks, plenary sessions and press releases (www.bluegrowthvigo.eu). Communication is an essential part of the Blue Growth initiative's success. The main beneficiaries must be involved in implementing the plan.

CASE STUDY 2 - EMERGING SECTORS IN IRELAND

Measuring the value of emerging marine industries in Ireland

In 2009 the National University of Ireland Galway's Socio-Economic Marine Research Unit (SEMRU) began the task of data collection and analysis of Ireland's ocean economy, with the support of the Irish Marine Institute. This resulted in the publication of a series of biennial ocean economy reports that provide a quantification and monitoring of Ireland's ocean economy over time. As well as quantifying the economic contribution of the more established marine industries such as shipping, fishing, aquaculture, etc., SEMRU also estimated the turnover, gross value added (GVA) and employment figures associated with a number of key emerging marine industries. SEMRU define these emerging industries as those that are still at a relatively early stage of development or growth, and are primarily R&D intensive and/or use the latest cutting-edge technology in their pursuit of economic growth. The emerging industries include advanced marine technology products and services, marine commerce, marine biotechnology and bio-products, and marine renewable energy. Marine commerce is also categorised by Ireland as an 'emerging sector'. This is due to the ongoing development of a large flagship project aimed at establishing an International Shipping Services Centre in Ireland.

Unlike many of the established industries, information on these emerging industries is not readily available from sources such as Eurostat or the Irish Central Statistics Office. For this reason, a survey was designed by SEMRU and was sent to companies in the emerging marine industries. The companies surveyed in each industry were compiled using a wide range of database sources including the Irish Marine Institute's company database. Based on the sample of company surveys returned, SEMRU was then able to estimate the aggregate value of each of the industries in terms of turnover and GVA and the total number of people employed in each industry.

Based on the survey, it was found that the Irish emerging marine industries in 2016 had an estimated turnover of EUR 383 million and provided employment to 1 945 full-time equivalents (FTEs) representing 7 % of the turnover and 6 % of employment in Ireland's ocean economy. While relatively small in relation to the total size of the Irish ocean economy, these emerging industries have considerable growth potential. This potential has been recognised by the Irish Government in 'Harnessing Our Ocean Wealth — an Integrated Marine Plan (IMP) for Ireland'. It is also reflected in the fact that that GVA growth rates in Ireland's emerging ocean economy industries for the 2014-2016 period were higher than those for the established ocean industries and more than double those seen in Ireland's GDP for the same period.

As demonstrated in Table 1, marine commerce and marine advanced technology make the largest contribution in terms of turnover and value added within the emerging marine industries. The marine advanced technology products and services category, along with the marine biotechnology sector, is also an important category in terms of employment.

Table 2 Direct Turnover, GVA and Employment for Emerging Marine Industries (Ireland), 2014 and 2016

Emerging markets	**Direct turnover (€ millions)**		**Direct GVA (€ millions)**		**Employment (FTEs)**	
	2014	2016	2014	2016	2014	2016
High tech marine products & services	80.07	139.68	36.11	60.63	561	695
Marine commerce	138.45	140.73	42.17	41.76	322	342
Marine biotechnology and bio-products	29.51	43.61	4.63	16.99	436	453
Marine renewable energy	26.89	59	15.4	38.1	401	454
Emerging markets total	274.92	383.02	98.3	157.48	1 720	1945

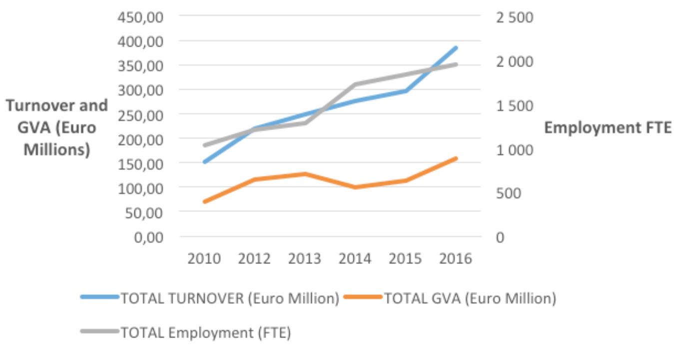


Figure 43 Direct Turnover, GVA and Employment for Emerging Marine Industries, 2010, 2012-2016

Also, and as shown in **Figure 43**, the general trend in direct turnover, GVA and employment in the emerging marine industries in Ireland for the 2008-2016 period was upwards. GVA experienced a slight decline in 2014, which rapidly recovered in the 2014-2016 period. Overall, the emerging marine industries exhibited considerable resilience to the Great Recession, with relatively steady growth rates in turnover between 2010 and 2016. Employment within the emerging marine sectors also maintained relatively stable growth from 2010 to 2016.

All of the emerging industries are excelling in terms of growth. Advanced marine technology products and services and marine renewable energy experienced the largest increases in turnover and GVA. Employment rose in all four emerging sectors, with an overall 13 % increase in the 2014-2016 period[49].

49. The full report on Ireland's ocean economy and how it is quantified is available at https://www.nuigalway.ie/semru/documents/semru__irelands_ocean_economy_2017_online.pdf.

CASE STUDY 3 - VALUING MARINE ECOSYSTEMS

Measuring the value of the emerging marine industries in Ireland

As highlighted elsewhere in this report, the Socio-Economic Marine Research Unit (SEMRU) of the National University of Ireland Galway has estimated the economic importance of the Irish ocean economy through a series of biannual ocean economy reports. These biennial ocean economy reports provide information on the industries using the seas around Ireland, but the value of marine ecosystems goes beyond that of the output of these ocean economy industries. Marine ecosystems provide many services that benefit societies. These services are 'provided by the processes, functions and structure of the marine environment that directly or indirectly contribute to societal welfare, health and economic activities'. For example, the oceans are known to produce half of the oxygen in the atmosphere and absorb 30 % of all CO_2 emissions; they are also a key source of food and play key roles in the mediation of waste and in the provision of recreational opportunities. These services are also vital to ensuring Blue Growth in the ocean economy.

From an Irish policy perspective, 'Harnessing Our Ocean Wealth — an Integrated Marine Plan (IMP) for Ireland' highlighted as a key action the need for further research into generating 'economic values of marine biodiversity and ecosystem services to ensure best practice planning and management of the ocean resource[50]'. With all this in mind, SEMRU has also been pursuing a programme of research funded through the Irish Marine Institute and the Irish Environmental Protection Agency (EPA) that estimates the value of some of these marine ecosystem service benefits to Irish society. The main aims of this work has been to:

- provide a profile of the marine ecosystem services derived from Ireland's coastal, marine and estuarine natural resources;
- provide estimates of the value to society of these marine ecosystem services;
- identify knowledge gaps that continue to exist in the valuation of marine ecosystem services.

A recent EPA report compiled by SEMRU [link below] indicates the significant contribution that provisioning, regulation and maintenance, and cultural marine ecosystem services make to the welfare, health and economic activity of Irish society. Using the UN Common International Classification of Ecosystem Services, SEMRU estimates that on an annual basis:

- recreational services provided by marine ecosystems are estimated to have an economic value of EUR 1.6 billion;
- fisheries and aquaculture are estimated to be worth EUR 664 million in terms of output value from Irish waters;
- carbon sequestration services are valued at EUR 819 million;
- waste assimilation services are valued at EUR 317 million;
- scientific and educational services at EUR 11.5 million;
- coastal defence services at EUR 11.5 million;
- seaweed harvesting at EUR 4 million; and
- the added value per year to housing stock as a result of being close to the shore (aesthetic services) is valued at EUR 68 million.

50. Norton, D., Hynes, S. and Boyd, J. 2018. EPA Research Report No 239: Valuing Ireland's Coastal, Marine and Estuarine Ecosystem Services, EPA Publications, Wexford.

Even though not all of the ecosystem services provided by the marine environment can be monetised, the research does indicate that the value of those that can is substantial.

The information put together on the marine ecosystem service benefits from Irish waters complements the information generated on Irish ocean economy industries by providing policymakers with information about the value of market and non-market marine ecosystem services, and the potential costs if these services are lost. This information is needed to underpin the evidence-based policies that will safeguard Ireland's marine ecosystems and support Blue Growth far into the future. SEMRU's full EPA report on valuing Ireland's marine ecosystem services can be downloaded at:

http://www.epa.ie/pubs/reports/research/water/research239.html.

Table 3 Values of Irish Coastal and Marine Ecosystem Service Benefits

Ecosystem Service	CICES classification	Quantity of ES per year	Estimate of the value of ES per year
Provisioning ecosystem service			
Off shore capture fisheries	Wild animals	469 735tonnes	€472 542 000
Inshore capture fisheries	Wild animals	14 421 tonnes	€42 113 000
Aquaculture	Animals — aquaculture	39 725 tonnes	€148 769 000
Algae/ seaweed harvesting	Wild plants & algae/plants & algae from Aquaculture	29 500 tonnes	€3 914 000
Genetic materials	Genetic materials from biota	Not quantified	Not valued
Water for non-drinking purposes	Surface water for non-drinking purposes	1 189 493 326 m3 of seawater used for cooling	Not valued
Regulating and maintenance ecosystem services			
Waste services	Mediation of waste, toxics and other nuisances	9 350 642 kg organic waste 6 834 783 kg nitrogen 1 118 739 kg phosphorous	€316 767 000
Coastal defence	Mediation of flows	179 km of coastline protected by saltmarsh	€11 500 000
Lifecycle and habitat services	Lifecycle maintenance, habitat and gene pool protection	773 333 ha protected through special areas of conservation	Not valued
Pest and disease control	Pest and disease control	Not quantified	Not valued
Climate regulation	Atmospheric composition and climate regulation	42 647 000 tonnes CO_2 absorbed	€818 700 000
Cultural services			
Recreational services	Physical and experiential interactions	96 million marine recreational trips per year	€1 683 590 000
Scientific and educational services	Scientific & educational	Marine education and training fees	€11 500 000
Marine heritage, culture and entertainment	Heritage, cultural and entertainment	Not quantified	Not valued
Aesthetic services	Aesthetic	Flow value of coastal location of housing	€68 000 000
Spiritual and emblematic values	Spiritual and/or emblematic	Not quantified	Not valued
Non-use values	Existence & bequest values	Not quantified	Not valued

CASE STUDY 4 - IN-DEPTH ANALYSIS OF OCEAN ENERGY: INVESTMENTS AND EMPLOYMENT

In-depth CASE STUDY by the Joint Research Centre (JRC): Investments, Research & Innovation and employment in the ocean energy sector in the European Union[51].

HEADLINES

- Between 2007-2015, EUR 2.6 billion were invested in the ocean energy sector in the EU;
- With the estimated investments in 2016-2019, total investments will have reached EUR 3.24 billion;
- Private corporate investment accounts for EUR 1.9 billion, i.e. 74 % of the total;
- Ocean energy R&D generates 1 350 direct jobs across Europe;
- Total employment in the sector is about 1 800-2 050 jobs across the complete value chain;
- There are over 320 active companies, of which 140 are participating in the European Commission's Horizon 2020 research programme.

POLICY CONTEXT

Ocean energy is one of few untapped sources for renewable energy. Its potential in the EU is vast: it can play a key role in decarbonising energy supply and in increasing energy security and fuelling economic growth in coastal regions. The European Commission is supporting the development of the ocean energy sector through an array of activities: the Energy Union and the strategic energy technology plan (SET-Plan) in particular, and the Blue Growth strategy. The aim of these activities is to drive the development of ocean energy within the transformation of the European energy system and to exploit is potential to create growth and jobs in the EU.

The EU is at the forefront of ocean energy technology development. The EU hosts 50 % of the world's tidal energy developers, 60 % of wave energy developers and 70 % of the ocean energy research and testing infrastructure.

The sector aims to reach 100 GW of ocean energy capacity installed in European waters by 2050. Over 400 000 jobs could be generated if this industrial target is met. The sector is expected to deliver 100 MW of installed capacity by 2020.

INVESTMENTS IN THE SECTOR

The breakdown of investment in research and innovation in ocean energy in the EU between 2007 and 2015 is shown in Figure 44. Since 2007, a cumulative investment of EUR 2.6 billion has been directed towards the ocean energy sector.

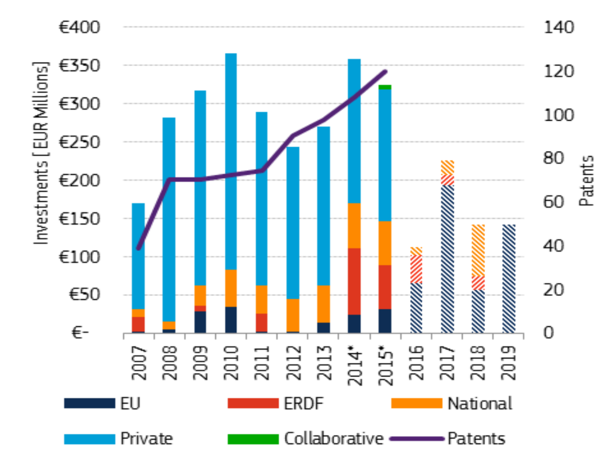


Figure 44 Breakdown of ocean energy investments in EUR million between 2007 and 2019 based on type of funding, accounting for committed national and EU funds for the period between 2016-2019. The years 2014-2015 are estimates. Private investment as estimated by JRC SETIS.

51. Prepared by Davide Magagna, JRC.C.7 — Davide.MAGAGNA@ec.europa.eu.
Data collection and contribution by Alessandro Fiorini, Aliki Georgakaki, Veronika Czako and Evangelos Tzimas.

Source: Public investment as available in the International Energy Agency RD&D Statistics database[52]. Patent data based on the European Patent Office PATSTAT database[53].

MONITORING RESEARCH AND INNOVATION INVESTMENTS IN LOW-CARBON ENERGY TECHNOLOGIES

As part of SETIS, the SET-Plan information system, the JRC has developed methodologies to evaluate selected key performance indicators used in the 'State of the Energy Union' report to measure progress in research and innovation (R&I) in Europe.

Private R&I investment data are estimated based on financial information from publicly available company statements and patent data from PATSTAT, the European Patent Office's worldwide patent statistical database. For national R&I investments, the International Energy Agency (IEA) statistics are the main source of data. They cover 20 of the EU Member States. Data gaps are supplemented by the Member States through the SET Plan Steering Group and/or through targeted data mining.

The 'Monitoring R&I in Low-Carbon Energy Technologies' report provides key conceptual and operational points that are important for the interpretation and use of the results presented in this document.

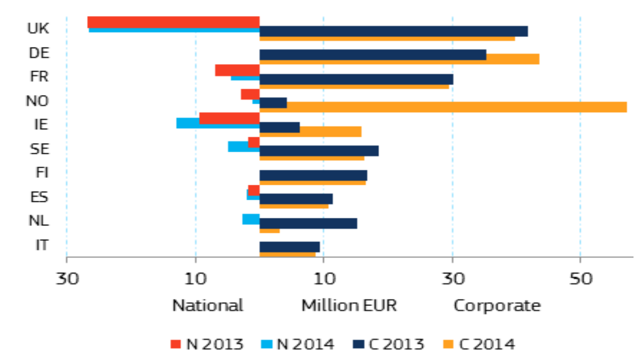


Figure 45 Breakdown of national and corporate R&D investments for TOP10 European investors in 2013-2014. C refers to corporate investments and N to national investments. [Sources: International Energy Agency and direct European Commission (JRC), data updated Feb 2018].

National investments in R&D have been growing slowly since 2011, stabilising at EUR 58 million per year in 2014 and 2015, accounting for 16 % of total investment in 2014 and 18 % in 2015. Figure offers a comparison between funding types for top 10 European investors. The majority of the countries that have significant investment in ocean energy are also those that benefit the most from ocean energy employment.

EUROPEAN CONTRIBUTION

The European Commission is supporting ocean energy through a wide range of instruments such as its R&D framework programmes (FP6, FP7 and Horizon 2020), the ERDF[54], and demonstration support through the NER 300 and the InnovFin Energy Demo Projects (EDP). In total, in the period between 2007 and 2015, the financial contribution of the EU to the ocean energy sector reached EUR 224 million. With co-funding from beneficiaries, this led to total investments of EUR 336 million. The total commitment of the EU rises to EUR 550 million when counting the instruments committed for the 2016-2019 period, generating total investments of EUR 864 million.

Figure 46 presents the breakdown of EU financial contribution to ocean energy projects from 2005 to 2019, including NER 300 and InnovFIN-EDP funds announced for 2018 and 2019.

52. http://www.iea.org/statistics/RDDonlinedataservice/.

53. https://www.epo.org/searching-for-patents/business/patstat.html#tab1.

54. The JRC is aware that there are more regional funds being directed to offshore renewable technologies, but these are not specific to ocean energy.

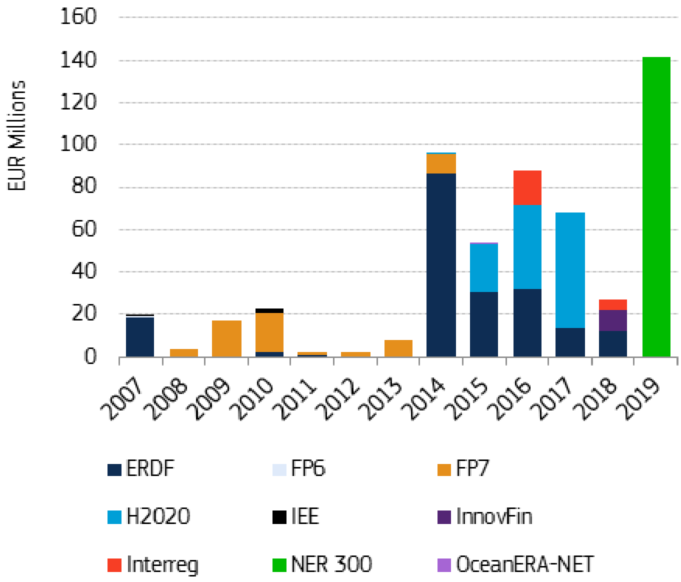


Figure 46 Breakdown of EU financial contribution to ocean energy projects. [Source: JRC, data updated Feb 2018.]

DIRECT AND INDIRECT EMPLOYMENT

The development of the ocean energy sector is taking place across Europe. In this analysis we consider the direct employment of the workforce employed by wave and tidal energy developers, focusing on research, development and demonstration. Indirect jobs are those generated by the provision of a service to ocean energy developers, such as in the development of electrical components or in the manufacture of ocean energy converters.

Numbers of direct jobs are determined by a company analysis of wave and tidal developers, ocean energy testing centres and jobs in research centres and higher education institutions such as universities. Numbers of indirect jobs are estimated by assigning a low-mid-high employment factor per company role based on the current specialist literature where direct data were not available. Indirect jobs are provided as full-time equivalents (FTEs); for direct employment a job is considered equal to one FTE.

EMPLOYMENT IN THE SECTOR

The JRC ocean energy database contains information on the companies involved in the development of ocean energy technologies and related activities. This information has been complemented by an analysis of the companies participating in Horizon 2020 projects on ocean energy. In total, there are 320 companies active in the sector, of which 140 participate in EU-funded projects. A breakdown of the key actors in the sector is shown in **Figure 47**.

55. In the case of direct employment, one job is assumed to be equal to one FTE.

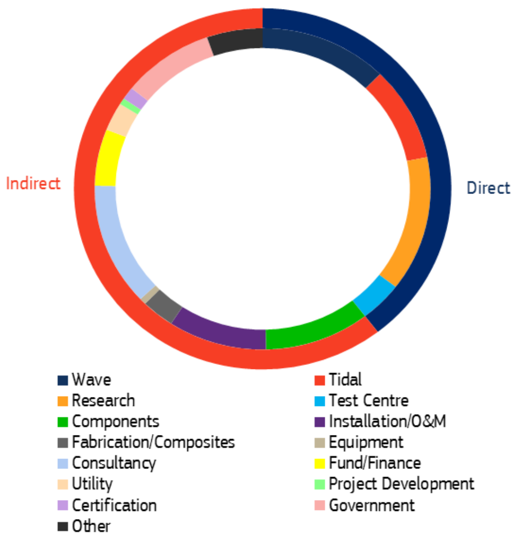


Figure 47 Breakdown of key actors in EU ocean energy sector. [Source: JRC, data updated Dec 2017.]

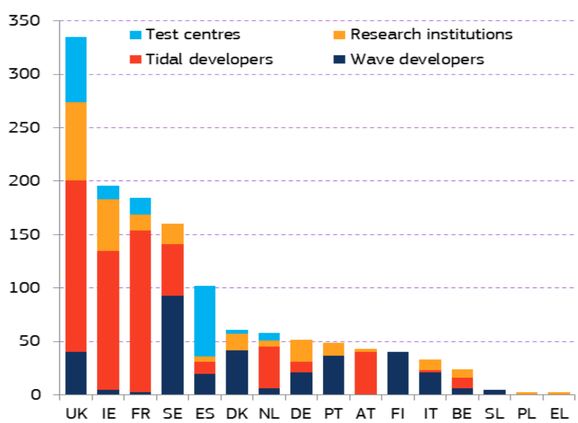


Figure 48 Jobs in ocean energy technology development. [Source: JRC, data updated Dec 2017.]

Technological development is the area of the sector that offers the most employment. Our analysis indicates that wave and tidal energy R&D provides 1 350 direct jobs across 16 Member States, as shown in **Figure 48**. Employment is provided predominantly by wave and tidal energy developers, while other key employers are EU ocean energy test centres and research institutions.

Resource-rich countries such as the United Kingdom and France, where the market is expected to develop quickly, are the ones with the highest employment.

INDIRECT JOBS

'Indirect employment' is employment generated in businesses that supply products and services to the ocean energy sector. Given the contractual nature of some of the ancillary services to the ocean energy sector (e.g. installation services, or the manufacture of bespoke components), an estimate of FTEs is provided[55].

Indirect employment in companies along the supply chain providing intermediate services and components is estimated to be around 500 FTE, ranging between 450 and 650 FTE. The number of indirect jobs have been determined based on the role of supply-chain companies and their commitments to support the development of the ocean energy sector.

In total, it is estimated that the ocean energy sector generates between 1 800 and 2 000 jobs, with 1 900 being the most likely estimate. This represents a significant increase from 2013, when ocean energy jobs were estimated to be between 800-1 000, with sector-driven employment having doubled during the last 4 years.

Figure 49 provides a breakdown of the direct and indirect jobs in the ocean energy sector. The United Kingdom, France, Sweden and Ireland are the countries where most of the workforce in ocean energy is concentrated. Ocean energy employment is also being generated in countries with limited ocean energy resources, such as Germany, Denmark, Finland, Austria and Italy. These jobs are mainly in the supply chain focusing on marine engineering, components and manufacture of ocean energy converters and key components such as power take-off and bearings.

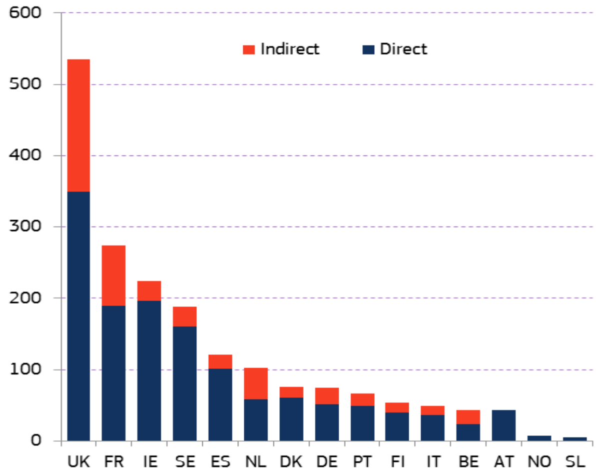


Figure 49 Direct and indirect jobs in the ocean energy sector per country. [Source: JRC, data updated Dec 2017.]

MAIN FINDINGS AND FUTURE OUTLOOK

Despite the embryonic state of the ocean energy market and the currently low installed capacity (20 MW), the sector has mobilised significant investments and workforce throughout Europe.

The current outlook for ocean energy driven employment, combined with the inward investment in the sector, highlight the long-term potential of ocean energy in Europe, with the prospect for ocean energy to benefit the EU in terms of jobs and decarbonisation.

Public support has been made available to facilitate deployment of demonstration farms and increase the competitiveness of ocean energy technologies. This should accelerate the establishment of ocean energy as a viable energy option and its contribution to the economic growth of the EU.

CHAPTER 6:
COUNTRY PROFILES

AUSTRIA (AT)

Despite being a landlocked country, Austria has challenged its geographical limitations to enhance its economic development and 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 and another in the Adriatic).

The Austrian blue economy employs over 4 800 people (+14.8 % on 2009) and generates around EUR 412 million in GVA (+46.6 % on 2009). Living resources produced EUR 149 million in GVA and provided over 2 300 jobs in 2016. Ports, warehousing and water projects produced 1 500 jobs and generated EUR 199 million in GVA. Shipping and shipbuilding accounted for a further 900 jobs, and a GVA of almost EUR 65 million.

The average annual wage in the blue economy in 2016 was EUR 31 700, a 11 % increase on 2009. Average wages increased in all sectors apart from maritime transport (-5 %).

While the blue economy in Austria only represents 0.13 % of the national GDP, it has increased by almost 47 % since 2009, against 23 % for the national GDP. In terms of employment, the blue economy's share has increased gradually, standing at 0.12 % in 2016 and outpacing national employment growth since 2013. Overall, blue economy jobs in 2016 increased 15 % compared to 2009.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Austria

Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	2.0	2.1	2.2	2.2	2.2	2.2	2.3	2.3	15.2%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	1.2	1.2	1.1	1.2	1.3	1.5	1.5	1.5	26.6%	
Maritime transport	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.5	-2.8%	
Shipbuilding & repair	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.8%	
Coastal tourism	-	-	-	-	-	-	-	-		
National employment	*3,909*	*3,944*	*3,982*	*4,013*	*4,030*	*4,034*	*4,068*	*4,143*	6.0%	
Total BE jobs	4.2	4.2	4.2	4.3	4.5	4.7	4.8	4.8	14.8%	
Blue economy as % of national jobs	**0.11%**	**0.11%**	**0.11%**	**0.11%**	**0.11%**	**0.12%**	**0.12%**	**0.12%**	8.4%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	132.1	133.4	138.9	139.3	143.8	147.3	149.1	148.9	12.8%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	95.8	91.4	111.0	172.0	486.6	254.5	198.9	198.9	107.6%	
Maritime transport	37.4	39.1	44.1	36.8	30.2	40.0	40.0	36.8	-1.6%	
Shipbuilding & repair	16.0	17.0	13.1	24.9	21.1	26.0	27.7	27.7	73.1%	
Coastal tourism	-	-	-	-	-	-	-	-		
National economy	*256,671*	*263,634*	*276,404*	*283,548*	*288,624*	*297,147*	*307,293*	*314,693*	22.6%	
Total BE GVA	281	281	307	373	682	468	416	412	46.6%	
BE as % of national GVA	**0.11%**	**0.11%**	**0.11%**	**0.13%**	**0.24%**	**0.16%**	**0.14%**	**0.13%**	19.6%	

Austria		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	**Sub-sector / Iindustry**	**2016**	**%Δ 2016-09**	**Sector share of BE jobs**	**Sector share of national jobs**	**2016**	**%Δ 2016-09**	**Trend 2009-2016**	**Sector share of BE turnover**	**Industry GVA to turnover**	**Sector GVA to turnover**	**2016**	**%Δ 2016-09**	**Sector share of BE GVA**	**Sector share of national GDP**			
Living resources	Capture fisheries	-				-						-						
	Aquaculture	-				-						-						
	Processing and preserving	174	33.8%	48.6%	0.06%	50	44.5%		66.0%	19%	11%	9	-5.7%	36.1%	0.05%	53.1	28.2	5%
	Wholesale	1,957	15.5%			1,255	19.6%			11%		136	14.1%			69.7	36.6	12%
	Retail sale	216	0.9%			18	6.0%			18%		3	19.9%			15.5	12.0	-1%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	36	195.8%			2	13.8%			45%		1	600.0%			21.1	9.9	18%
	Warehousing and storage	999	40.3%	31.9%	0.04%	409	133.8%		23.4%	43%	42%	176	126.7%	48.2%	0.06%	176.6	36.7	14%
	Construction of water projects	410	-1.9%			37	-46.4%			21%		8	-22.4%			18.5	16.3	-10%
	Service activities	93	29.2%			22	59.9%			64%		14	69.9%			151.6	36.6	25%
Maritime transport	Sea and coastal passenger	-				-						-						
	Sea and coastal freight	-				-						-						
	Inland passenger	389	4.7%	11.2%	0.01%	49	12.9%		7.5%	40%	24%	20	31.8%	8.9%	0.01%	50.6	21.0	0%
	Inland freight	123	-24.3%			80	1.8%			6%		5	-50.9%			38.2	42.0	2%
	Renting and leasing of equipment	26	31.4%			22	37.3%			56%		12	-3.7%			472.8	14.1	-6%
Shipbuilding & repair	Building of pleasure and sporting boats	229	4.1%			34	21.9%			47%		16	135.3%			69.9	27.1	3%
	Building of ships and floating structures	-		8.4%	0.01%	-			3.1%	#DIV/0!	45%	-		6.7%	0.01%			
	Repair and maintenance	175	-1.1%			28	23.9%			43%		12	27.2%			66.9	40.0	24%
Coastal tourism	Accommodation																	
	Transport																	
	Other																	
	Total Blue Economy (established sectors)	**4,826**	**14.8%**	0.12%		**2,005**	**29.5%**			**20.6%**		**412**	**46.6%**	**0.13%**		**85.4**	31.7	11%
	National jobs and economy	4,143,000	6.0%									314,693	22.6%					

BELGIUM (BE)

Belgium's blue economy provides over 23 900 jobs and generates about EUR 3.6 billion in GVA. It is led by the ports, warehousing and water projects sector, which contributed 53 % to blue economy GVA and 46 % of blue economy jobs in 2016. Living resources is also an important sector, with 23.5 % of employment and 11 % of the GVA. On the other hand, maritime transport contributes 31 % of GVA and produces just 9 % of jobs. In 2016, 87 % of the EUR 947.5 million of the net investment went into the shipbuilding and repair sector.

In 2016, average wage in the Belgium blue economy sectors was EUR 47 600, a 6 % increase on 2009: it increased in living resources (8 %), ports, warehousing and water projects (3 %) and transport (27 %) but decreased 12 % in shipbuilding. The contribution of the blue economy to the national economy is negligible at 0.94 % but has been on the rise since 2009, outperforming the national economy in terms of GVA and employment. Overall, GVA increased 45.4 % compared to 2009. In terms of jobs, the blue economy's share, at 0.53 % in 2016, up 6.8 % compared to 2009.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Belgium										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	4.7	4.9	5.5	5.9	5.8	5.4	5.6	5.6	20.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	9.9	10.4	10.0	10.5	10.1	10.6	10.9	11.0	10.9%	
Maritime transport	1.2	1.4	2.4	2.3	2.7	1.8	2.3	2.2	88.6%	
Shipbuilding & repair	1.8	1.4	1.3	1.5	1.4	1.3	1.1	1.1	-38.5%	
Coastal tourism	4.8	4.8	4.8	4.8	4.4	3.4	3.2	3.9	-17.5%	
National employment	*4,389*	*4,451*	*4,470*	*4,479*	*4,485*	*4,497*	*4,499*	*4,541*	3.5%	
Total BE jobs	22.4	22.9	23.9	25.0	24.4	22.5	23.2	23.9	6.8%	
Blue economy as % of national jobs	**0.51%**	**0.51%**	**0.54%**	**0.56%**	**0.54%**	**0.50%**	**0.52%**	**0.53%**	3.2%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	288.1	371.4	337.9	356.0	359.7	355.8	374.4	390.2	35.5%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	1,531.2	1,564.9	1,429.2	1,605.0	1,621.0	1,560.9	1,885.8	1,885.8	23.2%	
Maritime transport	287.8	315.7	862.8	838.1	705.6	657.3	1,101.3	1,101.3	282.7%	
Shipbuilding & repair	82.5	58.0	84.4	89.6	78.8	60.8	- 1.1	- 1.1	-101.3%	
Coastal tourism	263.9	263.9	263.9	263.9	257.4	203.0	189.2	191.3	-27.5%	
National economy	*312,596*	*326,534*	*339,644*	*346,698*	*350,877*	*358,051*	*367,472*	*377,636*	20.8%	
Total BE GVA	2,454	2,574	2,978	3,153	3,023	2,838	3,550	3,568	45.4%	
BE as % of national GVA	**0.78%**	**0.79%**	**0.88%**	**0.91%**	**0.86%**	**0.79%**	**0.97%**	**0.94%**	20.4%	

Belgium		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	331	-21.3%	23.5%	0.12%	96	25.3%		22.5%	60%	13%	57	91.8%	10.9%	0.10%	173.3	78.0	29%
	Aquaculture	-				-						-						
	Processing and preserving	1,137	9.3%			592	33.7%			15%		90	18.4%			78.8	35.3	15%
	Wholesale	3,064	36.0%			2,079	22.8%			10%		209	39.8%			68.3	31.6	-2%
	Retail sale	1,082	13.8%			222	44.6%			15%		34	3.7%			31.3	11.6	94%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	1,278	-13.1%	46.2%	0.24%	624	-6.2%		46.5%	29%	30%	183	-40.9%	52.9%	0.50%	143.0	39.3	-64%
	Warehousing and storage	2,322	126.6%			465	95.9%			38%		175	83.5%			75.3	33.2	-7%
	Construction of water projects	3,321	31.0%			3,551	162.9%			24%		841	206.3%			253.3	79.6	65%
	Service activities	4,098	-16.5%			1,545	36.6%			44%		687	-19.4%			167.7	56.3	21%
Maritime transport	Sea and coastal passenger	269	0.0%	9.1%	0.05%	548	0.0%		26.1%	10%	32%	57	0.0%	30.9%	0.29%	213.4	98.5	0%
	Sea and coastal freight	898	277.3%			2,490	202.4%			34%		837	464.5%			932.2	81.8	132%
	Inland passenger	184	-0.4%			71	-8.5%			24%		17	-2.8%			93.3	20.1	0%
	Inland freight	667	73.2%			205	33.7%			35%		72	78.8%			108.5	16.9	-8%
	Renting and leasing of equipment	160	105.1%			156	15.2%			75%		117	390.4%			732.5	23.1	-51%
Shipbuilding & repair	Building of pleasure and sporting boats	15	-42.3%	4.8%	0.02%	1	-75.9%		1.5%	14%	-1%	0.1	-87.5%	0.0%	0.00%	6.7	6.7	-57%
	Building of ships and floating structures	100	-10.5%			16	-33.5%			-359%		- 57	-348%			- 574.0	36.0	5%
	Repair and maintenance	1,020	-40.3%			182	-19.4%			31%		56	-40.5%			55.1	29.4	-14%
Coastal tourism	Accommodation	1,777	-30.3%	16.4%	0.09%	172	-31.5%		3.4%	42%	42%	72	-31.5%	5.4%	0.05%	40.7		
	Transport	410	-26.0%			82	-33.1%			42%		34	-33.1%			83.8	-	
	Other	1,735	5.3%			201	-20.8%			42%		85	-20.8%			48.7	-	
Total Blue Economy (established sectors)		**23,870**	**6.8%**		**0.53%**	**13,298**	**58.9%**			**26.8%**		**3,568**	**45.4%**		**0.94%**	**149.5**	**47.6**	**6%**
National jobs and economy		4,541,000	3.5%									377,636	20.8%					

BULGARIA (BG)

The Bulgarian blue economy employs over 118 000 people and generates around EUR 1.1 billion in GVA. The country's blue economy sectors have significantly increased their combined contribution to national GDP in recent years, in particular from 2013 onwards. In 2016, the share was 4 % of the national economy, 57 % higher than in 2009. The same can be said for employment, where the blue economy's share has steadily risen since 2011, reaching a peak of 4 % in 2016.

The average wage in the blue economy sectors in 2016 was EUR 5 200, an 18 % increase on 2009. Average wages increased in all sectors, with the living resources sector being the largest contributor, 42 % up on 2009. Furthermore, wages increased in shipbuilding (36 %), transport (6 %), oil and gas extraction (6 %) and ports, warehousing and water projects (5 %).

Coastal tourism contributes by far the most within the blue economy in terms of GVA, profits and employment. This was already the case in 2009 and its share has further increased since then. The living resources sector has also gained importance, increasing 227 % compared to 2009 while contributing 6 % to blue economy GVA and employment.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Bulgaria										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	8.3	7.6	7.5	7.4	7.6	7.7	8.0	8.0	-3.5%	
Marine extraction of oil and gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.9%	
Ports, warehousing and water projects	7.0	5.6	4.8	4.6	3.7	5.2	5.5	5.5	-20.9%	
Maritime transport	1.8	1.8	1.7	1.7	1.4	1.7	1.6	1.7	-6.9%	
Shipbuilding & repair	6.8	5.9	5.4	4.9	4.7	4.6	4.8	4.8	-29.0%	
Coastal tourism	96.4	96.4	96.4	96.4	97.0	79.1	91.7	97.9	1.5%	
National employment	*3,205*	*3,037*	*2,928*	*2,895*	*2,889*	*2,927*	*2,974*	*2,954*	-7.8%	
Total BE jobs	120.3	117.5	115.8	115.0	114.4	98.4	111.6	118.0	-1.9%	
Blue economy as % of national jobs	**3.75%**	**3.87%**	**3.96%**	**3.97%**	**3.96%**	**3.36%**	**3.75%**	**3.99%**	6.4%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	20.2	44.5	49.7	57.8	57.7	59.4	66.2	66.1	227.2%	
Marine extraction of oil and gas	3.4	5.6	42.7	47.0	28.5	20.9	8.1	8.1	141.4%	
Ports, warehousing and water projects	115.1	106.5	78.1	69.6	63.4	82.1	98.5	98.5	-14.5%	
Maritime transport	33.9	32.8	32.3	41.4	36.3	24.9	27.5	27.5	-18.9%	
Shipbuilding & repair	62.2	44.3	35.1	45.3	59.1	62.0	47.2	47.2	-24.1%	
Coastal tourism	307.6	307.6	307.6	307.6	726.3	664.3	807.3	845.1	174.8%	
National economy	*32,396*	*33,246*	*36,110*	*36,297*	*36,185*	*37,126*	*39,138*	*41,527*	28.2%	
Total BE GVA	542	541	546	569	971	914	1,055	1,092	101.4%	
BE as % of national GVA	**1.67%**	**1.63%**	**1.51%**	**1.57%**	**2.68%**	**2.46%**	**2.69%**	**2.63%**	57.1%	

Bulgaria		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,675	40.1%	6.8%	0.27%	6.8	42.6%		14.3%	68%	14%	5	113.2%	6.1%	0.16%	2.8	1.5	-7%
	Aquaculture	924	-32.8%			22	164.0%			53%		12	169.6%			12.5	2.2	23%
	Processing and preserving	1,644	11.5%			63	110.4%			21%		13	92.8%			8.1	3.8	92%
	Wholesale	2,942	-15.3%			341	8.1%			10%		34	28.9%			11.5	4.5	50%
	Retail sale	836	5.4%			24	118.0%			12%		2.9	81.3%			3.5	1.7	66%
Marine extraction of oil and gas	Extraction of crude petroleum	-		0.0%	0.00%	-			0.0%		1011%	4.0	130.4%	0.7%	0.02%			
	Extraction of natural gas	25	22.6%			0.7	0.0%			568%		4.0	130.4%			160.1	19.1	29%
	Support activities	13	150.0%			0.1	-79.6%			138%		0.1	237.5%			11.0	12.0	-40%
Ports, warehousing and water projects	Cargo handling	549	-14.9%	4.7%	0.19%	16	78.6%		15.1%	56%	20%	9.2	67.5%	9.0%	0.24%	16.7	6.8	46%
	Warehousing and storage	28	31.3%			1	45.6%			40%		0.4	39.1%			14.8	6.8	29%
	Construction of water projects	3,505	-28.1%			392	39.6%			13%		51	-27.7%			14.6	4.7	-10%
	Service activities	1,430	0.0%			72	-3.5%			52%		38	-2.0%			26.3	9.2	9%
Maritime transport	Sea and coastal passenger	169	28.0%	1.4%	0.06%	3	49.3%		2.8%	60%	31%	1.5	650.0%	2.5%	0.07%	8.9	8.3	82%
	Sea and coastal freight	522	-1.3%			37	0.1%			29%		11	-44.9%			20.7	13.2	-6%
	Inland passenger	234				13				33%		4.3				18.4	4.3	
	Inland freight	582	-46.8%			29	-43.5%			26%		7.6	-42.9%			13.1	5.2	20%
	Renting and leasing of equipment	153	466.7%			6.8	466.7%			49%		3.3	312.5%			21.6	2.2	-40%
Shipbuilding & repair	Building of pleasure and sporting boats	33	-43.1%	4.1%	0.16%	1.0	0.0%		4.7%	0%	31%	-		4.3%	0.11%	-	4.5	164%
	Building of ships and floating structures	616	-75.6%			28	-64.4%			29%		8.2	-43.8%			13.3	5.4	13%
	Repair and maintenance	4,158	-0.6%			122	43.6%			32%		39	-18.1%			9.4	6.7	38%
Coastal tourism	Accommodation	54,378	22.6%	83.0%	3.31%	880	317.3%		63.1%	42%	42%	370	317.3%	77.4%	2.04%	6.8		
	Transport	9,677	10.7%			365	16.6%			42%		153	16.6%			15.8	-	
	Other	33,865	-21.9%			767	-7.0%			42%		322	-7.0%			9.5	-	
Total Blue Economy (established sectors)		**117,955**	**-1.9%**	**3.99%**		**3,190**	**85.0%**			**34.2%**		**1,092**	**101.4%**	**2.63%**		**9.2**	**5.2**	**18%**
National jobs and economy		2,954,000	-7.8%									41,527	28.2%					

CROATIA (HR)

The Croatian blue economy employs over 132 000 people and generates around EUR 2.8 billion in GVA. It is dominated by the coastal tourism sector, which contributed 77% to jobs and 80 % to GVA in 2016.

The blue economy in Croatia represents 7 % of the national economy in terms of GVA, but has underperformed relative to the rest of the economy since 2014. Overall, blue economy-based GVA decreased 13 % compared to 2009, decreasing in all sectors with the exception of living resources and maritime transport, where it grew by 41 % and 13 %, respectively.

In terms of jobs, the blue economy's share was 8.5 % in 2016. Blue economy-based job growth outperformed the national employment until 2014, after which the trends diverge. Overall, employment has decreased 8 % since 2009, with jobs in the blue economy decreasing 18 %. The share of blue economy jobs peaked in 2012, when it reached 10.8 %.

The average wage in the blue economy in 2016 was EUR 10 700, a 14 % decrease on 2009. In fact, average wages decreased 13 % in living resources and 20 % in maritime transport when compared to 2009 wages. By contrast, the average wage increased 97 % in marine extraction of oil and gas and 2 % in shipbuilding and repair; both these sectors have lost a significant amount of jobs since 2009. Employment in oil and gas appears to have suffered huge cuts in 2016, with only 939 jobs reported against 3 400 jobs the year before, while employment in shipbuilding has been steadily declining, decreasing 42 % overall since 2009.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Croatia										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	2.3	2.0	2.1	9.2	9.5	9.6	9.6	9.4	307.3%	
Marine extraction of oil and gas	2.3	2.3	2.3	2.3	2.4	3.6	3.4	0.9	-58.3%	
Ports, warehousing and water projects	5.3	5.1	5.3	5.0	4.9	4.6	4.5	4.5	-15.0%	
Maritime transport	6.1	6.2	6.5	6.3	6.3	6.4	6.4	6.5	6.9%	
Shipbuilding & repair	16.4	15.6	14.6	13.1	14.0	9.3	9.4	9.4	-42.4%	
Coastal tourism	129.5	129.5	129.5	129.5	117.2	116.6	102.3	101.7	-21.5%	
National employment	*1,708*	*1,649*	*1,584*	*1,528*	*1,494*	*1,542*	*1,559*	*1,567*	-8.3%	
Total BE jobs	161.8	160.7	160.3	165.4	154.1	150.1	135.6	132.4	-18.2%	
Blue economy as % of national jobs	**9.47%**	**9.75%**	**10.12%**	**10.82%**	**10.32%**	**9.74%**	**8.70%**	**8.45%**	-10.8%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	32.8	30.7	35.2	66.3	75.5	35.7	43.4	46.3	41.1%	
Marine extraction of oil and gas	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	0.0%	
Ports, warehousing and water projects	134.7	112.9	112.0	102.6	100.4	101.7	98.2	98.2	-27.1%	
Maritime transport	199.9	179.0	177.3	153.8	185.8	163.7	226.5	226.5	13.3%	
Shipbuilding & repair	250.2	271.5	221.6	145.2	105.7	98.6	131.6	131.6	-47.4%	
Coastal tourism	2,485.4	2,485.4	2,485.4	2,485.4	2,479.7	2,394.8	2,248.6	2,195.1	-11.7%	
National economy	*38,916*	*38,796*	*38,645*	*37,461*	*36,987*	*36,807*	*37,627*	*38,926*	0.0%	
Total BE GVA	3,158	3,134	3,086	3,008	3,002	2,849	2,803	2,752	-12.8%	
BE as % of national GVA	**8.11%**	**8.08%**	**7.99%**	**8.03%**	**8.12%**	**7.74%**	**7.45%**	**7.07%**	-12.9%	

Croatia		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	5,001				70				60%		42				8.5	3.6	
	Aquaculture	2,231				192				-20%		- 39				- 17.3	11.1	
	Processing and preserving	1,359	-23.6%	7.1%	0.60%	97	11.3%		6.2%	32%	11%	31	16.0%	1.7%	0.12%	23.0	10.7	27%
	Wholesale	447	53.7%			63	107.4%			14%		8.7	81.3%			19.5	9.4	24%
	Retail sale	325	41.3%			13	46.7%			20%		2.6	136.4%			8.0	4.9	62%
Marine extraction of oil and gas	Extraction of crude petroleum	-				-						-						
	Extraction of natural gas	19	-98.5%	0.7%	0.06%	-			1.1%		71%	-		2.0%	0.14%	-	-	
	Support activities	920	-12.1%			77	-21.2%			71%		55	0.00%			59.3	20.9	-7%
Ports, warehousing and water projects	Cargo handling	226	-25.3%			7.0	1.4%			55%		3.9	-15.3%			17.1	11.6	8%
	Warehousing and storage	8.2	291.4%	3.4%	0.29%	0.7	91.2%		3.6%	30%	39%	0.2	78.3%	3.6%	0.25%	26.8	10.0	-25%
	Construction of water projects	2,891	-18.7%			166	-9.9%			33%		55	-32.2%			18.9	11.9	-5%
	Service activities	1,346	-3.7%			77	-11.6%			51%		39	-20.1%			29.3	17.2	4%
Maritime transport	Sea and coastal passenger	3,390	7.6%			164	37.6%			57%		94	27.5%			27.7	11.1	-4%
	Sea and coastal freight	743	-1.3%			157	-33.2%			56%		88	22.0%			118.6	32.7	-30%
	Inland passenger	24		4.9%	0.41%	0.4			6.9%	50%	47%	0.2		8.2%	0.58%	8.3	4.2	
	Inland freight	38	-64.2%			1.2	-68.2%			133%		1.6	-22.0%			42.1	5.3	-45%
	Renting and leasing of equipment	2,307	11.3%			159	-13.1%			27%		43	-17.9%			18.5	6.0	-23%
Shipbuilding & repair	Building of pleasure and sporting boats	333	-48.5%			14	-33.0%			11%		1.6	-77.8%			4.8	7.2	-17%
	Building of ships and floating structures	5,843	-52.8%	7.1%	0.60%	324	-57.1%		7.5%	20%	25%	64	-65.3%	4.8%	0.34%	11.0	12.5	7%
	Repair and maintenance	3,248	-3.0%			186	52.5%			35%		66	14.3%			20.2	10.5	-3%
Coastal tourism	Accommodation	44,064	-15.5%			2,155	-5.0%			42%		905	-5.0%			20.5		
	Transport	8,475	-35.1%	76.8%	6.49%	844	-17.7%		74.7%	42%	42%	354	-17.7%	79.8%	5.64%	41.8	-	
	Other	49,117	-23.6%			2,227	-15.1%			42%		935	-15.1%			19.0	-	
	Total Blue Economy (established sectors)	**132,354**	**-18.2%**	**8.45%**		**6,993**	**-11.0%**			**39.4%**		**2,752**	**-12.8%**	**7.07%**		**20.8**	**10.7**	**-14%**
	National jobs and economy	1,567,000	-8.3%									38,926	0.03%					

CYPRUS (CY)

The blue economy sectors in Cyprus employ over 26 000 people and generate around EUR 732 million in GVA, representing a 4.6 % share of the national economy and 7.4 % of jobs. The blue economy's contributions to both national GDP and employment have remained steady throughout the period of analysis (2009-2016). A slight decrease can be observed in both cases between 2011 and 2013, but the levels have risen since.

As an island state, it is not surprising that Cyprus is dominated by coastal tourism, which contributed 73 % of blue economy-based jobs and 69 % of the GVA in 2016. Employment has remained relatively stable since 2009.

The average wage in the blue economy in 2016 was EUR 15 400, a 13 % drop on the EUR 17 600 reported in 2009. In fact, average wages decreased 19 % in living resources, 10 % in ports, warehousing and water projects and 10 % in maritime transport when compared to 2009. By contrast, the average wage increased 32 % in shipbuilding and repair, which has also seen a significant increase in the number of jobs since 2009.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Cyprus										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	1.6	2.0	2.0	2.0	2.1	2.1	2.2	2.2	35.0%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	1.1	1.3	1.4	1.2	0.9	0.8	0.9	0.9	-17.2%	
Maritime transport	2.8	3.3	3.1	3.1	3.1	3.1	3.1	3.1	10.5%	
Shipbuilding & repair	0.1	0.2	0.2	0.3	0.5	0.6	0.9	0.9	569.4%	
Coastal tourism	19.1	19.1	19.1	19.1	17.4	17.9	18.1	19.1	0.1%	
National employment	*371*	*382*	*386*	*375*	*357*	*355*	*350*	*354*	-4.6%	
Total BE jobs	24.7	25.9	25.8	25.7	24.0	24.5	25.1	26.1	5.9%	
Blue economy as % of national jobs	**6.65%**	**6.78%**	**6.70%**	**6.86%**	**6.74%**	**6.90%**	**7.17%**	**7.37%**	11.0%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	18.5	16.7	25.9	16.0	26.7	25.0	26.2	26.2	41.2%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	84.9	96.3	100.6	90.6	79.9	77.1	79.6	79.6	-6.2%	
Maritime transport	96.0	108.9	72.5	72.5	86.1	86.1	86.1	86.1	-10.4%	
Shipbuilding & repair	5.2	6.2	7.7	14.5	15.0	21.7	31.5	31.5	505.5%	
Coastal tourism	564.1	564.1	564.1	564.1	521.7	535.3	485.1	508.7	-9.8%	
National economy	*16,420*	*16,999*	*17,522*	*17,288*	*16,134*	*15,448*	*15,589*	*15,842*	-3.5%	
Total BE GVA	769	792	771	758	729	745	708	732	-4.8%	
BE as % of national GVA	**4.68%**	**4.66%**	**4.40%**	**4.38%**	**4.52%**	**4.82%**	**4.54%**	**4.62%**	-1.3%	

Cyprus		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,289	41.8%			8	-22.9%			14%		1.1	257.6%			0.8	0.5	-45%
	Aquaculture	388	54.6%			32	65.9%			36%		11.7	90.4%			30.2	9.0	-16%
	Processing and preserving	-		8.4%	0.62%	-			6.7%		23%	-		3.6%	0.17%			
	Wholesale	212	24.7%			32	21.9%			17%		5.5	42.9%			25.9	19.6	-2%
	Retail sale	308	3.4%			44	15.3%			18%		7.9	-14.1%			25.6	13.6	-10%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	312	-15.7%			20	-16.0%			74%		14.7	-15.2%			47.2	20.7	-18%
	Warehousing and storage	156	20.2%	3.3%	0.25%	15	58.8%		7.1%	61%	65%	9.3	92.6%	10.9%	0.50%	59.5	25.5	26%
	Construction of water projects	84	-40.0%			27	-7.3%			24%		6.4	-36.0%			76.2	20.2	-36%
	Service activities	321	-22.7%			61	-0.3%			81%		49.2	-6.6%			153.3	42.4	-4%
Maritime transport	Sea and coastal passenger	2,999	10.7%			215	0.4%			43%		91.8	-9.8%			30.6	15.1	-11%
	Sea and coastal freight	67	0.0%			13	0.0%			-45%		- 5.7	0.0%			- 85.1	62.7	0%
	Inland passenger	-		11.7%	0.87%	-			13.1%		38%	-		11.8%	0.54%			
	Inland freight	-				-						-						
	Renting and leasing of equipment	-				-						-						
Shipbuilding & repair	Building of pleasure and sporting boats	33	14.8%			1.9	-7.5%			40%		0.8	57.1%			23.6	12.9	24%
	Building of ships and floating structures	-		3.4%	0.25%	-			3.4%		53%	-		4.3%	0.20%			
	Repair and maintenance	857	724.0%			58	493.8%			53%		31	553.2%			35.8	23.2	21%
Coastal tourism	Accommodation	9,545	-11.4%			525	-10.6%			42%		221	-10.6%			23.1		
	Transport	4,784	69.1%	73.1%	5.39%	301	-12.6%		69.7%	42%	42%	126	-12.6%	69.5%	3.21%	26.4	-	
	Other	4,749	-13.0%			385	-6.4%			42%		162	-6.4%			34.1	-	
	Total Blue Economy (established sectors)	**26,105**	**5.9%**	**7.37%**		**1,737**	**-3.4%**			**42.1%**		**732**	**-4.8%**	**4.62%**		**28.0**	**15.4**	**-13%**
	National jobs and economy	354,000	-4.6%									15,842	-3.5%					

CZECH REPUBLIC (CZ)

As the Czech Republic is a landlocked country, the blue economy is not a major contributor to its economy as a whole (around 0.14 %), and this has decreased in recent years (2014-2016). On a positive note, however, the opposite trend has occurred for employment, in which the blue economy's share increased by 39 % between 2009 and 2016.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Czech Republic										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	0.4	0.9	0.9	0.7	0.7	0.7	0.8	0.8	111.2%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	4.6	4.9	5.3	5.8	5.6	5.4	5.8	6.3	38.3%	
Maritime transport	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.3%	
Shipbuilding & repair	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0%	
Coastal tourism	-	-	-	-	-	-	-	-		
National employment	*4,857*	*4,810*	*4,796*	*4,810*	*4,846*	*4,883*	*4,934*	*5,016*	3.3%	
Total BE jobs	5.6	6.5	6.8	7.1	6.9	6.8	7.3	7.8	38.6%	
Blue economy as % of national jobs	**0.12%**	**0.13%**	**0.14%**	**0.15%**	**0.14%**	**0.14%**	**0.15%**	**0.15%**	34.2%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	4.7	16.5	13.9	13.2	13.6	13.7	14.8	14.8	214.9%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	223.8	223.8	223.0	232.6	225.9	184.3	194.5	194.5	-13.1%	
Maritime transport	4.6	4.6	4.6	4.6	4.3	4.3	4.9	4.9	6.5%	
Shipbuilding & repair	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	0.0%	
Coastal tourism	-	-	-	-	-	-	-	-		
National economy	*134,449*	*141,715*	*148,041*	*145,076*	*141,198*	*141,582*	*151,603*	*158,778*	18.1%	
Total BE GVA	237	249	245	254	248	206	218	218	-8.0%	
BE as % of national GVA	**0.18%**	**0.18%**	**0.17%**	**0.18%**	**0.18%**	**0.15%**	**0.14%**	**0.14%**	-22.1%	

Czech Republic		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	-				-						-						
	Aquaculture	-				-						-						
	Processing and preserving	775	111.2%	10.0%	0.02%	86	109.0%		6.1%	17%	17%	15	214.9%	6.8%	0.01%	19.1	9.5	59%
	Wholesale	-				-						-						
	Retail sale	-				-						-						
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	-				-						-						
	Warehousing and storage	6,337	38.3%	81.7%	0.13%	1,269	-20.8%		90.4%	15%	15%	195	-13.1%	89.2%	0.12%	30.7	9.9	-7%
	Construction of water projects	-				-						-						
	Service activities	-				-						-						
Maritime transport	Sea and coastal passenger	-				-						-						
	Sea and coastal freight	-				-						-						
	Inland passenger	-		3.8%	0.01%	-			1.9%		18%	-		2.2%	0.00%			
	Inland freight	298	-1.3%			27	17.8%			18%		5	6.5%			16.4	7.7	4%
	Renting and leasing of equipment	-				-						-						
Shipbuilding & repair	Building of pleasure and sporting boats	77	0.0%			4.8	0.0%			23%		1.1	0.0%			14.3	6.5	0%
	Building of ships and floating structures	219	0.0%	4.5%	0.01%	14	0.0%		1.5%	15%	18%	2.1	0.0%	1.7%	0.00%	9.6	5.0	0%
	Repair and maintenance	50	0.0%			2.4	0.0%			25%		0.6	0.0%			12.0	4.0	0%
Coastal tourism	Accommodation																	
	Transport																-	
	Other																-	
	Total Blue Economy (established sectors)	7,756	38.6%	0.15%		1,404	-16.8%			15.5%		218	-8.0%	0.14%		28.1	9.6	-3%
	National jobs and economy	5,016,000	3.3%									158,778	18.1%					

DENMARK (DK)

The blue economy's share in Denmark's national GDP was at its highest in 2011 (5.9 %) over the reporting period. It has decreased since and is currently at slightly over 5.3 %.

For employment, by contrast, a different pattern can be observed. For the period analysed, the share of employment provided by the blue economy, although still low (around 3.1 %), has grown by 15.7 % compared to 2009.

The blue economy employs over 86 000 people and generates around EUR 12.8 billion in GVA. It is dominated by coastal tourism in terms of jobs, contributing 50 % of the total blue economy jobs in 2016.

In terms of GVA and profits, the contribution is more evenly distributed, with marine extraction of oil and gas contributing 32 % to GVA and 43 % to profits, maritime transport 34 % to GVA and 31 % profits and coastal tourism 21 % of the GVA and 17 % to profits.

The average wage in the blue economy in 2016 was EUR 56 600, a 1 % rise on the EUR 55 800 reported in 2009. The average wage when compared to 2009 wages increased 6 % in living resources, 27 % in extraction of oil and gas and 1 % in maritime transport, while decreasing 9 % in ports and 25 % in shipbuilding and repair.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by established blue economy sector and sub-sectors.

Denmark										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	8.5	8.0	8.4	8.7	8.6	8.5	8.6	8.6	1.0%	
Marine extraction of oil and gas	2.5	2.5	4.4	4.5	3.0	3.0	2.6	2.6	5.2%	
Ports, warehousing and water projects	3.5	3.4	4.1	4.3	5.5	5.9	5.7	5.4	55.3%	
Maritime transport	20.6	18.4	19.6	21.3	21.3	22.0	22.5	23.0	11.5%	
Shipbuilding & repair	3.9	3.8	3.8	3.0	3.0	3.2	3.4	3.0	-22.1%	
Coastal tourism	35.4	35.4	35.4	35.4	43.6	48.8	45.9	43.4	22.6%	
National employment	*2,724*	*2,654*	*2,643*	*2,621*	*2,622*	*2,640*	*2,678*	*2,748*	0.9%	
Total BE jobs	74.4	71.4	75.6	77.1	84.9	91.6	88.8	86.0	15.7%	
Blue economy as % of national jobs	**2.73%**	**2.69%**	**2.86%**	**2.94%**	**3.24%**	**3.47%**	**3.32%**	**3.13%**	14.6%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	632.4	726.0	688.3	658.4	671.7	714.1	820.7	820.7	29.8%	
Marine extraction of oil and gas	5,161.0	6,117.3	6,985.4	6,186.1	5,435.9	4,145.5	4,117.2	4,117.2	-20.2%	
Ports, warehousing and water projects	399.9	394.8	413.1	437.9	636.6	604.4	593.0	593.0	48.3%	
Maritime transport	2,746.4	2,199.1	2,251.7	2,016.0	2,945.6	3,508.2	4,308.4	4,307.8	56.9%	
Shipbuilding & repair	232.0	229.2	244.2	168.7	179.7	212.4	225.1	191.6	-17.4%	
Coastal tourism	2,097.2	2,097.2	2,097.2	2,097.2	2,767.8	3,184.2	2,928.7	2,737.8	30.5%	
National economy	*199,423*	*209,840*	*213,908*	*219,795*	*223,851*	*230,587*	*235,861*	*240,332*	20.5%	
Total BE GVA	11,269	11,764	12,680	11,564	12,637	12,369	12,993	12,768	13.3%	
BE as % of national GVA	**5.65%**	**5.61%**	**5.93%**	**5.26%**	**5.65%**	**5.36%**	**5.51%**	**5.31%**	-6.0%	

Denmark		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,330	-21.5%	10.0%	0.31%	451	41.9%		12.4%	70%	16%	313	67.2%	6.4%	0.34%	235.6	59.6	37%
	Aquaculture	506	3.3%			183	25.9%			20%		37	30.4%			72.1	38.3	16%
	Processing and preserving	4,178	0.1%			2,566	53.8%			11%		283	1.3%			67.8	39.6	-7%
	Wholesale	1,916	38.4%			1,788	35.5%			9%		158	39.0%			82.6	42.6	-4%
	Retail sale	675	-12.7%			95	16.3%			31%		29	23.9%			43.0	28.3	57%
Marine extraction of oil and gas	Extraction of crude petroleum	929	77.6%	3.0%	0.10%	3,120	-48.1%		8.4%	125%	120%	3,896	-20.5%	32.2%	1.71%	4,194.0	217.5	88%
	Extraction of natural gas	-				-						-						
	Support activities	1,690	-14.1%			315	-23.6%			70%		221	-15.8%			130.8	52.7	-34%
Ports, warehousing and water projects	Cargo handling	256	76.8%	6.3%	0.20%	33	74.5%		3.0%	54%	48%	18	92.4%	4.6%	0.25%	71.1	51.4	-1%
	Warehousing and storage	1,761	37.2%			414	35.4%			36%		149	11.1%			84.7	46.3	-2%
	Construction of water projects	741	7.8%			311	0.1%			23%		73	16.4%			97.8	53.7	0%
	Service activities	2,663	93.5%			482	67.3%			73%		353	82.1%			132.6	46.0	-18%
Maritime transport	Sea and coastal passenger	5,486	24.1%	26.7%	0.84%	2,034	73.2%		58.6%	40%	18%	811	96.2%	33.7%	1.79%	147.9	42.4	-11%
	Sea and coastal freight	17,235	8.0%			21,808	-5.8%			16%		3,441	49.7%			199.6	65.5	5%
	Inland passenger	160	0.0%			70	0.0%			8%		6	0.0%			35.5	44.9	0%
	Inland freight	36	30.9%			14	147.6%			21%		3	8.0%			81.0	45.4	8%
	Renting and leasing of equipment	57	21.3%			126	167.8%			37%		47	84.3%			824.6	40.4	90%
Shipbuilding & repair	Building of pleasure and sporting boats	266	18.2%	3.5%	0.11%	50	-15.7%		1.8%	25%	26%	13	-21.1%	1.5%	0.08%	47.7	39.8	-29%
	Building of ships and floating structures	1,181	-48.7%			344	-44.3%			23%		78	-36.9%			66.1	41.5	-34%
	Repair and maintenance	1,559	17.0%			333	11.3%			30%		101	9.4%			64.6	43.6	-8%
Coastal tourism	Accommodation	16,340	4.0%	50.4%	1.58%	1,909	17.0%		15.9%	42%	42%	802	17.0%	21.4%	1.14%	49.1		
	Transport	11,111	40.3%			1,781	40.0%			42%		748	40.0%			67.3	-	
	Other	15,930	35.3%			2,829	35.4%			42%		1,188	35.4%			74.6	-	
	Total Blue Economy (established sectors)	**86,006**	**15.7%**	**3.13%**		**41,056**	**-0.6%**			**31.1%**		**12,768**	**13.3%**	**5.31%**		**148.5**	**56.6**	**1%**
	National jobs and economy	2,748,000	0.9%									240,332	20.5%					

ESTONIA (EE)

The Estonian blue economy employs over 28 000 people and generates around EUR 718 million in GVA. It is dominated by the coastal tourism sector, which contributed 63 % of the jobs and 51 % to overall blue economy profits in 2016 and where 37 % of the investment is concentrated. Over EUR 12.8 million of the EUR 22.2 million in net investments were made in the living resources sector, which contributes 16 % of the jobs but 6 % of the GVA. Ports, warehousing and water projects provide 9 % of the jobs and generate 27 % of the GVA and 33 % of the profits.

The blue economy's contribution to the Estonian domestic GDP is around 4 %, a 1 % drop from 2009 figures. However, the highest levels were seen in 2009-2010, decreasing afterwards and stagnant throughout the 2013-2016 period. National economy GDP growth outperformed blue economy growth rates over the entire period analysed, increasing 47.5 % compared to 2009, against 19 % respectively.

In terms of employment, the blue economy is now (i.e. in 2016) responsible for 7 % more jobs than it was in 2009. The average wage in the blue economy in 2016 was EUR 11 500, a 26 % increase on 2009. Compared with 2009 wages, average wages increased in all sectors.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Estonia										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	4.2	4.2	4.4	4.5	4.4	4.5	4.7	4.4	5.1%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.5	7.2%	
Maritime transport	0.9	0.8	0.7	0.8	0.8	0.7	0.7	0.8	-8.7%	
Shipbuilding & repair	1.8	1.8	2.0	2.1	2.1	2.1	2.4	2.4	30.9%	
Coastal tourism	16.9	16.9	16.9	16.9	16.7	16.5	18.0	17.8	5.5%	
National employment	*573*	*548*	*582*	*591*	*597*	*600*	*613*	*612*	6.8%	
Total BE jobs	26.2	26.1	26.4	26.8	26.4	26.3	28.4	28.0	6.9%	
Blue economy as % of national jobs	**4.56%**	**4.76%**	**4.53%**	**4.53%**	**4.43%**	**4.39%**	**4.63%**	**4.57%**	0.1%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	40.8	43.2	42.4	45.6	47.0	46.4	44.2	45.5	11.5%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	163.3	202.5	212.8	223.8	228.2	228.3	195.9	194.5	19.2%	
Maritime transport	26.3	-2.4	-8.3	25.3	15.3	23.2	50.8	50.8	93.2%	
Shipbuilding & repair	40.3	40.6	42.4	44.6	49.2	62.9	60.4	60.1	49.2%	
Coastal tourism	334.6	334.6	334.6	334.6	345.3	342.3	371.0	367.2	9.7%	
National economy	*12,281*	*12,874*	*14,616*	*15,676*	*16,591*	*17,202*	*17,610*	*18,118*	47.5%	
Total BE GVA	605	618	624	674	685	703	722	718	18.7%	
BE as % of national GVA	**4.93%**	**4.80%**	**4.27%**	**4.30%**	**4.13%**	**4.09%**	**4.10%**	**3.96%**	-19.6%	

Estonia		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	2,268	19.4%	15.7%	0.72%	15	-13.0%		16.5%	72%	12%	11	-0.1%	6.3%	0.25%	4.7	1.6	-39%
	Aquaculture	36	80.0%			2.1	35.1%			4%		0.1	-81.1%			2.2	8.3	92%
	Processing and preserving	1,589	-13.2%			127	15.2%			20%		25	10.5%			15.9	9.8	53%
	Wholesale	465	18.3%			246	168.8%			4%		9.4	39.3%			20.2	9.7	17%
	Retail sale	43	0.0%			2	0.0%			6%		0.1	0.0%			2.3	2.3	0%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	888	0.9%	9.1%	0.42%	104	-19.3%		14.7%	46%	56%	48	-25.9%	27.1%	1.07%	53.8	17.4	19%
	Warehousing and storage	173	27.8%			16	29.0%			54%		8.5	42.7%			49.1	13.3	13%
	Construction of water projects	153	23.5%			27	240.8%			17%		4.6	83.2%			29.9	13.7	55%
	Service activities	1,334	7.8%			201	56.2%			67%		134	48.1%			100.2	20.8	53%
Maritime transport	Sea and coastal passenger	767	-9.1%	2.9%	0.13%	530	30.3%		22.9%	7%	9%	39.3	165.5%	7.1%	0.28%	51.2	17.3	25%
	Sea and coastal freight	-				-						-						
	Inland passenger	-				-						-						
	Inland freight	-				-						-						
	Renting and leasing of equipment	40	0.0%			15	0.0%			78%		11.5	0.0%			287.5	2.5	0%
Shipbuilding & repair	Building of pleasure and sporting boats	349	15.1%	8.6%	0.39%	20	50.0%		9.1%	35%	28%	7.1	26.4%	8.4%	0.33%	20.3	8.9	18%
	Building of ships and floating structures	345	0.0%			40	0.0%			27%		10.8	0.0%			31.2	13.5	0%
	Repair and maintenance	1,723	43.8%			156	72.0%			27%		42.3	76.6%			24.6	13.9	26%
Coastal tourism	Accommodation	6,960	19.1%	63.6%	2.91%	260	17.7%		36.8%	42%	42%	109	17.7%	51.1%	2.03%	15.7		
	Transport	940	-0.7%			177	7.2%			42%		74	7.2%			79.2	-	
	Other	9,892	-1.8%			437	6.5%			42%		184	6.5%			18.6	-	
	Total Blue Economy (established sectors)	**27,964**	**6.9%**	**4.57%**		**2,374**	**27.5%**			**30.3%**		**718**	**18.7%**	**3.96%**		**25.7**	**11.5**	**26%**
	National jobs and economy	612,000	6.8%									18,118	47.5%					

FINLAND (FI)

The Finnish blue economy employs over 43 000 people and generates around EUR 2.6 billion in GVA. It is dominated by the coastal tourism sector, which contributed 44.6 % of the jobs and 51 % to overall profits in 2016. Most investment is also concentrated in coastal tourism.

Much like Estonia, Finland has seen a fall in how much the blue economy contributes to its national GDP: from around 1.6 % in 2009, by 2016 this figure dropped to 1.3 %. Whereas Finland's national GDP increased during this period, blue economy GVA has fallen. A similar pattern can be observed in employment, where the blue economy's share and number of jobs have also decreased, with national employment following the same pattern.

The average wage in blue economy-based jobs in 2016 was EUR 34 700, a 9 % increase on 2009. Compared with 2009 wages, the average wage increased in all sectors but one: for living resources, the average wage dropped by 3 %. By contrast, 12 % growth in wages was identified in ports, warehousing and water projects, 7 % in maritime transport and 18 % in shipbuilding and repair.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Finland										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	4.8	5.0	5.1	5.1	5.2	5.4	5.0	5.1	5.0%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	3.9	4.3	4.2	3.8	3.7	3.8	3.6	3.6	-8.6%	
Maritime transport	9.7	9.4	9.5	9.3	9.4	9.5	9.0	8.8	-9.0%	
Shipbuilding & repair	8.7	8.2	7.1	7.0	7.0	6.9	6.3	6.3	-27.9%	
Coastal tourism	20.2	20.2	20.2	20.2	19.9	19.7	19.3	19.1	-5.5%	
National employment	*2,423*	*2,410*	*2,428*	*2,431*	*2,403*	*2,386*	*2,368*	*2,380*	-1.8%	
Total BE jobs	47.5	47.1	46.1	45.5	45.3	45.2	43.1	43.0	-9.5%	
Blue economy as % of national jobs	**1.96%**	**1.95%**	**1.90%**	**1.87%**	**1.88%**	**1.90%**	**1.82%**	**1.80%**	-7.9%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	195.7	206.9	209.4	194.6	198.1	200.8	170.9	173.1	-11.5%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	329.7	374.1	370.9	354.9	375.0	371.2	346.4	346.4	5.1%	
Maritime transport	576.5	641.8	607.0	590.5	640.2	689.9	751.8	751.8	30.4%	
Shipbuilding & repair	315.8	271.6	258.8	265.6	255.2	286.6	283.6	283.6	-10.2%	
Coastal tourism	1,092.8	1,092.8	1,092.8	1,092.8	1,042.9	1,022.2	1,017.0	1,002.8	-8.2%	
National economy	*158,348*	*163,620*	*170,454*	*172,417*	*175,002*	*176,987*	*180,785*	*185,467*	17.1%	
Total BE GVA	2,511	2,587	2,539	2,498	2,511	2,571	2,570	2,558	1.9%	
BE as % of national GVA	**1.59%**	**1.58%**	**1.49%**	**1.45%**	**1.44%**	**1.45%**	**1.42%**	**1.38%**	-13.0%	

Finland		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector / Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,898	18.1%	11.8%	0.21%	35	13.4%		14.7%	48%	15%	17	19.3%	6.8%	0.09%	9.0	2.2	5%
	Aquaculture	515	14.7%			63	9.9%			26%		17	-11.0%			32.2	22.4	-14%
	Processing and preserving	887	-2.2%			311	58.9%			14%		44	22.3%			50.1	27.2	16%
	Wholesale	1,015	-13.2%			604	-1.1%			13%		77	-25.7%			75.9	36.5	3%
	Retail sale	759	8.4%			154	43.5%			12%		18	-21.1%			23.7	20.9	9%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	1,406	-10.3%	8.4%	0.15%	199	21.0%		8.2%	45%	53%	90	11.4%	13.5%	0.19%	63.7	41.9	13%
	Warehousing and storage	39	-13.6%			6	-6.6%			36%		2.0	-3.8%			52.0	32.7	10%
	Construction of water projects	503	-9.4%			94	-10.9%			26%		25	-35.2%			49.5	34.2	3%
	Service activities	1,642	-6.7%			357	15.6%			64%		230	10.1%			140.0	47.3	13%
Maritime transport	Sea and coastal passenger	5,762	2.2%	20.6%	0.37%	1,136	11.5%		30.5%	28%	31%	316	14.8%	29.4%	0.41%	54.9	34.7	-5%
	Sea and coastal freight	2,802	-26.1%			1,261	-8.5%			34%		427	46.0%			152.3	53.7	31%
	Inland passenger	227	-3.1%			13	2.5%			48%		6.0	-5.7%			26.6	15.9	0.4%
	Inland freight	39	2.6%			5	14.0%			39%		1.9	11.8%			48.7	34.6	-12%
	Renting and leasing of equipment	16	52.4%			6	275.0%			17%		1.0	42.9%			62.5	12.5	-34%
Shipbuilding & repair	Building of pleasure and sporting boats	1,930	-21.0%	14.7%	0.26%	298	33.0%		16.6%	32%	22%	95	49.8%	11.1%	0.15%	49.1	32.2	34%
	Building of ships and floating structures	3,541	-35.8%			902	-24.3%			17%		152	-30.8%			43.0	39.5	19%
	Repair and maintenance	832	5.2%			115	36.9%			32%		37	11.9%			44.2	24.9	5%
Coastal tourism	Accommodation	4,632	-6.3%	44.6%	0.80%	542	-6.2%		30.0%	42%	42%	228	-6.2%	39.2%	0.54%	49.2		
	Transport	5,646	-13.6%			708	-17.5%			42%		297	-17.5%			52.6	-	
	Other	8,864	1.1%			1,138	-2.4%			42%		478	-2.4%			53.9	-	
	Total Blue Economy (established sectors)	**42,954**	**-9.5%**		**1.80%**	**7,948**	**-1.9%**				**32.2%**	**2,558**	**1.9%**		**1.38%**	**59.5**	**34.7**	**9%**
	National jobs and economy	2,380,000	-1.8%									185,467	17.1%					

FRANCE (FR)

The French blue economy employs over 279 000 people and generates around EUR 17.7 billion in GVA. It is dominated by the coastal tourism sector, which contributed 56 % of jobs, 54 % of GVA and 67 % of overall profits in 2016.

Overall the percentage of the blue economy in terms of GVA remained steady between 2009 and 2016 and in fact, was at its lowest in 2016 (contributing a meagre 0.9 % share). By contrast, national GDP in France has been on the rise since 2011.

As for employment, at a national level it remained steady over the period of analysis, whereas blue economy-based employment did not have a clear pattern for our analysis period. Nevertheless, the blue economy's contribution to employment only decreased by 2.5 % in those 8 years. This reduction is the result of a 12 % decrease in the number of jobs in coastal tourism since 2009.

The average wage in blue economy-based jobs in 2016 was EUR 33 100, a 3 % increase on 2009. Compared to 2009 wages, the average wage decreased in living resources (-2 %) and ports (-12 %), while increasing a huge 177 % in offshore oil and gas, 16 % in maritime transport and 15 % in shipbuilding.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

France										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	47.2	65.1	59.8	62.5	59.7	57.4	56.6	56.6	19.9%	
Marine extraction of oil and gas	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.5	26.8%	
Ports, warehousing and water projects	18.3	18.3	17.3	21.3	19.0	17.0	21.3	21.3	16.3%	
Maritime transport	18.1	18.1	16.6	14.9	17.2	17.3	17.9	17.6	-2.9%	
Shipbuilding & repair	26.6	26.6	27.0	27.5	28.3	28.7	28.7	28.2	6.0%	
Coastal tourism	175.4	175.4	175.4	175.4	179.0	180.4	148.6	154.8	-11.8%	
National employment	*25,544*	*25,581*	*25,564*	*25,568*	*25,546*	*25,563*	*25,546*	*25,669*	0.5%	
Total BE jobs	286.1	304.0	296.5	301.9	303.6	301.3	273.6	279.0	-2.5%	
Blue economy as % of national jobs	**1.12%**	**1.19%**	**1.16%**	**1.18%**	**1.19%**	**1.18%**	**1.07%**	**1.09%**	-3.0%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	1,839.7	2,445.6	2,468.7	2,500.2	2,549.9	2,485.9	2,692.3	2,738.5	48.9%	
Marine extraction of oil and gas	87.5	129.4	144.0	144.0	142.0	142.0	148.0	148.0	69.1%	
Ports, warehousing and water projects	2,233.7	1,618.2	5,694.8	1,524.8	1,741.2	1,489.5	1,484.0	1,484.0	-33.6%	
Maritime transport	717.8	2,636.4	1,233.4	1,960.4	1,786.3	1,877.8	1,959.3	1,959.3	173.0%	
Shipbuilding & repair	1,155.8	1,472.5	1,699.3	1,793.4	1,819.4	1,665.0	1,827.3	1,827.3	58.1%	
Coastal tourism	9,689.1	9,689.1	9,689.1	9,689.1	10,210.6	10,368.7	9,598.4	9,564.3	-1.3%	
National economy	*1,752,722*	*1,800,982*	*1,849,498*	*1,873,450*	*1,897,908*	*1,925,074*	*1,963,342*	*1,992,345*	13.7%	
Total BE GVA	15,724	17,991	20,929	17,612	18,249	18,029	17,709	17,721	12.7%	
BE as % of national GVA	**0.90%**	**1.00%**	**1.13%**	**0.94%**	**0.96%**	**0.94%**	**0.90%**	**0.89%**	-0.8%	

France		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	13,442	-15.0%	20.3%	0.22%	1,157	4.3%		22.0%	60%	20%	697	29.4%	15.5%	0.14%	51.8	27.1	-2%
	Aquaculture	16,454	-11.2%			943	0.5%			50%		473	6.0%			28.7	8.3	
	Processing and preserving	12,122	-5.4%			3,789	25.1%			16%		625	11.6%			51.6	29.0	25%
	Wholesale	10,989	-21.0%			7,072	15.2%			10%		734	20.9%			66.8	33.3	49%
	Retail sale	3,623	-22.7%			842	38.3%			25%		210	56.5%			57.8	27.0	55%
Marine extraction of oil and gas	Extraction of crude petroleum	157	-3.5%	0.2%	0.002%	149	0.0%		0.4%	68%	54%	100	0.0%	0.8%	0.01%	639.6	41.0	4%
	Extraction of natural gas	157	-3.5%			0.12	0.0%			0%		-				-	-	
	Support activities	154	250.9%			128	93.0%			37%		48	466.7%			307.8	410.6	34%
Ports, warehousing and water projects	Cargo handling	1,318	3.3%	7.6%	0.08%	230	23.3%		7.1%	36%	33%	82	20.2%	8.4%	0.07%	62.2	35.8	6%
	Warehousing and storage	3,403	5.2%			753	44.3%			29%		215	10.6%			63.1	30.0	17%
	Construction of water projects	6,504	30.6%			1,758	7.1%			20%		350	-71.8%			53.8	41.8	-27%
	Service activities	10,088	14.2%			1,734	48.2%			48%		837	14.9%			83.0	40.1	-10%
Maritime transport	Sea and coastal passenger	5,064	-8.1%	6.3%	0.07%	1,612	82.7%		23.3%	28%	13%	446	86.7%	11.1%	0.10%	88.1	42.9	16%
	Sea and coastal freight	8,341	-5.6%			11,681	29.2%			6%		738	497.4%			88.4	56.9	18%
	Inland passenger	2,323	14.3%			349	13.6%			39%		135	23.0%			58.0	35.5	21%
	Inland freight	1,707	1.8%			341	-8.1%			31%		106	7.8%			62.2	24.7	15%
	Renting and leasing of equipment	158	139.4%			632	3.4%			85%		535	17.2%			3,384.2	32.3	78%
Shipbuilding & repair	Building of pleasure and sporting boats	7,027	-6.4%	10.1%	0.11%	1,211	16.4%		10.9%	32%	27%	390	50.9%	10.3%	0.09%	55.4	29.3	2%
	Building of ships and floating structures	14,593	16.1%			4,565	14.4%			24%		1,110	83.2%			76.1	47.2	21%
	Repair and maintenance	6,597	0.7%			1,055	16.9%			31%		328	12.3%			49.7	27.2	0%
Coastal tourism	Accommodation	48,019	-1.9%	55.5%	0.60%	6,476	4.6%		36.3%	42%	42%	2,720	4.6%	54.0%	0.48%	56.6		
	Transport	35,293	-12.5%			4,945	-9.3%			42%		2,077	-9.3%			58.8	-	
	Other	71,455	-17.1%			11,352	-0.6%			42%		4,768	-0.6%			66.7	-	
	Total Blue Economy (established sectors)	**278,987**	**-2.5%**	**1.09%**		**62,772**	**14.5%**		**28.2%**			**17,721**	**12.7%**	**0.89%**		**63.5**	**33.1**	**3%**
	National jobs and economy	25,669,000	0.5%									1,992,345	13.7%					

GERMANY (DE)

The German blue economy provides 268 000 jobs and generates around EUR 16.6 billion in GVA and EUR 8.8 billion in profits. It is dominated by the maritime transport sector, which contributed 52 % to overall profits in 2016. In terms of employment, maritime transport provides only 10.5 % of the jobs. Coastal tourism produced 49 % of the jobs while generating 24.5 % of GVA and 26 % of the profits. The ports, warehousing and water projects sector is also an important contributor to blue economy-based jobs (13 %), GVA (15.5 %) and profits (11 %).

The German national GDP has been on the rise since 2010. However, the same cannot be said of blue economy GVA, which decreased throughout the same period. Moreover, its contribution to national GDP was at its lowest in 2016, down 33 % on 2009. The blue economy's share of employment has remained relatively steady: it has grown since its lowest point in 2012 both in terms of its contribution to national employment and in overall blue economy jobs.

The average wage in Germany's blue economy in 2016 was EUR 37 300, a 8 % increase on 2009. The average wage increased in all sectors compared to 2009 wages: 19 % in living resources; 6 % in marine extraction of oil and gas; 4 % in ports, warehousing and water projects, 3 % in maritime transport and 7 % in shipbuilding.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Germany										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	41.6	41.6	41.3	43.2	38.5	38.6	42.4	41.7	0.3%	
Marine extraction of oil and gas	5.4	5.4	5.4	5.5	5.4	5.6	5.6	5.6	3.2%	
Ports, warehousing and water projects	27.9	27.2	21.8	21.8	22.6	34.2	34.3	34.9	25.1%	
Maritime transport	39.0	38.4	38.7	29.0	31.2	28.6	28.1	28.1	-27.9%	
Shipbuilding & repair	25.9	25.1	24.6	22.0	24.1	24.8	26.0	26.0	0.2%	
Coastal tourism	130.6	130.6	130.6	130.6	136.9	128.7	132.3	131.7	0.8%	
National employment	*37,808*	*37,337*	*38,045*	*38,321*	*38,640*	*38,908*	*39,176*	*40,165*	6.2%	
Total BE jobs	270.4	268.3	262.3	252.0	258.8	260.6	268.6	267.9	-0.9%	
Blue economy as % of national jobs	**0.72%**	**0.72%**	**0.69%**	**0.66%**	**0.67%**	**0.67%**	**0.69%**	**0.67%**	-6.7%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	1,838.5	1,605.1	1,919.7	2,601.9	1,918.3	1,759.7	2,107.8	2,122.0	15.4%	
Marine extraction of oil and gas	1,168.0	1,168.0	1,191.5	1,406.6	1,158.7	901.0	715.9	715.9	-38.7%	
Ports, warehousing and water projects	2,011.6	2,249.8	1,956.7	2,155.9	1,999.8	2,433.6	2,572.1	2,572.1	27.9%	
Maritime transport	8,850.8	8,445.9	7,469.9	6,985.1	7,380.7	5,429.7	5,856.5	5,856.5	-33.8%	
Shipbuilding & repair	1,463.5	1,491.8	1,517.4	1,557.7	1,529.3	1,539.0	1,240.2	1,240.2	-15.3%	
Coastal tourism	3,906.0	3,906.0	3,906.0	3,906.0	4,039.8	3,902.6	4,104.9	4,066.3	4.1%	
National economy	*2,207,236*	*2,321,695*	*2,428,078*	*2,478,596*	*2,542,656*	*2,639,816*	*2,740,226*	*2,831,942*	28.3%	
Total BE GVA	19,238	18,867	17,961	18,613	18,027	15,966	16,597	16,573	-13.9%	
BE as % of national GVA	**0.87%**	**0.81%**	**0.74%**	**0.75%**	**0.71%**	**0.60%**	**0.61%**	**0.59%**	-32.9%	

Germany		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector / Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,482	-3.1%	15.6%	0.10%	155	13.5%		30.8%	62%	9%	96	47.9%	12.8%	0.07%	65.0	24.7	-2%
	Aquaculture	60	3.4%			15	193.2%			62%		9	248.2%			155.6	55.0	10%
	Processing and preserving	7,061	-15.8%			2,067	-5.2%			18%		372	8.8%			52.7	28.1	8%
	Wholesale	25,864	7.8%			21,836	69.0%			7%		1,497	14.9%			57.9	31.3	24%
	Retail sale	7,228	-5.1%			503	22.3%			29%		147	17.5%			20.3	8.4	7%
Marine extraction of oil and gas	Extraction of crude petroleum	-		2.1%	0.01%	-			4.2%		22%	-		4.3%	0.03%			
	Extraction of natural gas	3,927	4.6%			2,978	7.8%			24%		716	-38.7%			182.3	96.4	7%
	Support activities	1,642	0.0%			336	0.0%			0%		-				-	52.4	0%
Ports, warehousing and water projects	Cargo handling	3,318	63.4%	13.0%	0.09%	513	80.4%		6.2%	50%	52%	258	106.3%	15.5%	0.09%	77.9	40.4	33%
	Warehousing and storage	8,370	62.1%			1,110	97.3%			29%		319	49.0%			38.2	22.9	-5%
	Construction of water projects	2,598	-1.9%			449	48.1%			38%		172	46.5%			66.1	35.1	8%
	Service activities	20,623	14.1%			2,918	13.0%			62%		1,823	17.2%			88.4	43.5	7%
Maritime transport	Sea and coastal passenger	3,344	108.5%	10.5%	0.07%	2,831	665.9%		39.5%	33%	19%	932	326.6%	35.3%	0.21%	278.6	37.2	11%
	Sea and coastal freight	13,635	-49.1%			25,938	23.7%			16%		4,120	-40.5%			302.1	49.4	16%
	Inland passenger	5,819	30.9%			462	12.0%			49%		224	20.7%			38.5	16.7	-7%
	Inland freight	4,296	5.2%			1,999	21.3%			24%		470	-27.7%			109.4	29.9	14%
	Renting and leasing of equipment	1,047	-49.4%			293	-79.8%			38%		111	-87.3%			105.8	8.9	52%
Shipbuilding & repair	Building of pleasure and sporting boats	7,873	110.1%	9.7%	0.06%	1,920	95.3%		7.2%	24%	21%	462	80.0%	7.5%	0.04%	58.7	40.8	13%
	Building of ships and floating structures	13,041	-14.7%			2,982	-23.1%			16%		467	-40.4%			35.8	50.8	11%
	Repair and maintenance	5,055	-26.4%			879	-29.8%			35%		311	-26.5%			61.6	34.1	-1%
Coastal tourism	Accommodation	73,731	3.7%	49.1%	0.33%	3,602	12.5%		12.1%	42%	42%	1,513	12.5%	24.5%	0.14%	20.5		
	Transport	24,720	-10.6%			2,777	-10.2%			42%		1,166	-10.2%			47.2	-	
	Other	33,203	4.5%			3,303	9.8%			42%		1,387	9.8%			41.8	-	
	Total Blue Economy (established sectors)	**267,937**	**-0.9%**	**0.67%**		**79,867**	**27.3%**			**20.8%**		**16,573**	**-13.9%**	**0.59%**		**62.2**	**37.3**	**8%**
	National jobs and economy	40,165,000	6.2%									2,831,942	28.3%					

GREECE (EL)

The blue economy sectors in Greece employ over 333 500 people and generates around EUR 7.2 billion in GVA. Overall, blue economy jobs increased by 56 % and GVA by 21 % compared to 2009. Greece's blue economy is dominated by the coastal tourism sector, which contributed 76 % to jobs, 67 % to GVA and 82 % to overall profits in 2016. Maritime transport is also a large contributor, with 16 % of GVA and 11 % of the profits. The living resource sector on the other hand generates 11.5% of the jobs but contributes only 4% to GVA.

The blue economy has had a significant positive impact on Greek GDP and employment. While the national GDP fell strongly (28.5 %) between 2009 and 2016, blue economy GVA rose (21 %). Additionally, the percentage that the blue economy contributes to overall national GVA reached 4.7 % in 2016, which is a 70 % increase from the 2009 figure, when it stood at 2.8 %.

The same can be said for jobs: where the national levels fell overall, blue economy-based jobs grew by approximately 56 %. The share of jobs covered by the blue economy now amounts to around 9.2 %, whereas in 2009 this figure was about 4.8 %, reflecting a 93 % increase.

The average wage in the Greek blue economy in 2016 was EUR 26 900, a 13 % decrease on 2009. While the average wage decreased compared to 2009 wages in living resources (54 %) and shipbuilding (26 %), it increased significantly in ports (75 %) and maritime transport (24 %), which are among the highest paying sectors — the average wages in 2016 for those two sectors were EUR 37 200 and EUR 33 500 respectively.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Greece										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	11.5	12.5	11.9	38.5	39.0	39.3	39.1	38.5	233.6%	
Marine extraction of oil and gas	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8%	
Ports, warehousing and water projects	6.8	6.7	6.1	5.7	6.3	6.3	15.6	15.6	129.0%	
Maritime transport	19.6	17.7	17.6	16.0	15.3	16.0	17.8	19.2	-1.9%	
Shipbuilding & repair	9.2	8.8	6.2	6.4	5.4	5.5	7.5	7.5	-18.5%	
Coastal tourism	166.6	166.6	166.6	166.6	203.9	212.8	227.0	252.5	51.6%	
National employment	*4,469*	*4,306*	*3,979*	*3,636*	*3,459*	*3,480*	*3,548*	*3,610*	-19.2%	
Total BE jobs	213.9	212.5	208.6	233.3	270.0	280.2	307.1	333.5	55.9%	
Blue economy as % of national jobs	**4.79%**	**4.93%**	**5.24%**	**6.42%**	**7.81%**	**8.05%**	**8.66%**	**9.24%**	93.0%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	350.8	321.7	323.4	264.9	168.7	626.6	218.0	297.2	-15.3%	
Marine extraction of oil and gas	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	0.0%	
Ports, warehousing and water projects	330.8	342.3	275.8	256.5	268.0	269.7	718.3	718.3	117.1%	
Maritime transport	1,015.4	694.2	615.3	687.5	633.7	730.7	1,120.6	1,120.6	10.4%	
Shipbuilding & repair	430.0	256.0	228.1	194.0	167.1	177.5	210.0	210.0	-51.2%	
Coastal tourism	3,813.7	3,813.7	3,813.7	3,813.7	4,668.5	4,960.6	4,426.8	4,837.0	26.8%	
National economy	*212,391*	*199,644*	*181,909*	*168,979*	*160,237*	*157,913*	*155,707*	*151,818*	-28.5%	
Total BE GVA	5,949	5,436	5,264	5,225	5,914	6,773	6,702	7,191	20.9%	
BE as % of national GVA	**2.80%**	**2.72%**	**2.89%**	**3.09%**	**3.69%**	**4.29%**	**4.30%**	**4.74%**	69.1%	

Greece		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	24,759				-						-				-	-	
	Aquaculture	5,129				744				16%		119				23.2	19.0	
	Processing and preserving	1,379	15.6%	11.5%	1.07%	222	39.8%		13.0%	20%	13%	45	3.7%	4.1%	0.20%	32.5	13.9	-5%
	Wholesale	3,870	-32.7%			1,125	-43.8%			11%		125	-45.8%			32.3	12.9	-14%
	Retail sale	3,353	-27.0%			204	-37.7%			4%		8	-89.2%			2.5	2.4	12%
Marine extraction of oil and gas	Extraction of crude petroleum	20	0.0%			13	0.0%			0%		-				-	66.7	0%
	Extraction of natural gas	-		0.1%	0.005%	-			0.2%		28%	-		0.11%	0.01%			
	Support activities	150	0.9%			16	0.9%			52%		8	0.0%			54.1	37.4	0%
Ports, warehousing and water projects	Cargo handling	822	61.7%			86	111.1%			46%		40	151.2%			48.5	22.1	19%
	Warehousing and storage	497	-21.5%	4.7%	0.43%	46	-14.2%		7.0%	34%	58%	16	-14.2%	10.0%	0.47%	31.8	16.6	-7%
	Construction of water projects	1,405	-48.4%			246	-11.2%			11%		28	-70.6%			19.9	14.1	13%
	Service activities	12,913	335.5%			857	222.8%			74%		635	214.8%			49.2	41.5	36%
Maritime transport	Sea and coastal passenger	7,675	-34.8%			1,181	-28.9%			46%		539	-26.6%			70.2	29.9	-9%
	Sea and coastal freight	10,298	105.0%			928	107.4%			59%		552	123.7%			53.6	39.7	48%
	Inland passenger	-		5.8%	0.53%	-			12.4%		51%	-		15.6%	0.74%			
	Inland freight	-				-						-						
	Renting and leasing of equipment	1,264	-55.2%			81	65.4%			37%		30	-13.2%			23.5	4.0	41%
Shipbuilding & repair	Building of pleasure and sporting boats	221	6.8%			15	42.6%			29%		5	25.0%			20.4	11.3	-33%
	Building of ships and floating structures	1,389	-66.1%	2.2%	0.21%	149	-64.9%		2.4%	45%	50%	67	-75.4%	2.9%	0.14%	48.4	22.5	-12%
	Repair and maintenance	5,851	20.7%			252	7.3%			55%		138	-9.7%			23.6	12.0	-11%
Coastal tourism	Accommodation	121,084	53.8%			4,650	35.2%			42%		1,953	35.2%			16.1		
	Transport	27,181	47.0%	75.7%	7.00%	2,708	31.2%		65.1%	42%	42%	1,137	31.2%	67.3%	3.19%	41.8	-	
	Other	104,279	50.3%			4,159	16.3%			42%		1,747	16.3%			16.7	-	
	Total Blue Economy (established sectors)	**333,538**	**55.9%**	**9.24%**		**17,682**	**17.4%**			**40.7%**		**7,191**	**20.9%**	**4.74%**		**23.3**	**26.9**	**31%**
	National jobs and economy	3,610,000	-19.2%									151,818	-28.5%					

HUNGARY (HU)

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 0.32 % in 2016, a 11 % decrease since 2009. The blue economy sectors account for 0.3 % of jobs, an 11 % increase since 2009. It is worth mentioning that blue economy jobs have outperformed the national levels compared to 2009: blue economy jobs grew 29 % against 16 % for national employment, while in terms of GVA growth the opposite patterns were observed, with the blue economy's GVA growing by 4 % against 20 % for domestic GDP.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Hungary										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	2.3	2.1	2.1	2.2	2.4	2.6	2.8	2.8	20.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	6.2	6.1	9.2	11.1	8.4	10.5	9.3	8.7	41.9%	
Maritime transport	1.1	1.1	1.0	1.0	1.0	0.9	0.9	0.9	-17.1%	
Shipbuilding & repair	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.4%	
Coastal tourism	-	-	-	-	-	-	-	-		
National employment	*3,717*	*3,701*	*3,724*	*3,793*	*3,860*	*4,070*	*4,176*	*4,309*	15.9%	
Total BE jobs	9.9	9.6	12.7	14.7	12.2	14.4	13.4	12.8	29.1%	
Blue economy as % of national jobs	**0.27%**	**0.26%**	**0.34%**	**0.39%**	**0.32%**	**0.35%**	**0.32%**	**0.30%**	11.4%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	37.3	35.0	36.6	35.0	43.3	47.8	56.9	56.9	52.8%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	242.6	274.4	277.2	258.4	262.2	283.8	225.3	225.3	-7.1%	
Maritime transport	9.2	8.6	7.5	17.4	18.6	15.0	17.5	17.5	90.2%	
Shipbuilding & repair	3.2	2.5	4.0	3.3	4.2	3.4	4.5	4.5	40.6%	
Coastal tourism	-	-	-	-	-	-	-	-		
National economy	*80,116*	*83,687*	*86,117*	*83,634*	*85,961*	*89,061*	*92,979*	*96,145*	20.0%	
Total BE GVA	292	320	325	314	328	350	304	304	4.1%	
BE as % of national GVA	**0.36%**	**0.38%**	**0.38%**	**0.38%**	**0.38%**	**0.39%**	**0.33%**	**0.32%**	-13.2%	

Hungary		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	-				-						-						
	Aquaculture	-				-						-						
	Processing and preserving	12	-84.6%	21.6%	0.06%	0.6	-87.2%		43.4%	0%	11%	-		18.7%	0.06%	-	-	
	Wholesale	2,542	26.7%			515	24.1%			11%		56	55.2%			22.1	8.4	15%
	Retail sale	209	-0.5%			5.8	38.1%			14%		0.8	60.0%			3.8	1.9	0%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	1,456	18.7%			65	44.4%			35%		23	49.5%			15.7	7.5	21%
	Warehousing and storage	3,936	50.0%	68.2%	0.20%	300	-36.0%		48.0%	51%	39%	155	-20.9%	74.1%	0.23%	39.3	12.0	24%
	Construction of water projects	2,907	55.8%			195	43.7%			20%		40	58.8%			13.7	5.5	-26%
	Service activities	429	-0.9%			17	-74.1%			49%		8.2	20.6%			19.1	6.3	-12%
Maritime transport	Sea and coastal passenger	3.0	-78.6%			4.4	238.5%			0%		-				-	-	-100%
	Sea and coastal freight	6.0	-90.0%			0.9	-66.7%			22%		0.2	-88.2%			33.3	16.7	-9%
	Inland passenger	663	15.5%	6.8%	0.02%	20	54.3%		7.5%	51%	19%	10	52.3%	5.8%	0.02%	14.9	7.2	12%
	Inland freight	109	-63.3%			52	-3.2%			0%		0.2	100.0%			1.8	12.8	41%
	Renting and leasing of equipment	94	-15.3%			13	465.2%			55%		7.2	800.0%			76.6	4.3	57%
Shipbuilding & repair	Building of pleasure and sporting boats	188	-14.5%			6.2	-3.1%			34%		2.1	5.0%			11.2	4.3	-15%
	Building of ships and floating structures	152	111.1%	3.4%	0.01%	4.8	45.5%		1.1%	40%	35%	1.9	375.0%	1.5%	0.00%	12.5	5.9	42%
	Repair and maintenance	89	-25.2%			1.9	-48.6%			26%		0.5	-37.5%			5.6	3.4	-33%
Coastal tourism	Accommodation																	
	Transport																	
	Other																	
	Total Blue Economy (established sectors)	**12,795**	**29.1%**	**0.30%**		**1,202**	**-1.9%**			**25.3%**		**304**	**4.1%**	**0.32%**		**23.8**	**8.4**	**11%**
	National jobs and economy	4,309,000	15.9%									96,145	20.0%					

IRELAND (IE)[56]

The Irish blue economy employs over 40 000 people and generates around EUR 1.9 billion in GVA. It is dominated by the coastal tourism sector, which contributed 78 % to jobs, 67 % to GVA and 65 % to overall profits in 2016.

Overall, the blue economy's GVA increased 37 % compared to 2009, increasing in all sectors: 75 % in living resources, 83 % in ports, warehousing and water projects. 68 % in maritime transport, 18 % in shipbuilding and 25 % in coastal tourism. Likewise, overall blue economy jobs increased 18.4 % compared to 2009. However, the number of jobs decreased in living resources and maritime transport, while coastal tourism and ports, warehousing and water projects saw significant increases in jobs, with a less sharp increase for the shipbuilding sector.

Although the share of the blue economy in national Irish GDP is relatively low (never above 1 % over the reporting period) it has seen an overall increase of 12 %, the most substantial change taking place between 2015 and 2016. On a more positive note, national GDP and blue economy GVA both grew in 2016. For employment, the data clearly shows that blue economy jobs are now at their highest level for the period under analysis, as is the blue economy's percentage of overall jobs, which grew by 18 %.

The average wage in the Irish blue economy in 2016 was EUR 25 900, a 37 % increase on 2009. This increase was due to the living resources sector, where average wages increased 60 % compared to 2009. The average wages decreased in ports (-13 %) and maritime transport (-24 %), with shipbuilding displaying a slight increase (5 %).

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

56. 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).

Ireland										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	41.0%	
Maritime transport	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	-21.9%	
Shipbuilding & repair	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	8.3%	
Coastal tourism	23.5	23.5	23.5	23.5	22.5	22.1	25.3	31.0	31.7%	
Living resources	8.7	8.1	7.0	7.0	7.2	7.3	7.6	7.6	-13.2%	
National employment	*1,970*	*1,879*	*1,841*	*1,831*	*1,885*	*1,932*	*1,994*	*2,067*	4.9%	
Total BE jobs	33.7	33.2	31.9	31.9	31.0	30.8	34.2	40.0	18.4%	
Blue economy as % of national jobs	**1.71%**	**1.77%**	**1.73%**	**1.74%**	**1.64%**	**1.60%**	**1.72%**	**1.93%**	12.9%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	209.4	234.7	297.9	329.2	291.6	345.2	293.6	366.5	75.0%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	12.1	10.4	14.1	14.3	14.9	22.5	22.1	22.1	82.8%	
Maritime transport	130.1	147.3	140.7	146.3	170.5	167.7	217.9	217.9	67.5%	
Shipbuilding & repair	18.8	20.5	23.3	17.3	27.2	26.7	27.0	22.2	18.3%	
Coastal tourism	1,000.7	1,000.7	1,000.7	1,000.7	1,059.6	1,082.8	1,034.3	1,251.5	25.1%	
National economy	*152,160*	*151,871*	*156,665*	*159,685*	*165,714*	*178,583*	*243,302*	*255,269*	67.8%	
Total BE GVA	1,371	1,414	1,477	1,508	1,564	1,645	1,595	1,880	37.1%	
BE as % of national GVA	**0.90%**	**0.93%**	**0.94%**	**0.94%**	**0.94%**	**0.92%**	**0.66%**	**0.74%**	-18.3%	

Ireland		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector / Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	3,436	-29.7%			290	59.6%			64%		187	168.8%			54.5	20.8	121%
	Aquaculture	1,821	-6.7%			135	22.1%			36%		49	48.2%			27.0	15.5	21%
	Processing and preserving	2,336	22.5%	19.0%	0.37%	646	36.8%		21.8%	20%	34%	130	22.0%	19.5%	0.14%	55.7	37.5	12%
	Wholesale	-				-						-						
	Retail sale	-				-						-						
Marine extraction of oil and gas	Extraction of crude petroleum	-				-						-						
	Extraction of natural gas	-				-						-						
	Support activities	-				-						-						
Ports, warehousing and water projects	Cargo handling	-				-						-						
	Warehousing and storage	95	-5.8%	0.6%	0.01%	16	-37.8%		0.9%	33%	52%	5	-34.0%	1.2%	0.01%	55.0	37.2	-8%
	Construction of water projects	150	105.5%			27	110.9%			63%		17	302.4%			112.7	27.3	-5%
	Service activities	-				-						-						
Maritime transport	Sea and coastal passenger	318	-40.8%			416	1.8%			34%		142	38.8%			446.5	34.6	-20%
	Sea and coastal freight	323	7.3%			316	12.3%			22%		69	230.1%			213.6	33.1	-31%
	Inland passenger	60	0.0%	1.8%	0.03%	26	0.0%		15.4%	26%	29%	7	0.0%	11.6%	0.09%	115.0	31.7	0%
	Inland freight	-				-						-						
	Renting and leasing of equipment	-				-						-						
Shipbuilding & repair	Building of pleasure and sporting boats	43	-15.0%			5	-18.6%			41%		2	-21.3%			45.4	24.6	-22%
	Building of ships and floating structures	111	0.0%	1.1%	0.02%	17	0.0%		1.4%	30%	33%	5	0.0%	1.2%	0.01%	46.8	35.1	0%
	Repair and maintenance	268	17.5%			46	44.1%			33%		15	35.8%			56.2	32.3	13%
Coastal tourism	Accommodation	19,972	26.8%			1,343	31.6%			42%		564	31.6%			28.2		
	Transport	2,340	80.5%	77.6%	1.50%	593	23.2%		60.6%	42%	42%	249	23.2%	66.6%	0.49%	106.4	-	
	Other	8,696	33.9%			1,044	18.5%			42%		439	18.5%			50.4	-	
	Total Blue Economy (established sectors)	**39,968**	**18.4%**	1.93%		**4,920**	**24.3%**			**38.2%**		**1,880**	**37.1%**	**0.74%**		**47.0**	25.9	37%
	National jobs and economy	2,067,000	4.9%									255,269	67.8%					

ITALY (IT)

The Italian blue economy employs over 390 000 people and generates around EUR 19.7 billion in GVA. It is dominated by the coastal tourism sector, which contributed 51.2 % to jobs, 43 % to GVA and 50 % to overall profits in 2016. Maritime transport is also an important contributor to the blue economy, generating 13.3 % of jobs, 21 % of GVA and 24 % of the profits. Overall, blue economy-based jobs decreased by 6 %, while GVA has seen a 7 % increase compared to 2009.

Italy's national GDP has slightly increased in recent years and the blue economy's contribution has remained more or less stable. As for blue economy GVA, after seeing a downward trend in 2011-2014, a rise has been observed since. Employment has fallen at the national level and even more so for the blue economy. Nevertheless, the blue economy share of overall employment has remained relatively stable over the reporting period.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Italy										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	68.6	69.2	67.6	70.6	67.9	67.0	66.6	66.6	-2.9%	
Marine extraction of oil and gas	9.6	10.0	9.9	9.6	9.2	9.6	9.5	9.4	-1.6%	
Ports, warehousing and water projects	36.3	34.9	33.2	32.2	32.4	31.4	31.5	31.5	-13.2%	
Maritime transport	34.5	32.3	31.8	30.8	28.8	47.8	49.3	51.8	50.0%	
Shipbuilding & repair	42.4	38.4	35.3	32.1	30.2	30.4	31.3	31.3	-26.2%	
Coastal tourism	222.8	222.8	222.8	222.8	196.4	178.7	183.6	199.7	-10.4%	
National employment	*22,324*	*22,152*	*22,215*	*22,149*	*21,755*	*21,810*	*21,973*	*22,241*	-0.4%	
Total BE jobs	414.2	407.7	400.7	398.2	364.9	364.9	371.9	390.3	-5.8%	
Blue economy as % of national jobs	**1.86%**	**1.84%**	**1.80%**	**1.80%**	**1.68%**	**1.67%**	**1.69%**	**1.75%**	-5.4%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	2,161.5	2,154.0	2,296.0	2,038.7	2,078.8	1,992.7	2,371.7	2,325.0	7.6%	
Marine extraction of oil and gas	1,526.0	1,971.8	1,941.6	1,707.3	1,327.4	1,237.5	1,386.0	1,386.0	-9.2%	
Ports, warehousing and water projects	1,608.4	1,774.4	1,749.3	1,832.8	1,883.2	1,811.8	1,933.3	1,933.3	20.2%	
Maritime transport	2,726.3	3,811.7	3,089.8	2,888.2	3,006.4	3,526.6	4,089.1	4,089.1	50.0%	
Shipbuilding & repair	1,669.2	1,453.3	1,670.2	1,315.1	1,348.9	1,560.8	1,511.8	1,511.8	-9.4%	
Coastal tourism	8,791.3	8,791.3	8,791.3	8,791.3	7,887.6	7,418.9	7,860.2	8,502.2	-3.3%	
National economy	*1,421,651*	*1,443,247*	*1,470,334*	*1,448,021*	*1,444,106*	*1,457,859*	*1,485,086*	*1,508,666*	6.1%	
Total BE GVA	18,483	19,957	19,538	18,573	17,532	17,548	19,152	19,747	6.8%	
BE as % of national GVA	**1.30%**	**1.38%**	**1.33%**	**1.28%**	**1.21%**	**1.20%**	**1.29%**	**1.31%**	0.7%	

Italy		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	25,548	-12.6%	17.1%	0.30%	861	-35.3%		17.7%	59%	14%	506	-40.4%	11.8%	0.15%	19.8	8.0	-29%
	Aquaculture	5,112	-13.1%			605	-6.6%			38%		231	10.4%			45.1	26.5	51%
	Processing and preserving	5,608	5.0%			2,388	8.0%			15%		366	23.9%			65.3	27.2	28%
	Wholesale	19,217	13.7%			11,870	31.8%			9%		1,064	67.3%			55.3	20.1	8%
	Retail sale	11,117	-1.3%			1,051	9.8%			15%		159	-8.4%			14.3	5.4	31%
Marine extraction of oil and gas	Extraction of crude petroleum	65	29.2%	2.4%	0.04%	130	-28.4%		34.8%	50%	4%	65	-49.6%	7.0%	0.09%	996.3	73.0	0%
	Extraction of natural gas	8,535	-2.1%			31,887	-17.9%			4%		1,143	-10.8%			133.9	69.2	8%
	Support activities	819	2.1%			860	47.6%			21%		178	54.1%			217.7	53.4	-4%
Ports, warehousing and water projects	Cargo handling	11,170	-17.5%	8.1%	0.14%	613	9.2%		4.7%	54%	44%	331	5.4%	9.8%	0.13%	29.7	20.2	21%
	Warehousing and storage	262	-7.6%			52	8.5%			45%		23	68.5%			88.8	23.4	7%
	Construction of water projects	6,740	-29.5%			1,248	-54.7%			31%		391	-21.8%			58.0	27.6	18%
	Service activities	13,355	3.1%			2,494	33.5%			48%		1,188	52.2%			88.9	32.7	15%
Maritime transport	Sea and coastal passenger	37,690	123.9%	13.3%	0.23%	5,291	-4.0%		12.7%	40%	34%	2,098	14.1%	20.7%	0.27%	55.7	20.6	-50%
	Sea and coastal freight	10,706	-9.8%			6,119	18.2%			29%		1,761	139.5%			164.5	56.2	25%
	Inland passenger	2,156	-14.8%			389	182.0%			26%		102	11.5%			47.2	16.2	-18%
	Inland freight	596	6.8%			46	18.5%			57%		26	53.6%			43.3	19.1	19%
	Renting and leasing of equipment	603	-77.7%			182	-37.1%			57%		103	132.5%			170.8	26.4	113%
Shipbuilding & repair	Building of pleasure and sporting boats	7,034	-44.3%	8.0%	0.14%	1,733	-38.3%		8.7%	20%	18%	339	-26.0%	7.7%	0.10%	48.1	29.7	24%
	Building of ships and floating structures	15,767	-18.9%			5,594	45.6%			15%		814	-7.0%			51.6	33.0	24%
	Repair and maintenance	8,484	-17.6%			887	-14.4%			41%		360	6.6%			42.4	19.3	8%
Coastal tourism	Accommodation	104,667	-14.0%	51.2%	0.90%	9,010	-1.2%		21.4%	42%	42%	3,784	-1.2%	43.1%	0.56%	36.2		
	Transport	24,350	-17.2%			4,083	-8.6%			42%		1,715	-8.6%			70.4	-	
	Other	70,701	-1.4%			7,150	-2.6%			42%		3,003	-2.6%			42.5	-	
Total Blue Economy (established sectors)		**390,301**	**-5.8%**	1.75%		**94,542**	**-4.3%**		**20.9%**			**19,747**	**6.8%**	**1.31%**		**50.6**	25.0	3%
National jobs and economy		22,241,000	-0.4%									1,508,666	6.1%					

LATVIA (LV)

The Latvian blue economy employs over 22 900 people and generates around EUR 449 billion in GVA. It is dominated by the ports, warehousing and water projects sector, which contributed 20 % to jobs and 42.6 % to overall profits in 2016. The coastal tourism sector is also an important contributor, generating 44 % of jobs and 30.5 % of GVA. Overall, the blue economy GVA increased by almost 19 % compared to 2009, as a result of the increase in ports and living resources as all other sectors suffered declines. Overall, blue economy jobs decreased by 12 % compared to 2009. Jobs increased only in the ports sector (+33 %) while decreasing in all other blue economy sectors that were analysed.

The share of the blue economy towards national GDP dropped by 7 % between 2009 and 2016. The same trend can be observed for employment, where the national and blue economy levels have declined and in 2016, were below 2009 levels. The percentage of blue economy employment in terms overall employment levels decreased by 10 % during the reporting period.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Latvia										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	7.3	7.5	6.9	7.4	7.8	7.2	5.7	5.3	-27.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	3.4	3.2	4.0	4.2	4.2	4.4	4.5	4.5	33.0%	
Maritime transport	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.9	-17.1%	
Shipbuilding & repair	2.6	2.2	2.2	2.5	2.3	2.0	2.1	2.1	-20.5%	
Coastal tourism	11.7	11.7	11.7	11.7	10.8	11.0	10.0	10.1	-13.5%	
National employment	*877*	*829*	*841*	*852*	*867*	*859*	*868*	*862*	-1.7%	
Total BE jobs	26.1	25.6	25.8	26.7	26.0	25.7	23.1	22.9	-12.2%	
Blue economy as % of national jobs	**2.97%**	**3.09%**	**3.07%**	**3.14%**	**3.00%**	**2.99%**	**2.66%**	**2.65%**	-10.7%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	58.1	64.6	62.5	77.1	88.1	77.4	72.8	74.3	27.9%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	108.5	98.4	152.3	175.2	174.1	181.3	191.4	191.4	76.5%	
Maritime transport	21.3	14.9	9.7	8.4	8.7	20.6	18.4	18.4	-13.5%	
Shipbuilding & repair	31.4	26.7	27.5	31.3	30.1	26.6	28.1	28.1	-10.6%	
Coastal tourism	157.4	157.4	157.4	157.4	155.5	151.6	135.2	137.0	-13.0%	
National economy	*16,861*	*15,814*	*17,949*	*19,517*	*20,110*	*20,795*	*21,362*	*21,685*	28.6%	
Total BE GVA	377	362	409	449	456	458	446	449	19.3%	
BE as % of national GVA	**2.23%**	**2.29%**	**2.28%**	**2.30%**	**2.27%**	**2.20%**	**2.09%**	**2.07%**	-7.3%	

Latvia		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	678	-59.3%	23.2%	0.62%	21	-5.3%		30.6%	62%	19%	13	6.8%	16.5%	0.34%	18.9	4.3	110%
	Aquaculture	-				-						-						
	Processing and preserving	3,783	-20.0%			153	0.0%			29%		45	50.8%			11.8	5.5	46%
	Wholesale	740	-11.6%			210	39.1%			8%		17	2.4%			22.6	8.4	39%
	Retail sale	112	30.2%			1.5	-16.7%			13%		0.2	0.0%			1.8	1.8	-23%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	2,447	6.7%	19.6%	0.52%	246	20.7%		33.8%	39%	45%	97	15.6%	42.6%	0.88%	39.6	13.1	22%
	Warehousing and storage	19	61.1%			0.9	60.9%			37%		0.3	75.4%			18.2	7.8	14%
	Construction of water projects	778	-13.7%			75	-27.2%			23%		17	-14.9%			22.0	12.1	33%
	Service activities	1,233	680.4%			102	1578.7%			75%		77	1691%			62.4	17.4	45%
Maritime transport	Sea and coastal passenger	421	-18.1%	3.7%	0.10%	-			4.1%		36%	-		4.1%	0.08%	-	-	
	Sea and coastal freight	186	-59.1%			37	-12.6%			27%		10	-45.4%			53.8	25.3	24%
	Inland passenger	39	290.0%			0.3	-29.2%			65%		0.2	-38.9%			4.7	0.9	
	Inland freight	140	536.4%			7.8	1850.0%			72%		5.6	2700%			40.0	21.4	371%
	Renting and leasing of equipment	65	160.0%			6.0	4.3%			43%		2.6	6.1%			40.0	18.5	-58%
Shipbuilding & repair	Building of pleasure and sporting boats	316	161.2%	9.1%	0.24%	6.0	75.3%		5.5%	35%	40%	2.1	15.6%	6.3%	0.13%	6.6	3.5	-39%
	Building of ships and floating structures	648	-23.0%			29	2.3%			42%		12	9.0%			18.7	8.8	29%
	Repair and maintenance	1,127	-32.4%			35	-19.0%			40%		14	-24.9%			12.3	6.1	40%
Coastal tourism	Accommodation	4,510	22.0%	44.3%	1.18%	108	15.0%		26.0%	42%	42%	46	15.0%	30.5%	0.63%	10.1		
	Transport	1,618	-20.9%			88	-15.5%			42%		37	-15.5%			22.7	-	
	Other	4,019	-32.9%			130	-26.4%			42%		55	-26.4%			13.6	-	
	Total Blue Economy (established sectors)	**22,879**	**-12.2%**	**2.65%**		**1,256**	**10.3%**			**35.7%**		**449**	**19.3%**	**2.07%**		**20.0**	**9.4**	**52%**
	National jobs and economy	862,000	-1.7%									21,685	28.6%					

LITHUANIA (LT)

The Lithuanian blue economy employs over 17 900 people and generates around EUR 430 billion in GVA. It is dominated by the living resources sector, which accounted for 39 % of jobs, 34 % of GVA and 36 % to overall profits in 2016, and where most (67 %) of the net investment was concentrated. Ports, warehousing and water projects are also a large contributor, generating 28 % of GVA, 36 % and of the profits while providing 12.5 % of jobs.

Overall, the blue economy GVA increased 25 % compared to 2009 while its share to the national economy decreased 12 %. In 2016, the blue economy GVA contributed 1.2 % of GVA, down from 1.41 % in 2009. Blue economy-based GVA growth has been on the rise since 2013 and by 2016 was at a higher level than in 2009. Lithuania's national GDP also increased and reached its highest level in 2016. The percentage of GVA for which the blue economy is responsible for has varied. It saw an upward trend in 2009-2010, a decline until 2013 and a recovery thereafter. In terms of employment, the blue economy has decreased by 11.5 % on 2009, as did its share (-13.4 %).

The average wage in 2016 was EUR 9 900, a 13 % increase on 2009. Compared to 2009 wages, average wage increased in all blue economy sectors.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Lithuania										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	6.1	6.3	6.2	6.3	6.6	6.8	7.3	6.9	12.9%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	2.8	2.5	2.7	2.4	2.4	2.3	2.2	2.2	-20.2%	
Maritime transport	1.8	1.8	1.6	1.6	1.6	1.5	1.4	1.4	-19.0%	
Shipbuilding & repair	5.3	3.7	4.0	3.8	4.2	4.2	4.0	4.0	-24.4%	
Coastal tourism	4.1	4.1	4.1	4.1	3.5	3.1	3.0	3.2	-21.7%	
National employment	*1,290*	*1,224*	*1,226*	*1,244*	*1,264*	*1,288*	*1,301*	*1,318*	2.2%	
Total BE jobs	20.1	18.4	18.6	18.3	18.4	18.0	18.0	17.8	-11.5%	
Blue economy as % of national jobs	**1.56%**	**1.50%**	**1.51%**	**1.47%**	**1.46%**	**1.40%**	**1.38%**	**1.35%**	-13.4%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	78.5	71.1	91.4	89.0	94.1	123.8	108.0	148.9	89.8%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	92.9	89.2	107.7	108.0	105.0	119.8	120.1	120.1	29.2%	
Maritime transport	56.6	56.6	34.5	34.0	34.1	34.2	45.8	45.8	-19.2%	
Shipbuilding & repair	70.0	70.8	49.2	34.1	46.3	61.2	76.9	76.9	9.9%	
Coastal tourism	45.8	45.8	45.8	45.8	37.9	35.2	35.7	38.4	-16.1%	
National economy	*24,300*	*25,210*	*28,160*	*30,165*	*31,690*	*33,068*	*33,709*	*34,789*	43.2%	
Total BE GVA	344	334	329	311	317	374	386	430	25.1%	
BE as % of national GVA	**1.41%**	**1.32%**	**1.17%**	**1.03%**	**1.00%**	**1.13%**	**1.15%**	**1.24%**	-12.6%	

Lithuania		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	**Sub-sector /Iindustry**	**2016**	**%Δ 2016-09**	**Sector share of BE jobs**	**Sector share of national jobs**	**2016**	**%Δ 2016-09**	**Trend 2009-2016**	**Sector share of BE turnover**	**Industry GVA to turnover**	**Sector GVA to turnover**	**2016**	**%Δ 2016-09**	**Sector share of BE GVA**	**Sector share of national GDP**			
Living resources	Capture fisheries	705	-1.0%			90	46.6%			39%		35	135.2%			49.1	9.3	12%
	Aquaculture	-				-						-						
	Processing and preserving	5,013	18.1%	38.7%	0.52%	464	99.4%		53.7%	18%	17%	85	69.5%	34.6%	0.43%	16.9	6.3	15%
	Wholesale	1,135	0.0%			335	101.7%			9%		30	113.7%			26.1	8.8	46%
	Retail sale	41	215.4%			1.0	900.0%			10%		0.1				2.4	2.4	
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	1,045	2.9%			105	76.0%			50%		53	61.3%			50.3	14.9	32%
	Warehousing and storage	18	68.8%	12.5%	0.17%	0.9	92.4%		15.1%	31%	48%	0.3	41.3%	27.9%	0.35%	15.7	8.1	12%
	Construction of water projects	611	-45.3%			59	29.7%			13%		7.8	-50.3%			12.8	9.3	12%
	Service activities	558	-14.7%			85	52.4%			70%		60	33.7%			106.6	15.8	24%
Maritime transport	Sea and coastal passenger	-				-						-						
	Sea and coastal freight	1,258	-21.5%			164	11.4%			24%		39	-26.2%			30.9	16.6	16%
	Inland passenger	137	-4.5%	8.1%	0.11%	4.7	6.8%		13.7%	71%	20%	3.4	-1.5%	10.6%	0.13%	24.5	8.4	0%
	Inland freight	-				-						-						
	Renting and leasing of equipment	45	40.6%			58	2550.0%			6%		3.5	600.0%			77.8	15.6	398%
Shipbuilding & repair	Building of pleasure and sporting boats	194	16.9%			11	86.2%			36%		3.9	254.5%			20.1	9.8	35%
	Building of ships and floating structures	893	-47.7%	22.6%	0.31%	52	-5.9%		12.1%	37%	39%	19	-42.5%	17.9%	0.22%	21.5	12.4	0.1%
	Repair and maintenance	2,946	-15.0%			137	-29.8%			39%		54	51.5%			18.3	10.3	24%
Coastal tourism	Accommodation	1,419	10.7%			38	32.0%			42%		16	32.0%			11.2		
	Transport	523	-53.7%	18.1%	0.25%	21	-47.7%		5.5%	42%	42%	9.0	-47.7%	8.9%	0.11%	17.1	-	
	Other	1,293	-24.9%			32	-18.3%			42%		14	-18.3%			10.5	-	
Total Blue Economy (established sectors)		**17,833**	**-11.5%**		**1.35%**	**1,657**	**45.3%**				**26.0%**	**430**	**25.1%**		**1.24%**	**24.1**	**9.9**	**13%**
National jobs and economy		1,318,000	2.2%									34,789	43.2%					

LUXEMBOURG (LU)

Blue growth is not just for coastal states. Landlocked states have the opportunity to develop and grow their own blue economies. In Luxembourg, the blue economy employs just around 110 persons but generates around EUR 6.5 million in GVA, mainly due to ports, warehousing and water projects.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Luxembourg										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-4.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	0.11	0.08	0.07	0.06	0.06	0.09	0.09	0.09	-16.7%	
Maritime transport	-	-	-	-	-	-	-	-		
Shipbuilding & repair	-	-	-	-	-	-	-	-		
Coastal tourism	-	-	-	-	-	-	-	-		
National employment	*215*	*219*	*222*	*234*	*236*	*243*	*255*	*259*	20.5%	
Total BE jobs	0.13	0.09	0.08	0.07	0.07	0.11	0.11	0.11	-15.4%	
Blue economy as % of national jobs	**0.06%**	**0.04%**	**0.04%**	**0.03%**	**0.03%**	**0.04%**	**0.04%**	**0.04%**	-29.8%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	19.0%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	6.2	6.3	6.0	5.5	5.5	6.5	6.5	6.5	5.7%	
Maritime transport	-	-	-	-	-	-	-	-		
Shipbuilding & repair	-	-	-	-	-	-	-	-		
Coastal tourism	-	-	-	-	-	-	-	-		
National economy	*33,135*	*36,137*	*38,739*	*39,386*	*41,527*	*44,573*	*47,192*	*48,014*	44.9%	
Total BE GVA	6.5	6.6	6.3	5.9	5.9	6.9	6.9	6.9	6.3%	
BE as % of national GVA	**0.02%**	**0.02%**	**0.02%**	**0.01%**	**0.01%**	**0.02%**	**0.01%**	**0.01%**	-26.6%	

Luxembourg		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	-				-						-						
	Aquaculture	-				-						-						
	Processing and preserving	-		11.6%	0.00%	-			13.7%		17%	-		5.2%	0.00%			
	Wholesale	-				-						-						
	Retail sale	12.4	-4.4%			2.1	8.3%			17%		0.36	19.0%			28.7	20.7	-10%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	95	-16.7%			13.0	13.1%			50%		6.5	5.7%			68.7	40.1	2%
	Warehousing and storage	-		88.4%	0.04%	-			86.3%		50%	-		94.8%	0.01%			
	Construction of water projects	-				-						-						
	Service activities	-				-						-						
Maritime transport	Sea and coastal passenger																	
	Sea and coastal freight																	
	Inland passenger																	
	Inland freight																	
	Renting and leasing of equipment																	
Shipbuilding & repair	Building of pleasure and sporting boats																	
	Building of ships and floating structures																	
	Repair and maintenance																	
Coastal tourism	Accommodation																	
	Transport																	
	Other																	
	Total Blue Economy (established sectors)	**107**	**-15.4%**		**0.04%**	**15**	**12.4%**			**45.5%**		**7**	**6.3%**		**0.01%**	**64.1**	**37.8**	**1%**
	National jobs and economy	259,000	20.5%									48,014	44.9%					

MALTA (MT)

The Maltese blue economy employs around 10 400 people and generates EUR 406 million in GVA. As an island state, it is clearly dominated by the coastal tourism sector, which contributed 72.5 % to the total of blue economy jobs and 75.4 % to GVA in 2016. Living resources is also an important contributor to blue economy jobs (20.5 % of the total) while maritime transport brings in 12 % of the profits.

Although the percentage that the blue economy contributes to national GDP fell by 18 % compared to 2009, the blue economy GVA has increased and hit its highest in 2016 for the reporting period. Also, Malta's national GDP sharply rose between 2009 and 2016. Trends for employment differ in that, overall employment has risen in recent years while blue economy jobs have fallen.

Moreover, the percentage of employment that the blue economy contributes in Malta fell by 20.7 % in 2009-2016. Average wage in 2016 was EUR 8 400 and has not changed since 2009. A 32 % increase in maritime transport wages had a very limited effect in aggregate values, as its contribution to the blue economy is limited.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Malta										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	1.9	2.0	1.7	1.9	1.9	2.1	2.2	2.1	14.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	5.3%	
Maritime transport	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-17.6%	
Shipbuilding & repair	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	12.3%	
Coastal tourism	8.3	8.3	8.3	8.3	7.2	6.6	6.0	7.5	-10.1%	
National employment	*158*	*160*	*164*	*168*	*173*	*178*	*182*	*189*	19.6%	
Total BE jobs	10.9	11.1	10.9	11.0	9.8	9.4	8.9	10.4	-5.1%	
Blue economy as % of national jobs	**6.90%**	**6.96%**	**6.62%**	**6.55%**	**5.69%**	**5.29%**	**4.88%**	**5.48%**	-20.7%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	- 3.7	30.1	32.9	18.4	37.8	36.5	37.2	36.8	-1089.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	23.6	21.0	21.0	22.9	22.9	22.9	22.9	22.9	-2.8%	
Maritime transport	1.7	4.8	4.8	12.7	12.7	29.7	29.7	29.7	1647.1%	
Shipbuilding & repair	12.3	9.2	8.9	10.3	10.3	10.3	10.3	10.4	-15.7%	
Coastal tourism	271.0	271.0	271.0	271.0	247.0	276.8	251.4	305.8	12.8%	
National economy	*5,357*	*5,791*	*5,955*	*6,274*	*6,713*	*7,414*	*8,147*	*8,722*	62.8%	
Total BE GVA	305	336	339	335	331	376	352	406	33.0%	
BE as % of national GVA	**5.69%**	**5.80%**	**5.69%**	**5.35%**	**4.93%**	**5.08%**	**4.32%**	**4.65%**	-18.3%	

Malta		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,428	21.8%			11	6.2%			52%		5.5	109.4%			3.9	1.0	-28%
	Aquaculture	179	3.5%			97	101.0%			14%		14	168.1%			75.9	19.7	-7%
	Processing and preserving	-		20.5%	1.12%	-			24.1%		14%	-		9.1%	0.42%			
	Wholesale	434	1.0%			138	19.5%			12%		16	34.3%			37.5	15.6	27%
	Retail sale	77	0.0%			19	16.5%			8%		1.4	-4.4%			18.6	5.2	0.0%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	-				-						-						
	Warehousing and storage	-		2.7%	0.15%	3.0	0.0%		3.9%	50%	54%	1.5	0.0%	5.7%	0.26%			
	Construction of water projects	-				-						-						
	Service activities	276	5.3%			40	-0.9%			54%		21	-3.0%			77.7	21.3	3%
Maritime transport	Sea and coastal passenger	-				-						-						
	Sea and coastal freight	86	0.0%			-						-				-	21.5	32%
	Inland passenger	1.2	-60.0%	1.3%	0.07%	-			3.8%		71%	-		7.3%	0.34%	-	-	
	Inland freight	-				-						-						
	Renting and leasing of equipment	43	-37.7%			42	793.6%			71%		30	1647.1%			690.7	-	
Shipbuilding & repair	Building of pleasure and sporting boats	20	0.0%			-						-				-	-	
	Building of ships and floating structures	-		3.2%	0.17%	0	-75.0%		2.0%	38%	48%	0.1	-75.0%	2.6%	0.12%			
	Repair and maintenance	307	13.2%			22	11.6%			48%		10	-14.2%			33.6	13.4	-2%
Coastal tourism	Accommodation	3,768	-9.2%			320	21.9%			42%		134	21.9%			35.7		
	Transport	438	-9.7%	72.5%	3.97%	153	11.2%		66.2%	42%	42%	64	11.2%	75.4%	3.51%	146.4	-	
	Other	3,296	-11.1%			256	4.1%			42%		107	4.1%			32.6	-	
	Total Blue Economy (established sectors)	**10,352**	**-5.1%**	**5.48%**		**1,099**	**21.7%**		**36.9%**			**406**	**33.0%**	**4.65%**		**39.4**	**8.4**	**0.1%**
	National jobs and economy	189,000	19.6%									8,722	62.8%					

NETHERLANDS (NL)[57]

The Dutch blue economy employs almost 97 000 people and generates EUR 9.7 billion in GVA. Offshore oil and gas, ports, warehousing and water projects are the main contributors, generating 34 % and 22 % of the profits respectively. Employment is almost evenly distributed among the blue economy sectors, apart from offshore oil and gas which provides only 1.7 % of jobs.

The Dutch blue economy GVA has seen an overall increase in 2009-2016 and its contributions to national GDP in terms of percentage were at similar levels in 2016 to 2009. In terms of employment, national employment was relatively stable for the reporting period, whereas blue economy jobs increased, peaking in 2016. Furthermore, the blue economy's share for national employment grew by 9 % between 2009 and 2016.

Average wage in 2016 was EUR 46 500, a 21 % increase on 2009. Compared to 2009 wages, average wage increased in all blue economy sectors with the exception of ports, warehousing and water projects.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

57. National reporting by Nederland on its ocean economy differs due to the lack of EUROSTAT data stemming from confidentiality issues.

Netherlands

Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	16.9	17.4	17.3	17.6	17.6	17.9	18.6	18.7	10.7%	
Marine extraction of oil and gas	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.7	8.8%	
Ports, warehousing and water projects	14.3	14.2	14.7	15.4	15.9	16.5	17.0	17.0	19.0%	
Maritime transport	25.5	23.4	23.6	26.5	26.9	24.2	23.9	22.3	-12.5%	
Shipbuilding & repair	16.8	16.3	16.8	16.3	17.0	17.0	17.4	17.4	3.9%	
Coastal tourism	16.2	16.2	16.2	16.2	20.5	17.8	16.5	19.8	22.0%	
National employment	*8,443*	*8,227*	*8,152*	*8,174*	*8,104*	*8,028*	*8,115*	*8,223*	-2.6%	
Total BE jobs	91.2	88.9	90.1	93.6	99.5	95.1	95.2	96.8	6.2%	
Blue economy as % of national jobs	**1.08%**	**1.08%**	**1.11%**	**1.15%**	**1.23%**	**1.18%**	**1.17%**	**1.18%**	9.1%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	823.0	922.3	886.2	907.1	911.8	963.5	1,024.0	1,125.8	36.8%	
Marine extraction of oil and gas	3,341.5	3,345.3	3,486.7	3,886.1	3,712.4	3,044.5	2,380.0	2,380.0	-28.8%	
Ports, warehousing and water projects	1,983.4	2,131.7	2,249.1	2,301.5	2,258.5	2,344.4	2,403.6	2,403.6	21.2%	
Maritime transport	1,299.7	1,035.3	957.1	995.1	1,335.8	1,482.7	1,694.1	1,694.1	30.3%	
Shipbuilding & repair	786.9	1,228.1	987.0	883.9	1,052.7	1,038.6	997.0	997.0	26.7%	
Coastal tourism	806.4	806.4	806.4	806.4	1,047.9	1,010.0	958.6	1,120.8	39.0%	
National economy	*553,689*	*567,757*	*579,590*	*583,832*	*588,535*	*597,414*	*614,986*	*631,032*	14.0%	
Total BE GVA	9,041	9,469	9,373	9,780	10,319	9,884	9,457	9,721	7.5%	
BE as % of national GVA	**1.63%**	**1.67%**	**1.62%**	**1.68%**	**1.75%**	**1.65%**	**1.54%**	**1.54%**	-5.7%	

Netherlands		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /lindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,974	-5.4%			469	26.9%			61%		286	89.8%			144.9	53.4	22%
	Aquaculture	212	-45.7%			75	-28.5%			55%		41	-9.0%			192.2	50.2	111%
	Processing and preserving	3,210	-3.7%	19.3%	0.23%	963	42.1%		24.3%	18%	15%	170	22.8%	11.6%	0.18%	53.0	28.1	34%
	Wholesale	8,878	24.0%			5,981	53.5%			11%		629	28.6%			70.8	31.8	6%
	Retail sale	4,407	12.7%			-						-				-	-	
Marine extraction of oil and gas	Extraction of crude petroleum	365	32.5%			4,766	-50.4%			36%		1,701	-28.8%			4,664.8	282.1	21%
	Extraction of natural gas	690	17.8%	1.7%	0.02%	1,902	-50.4%		21.6%	36%	36%	679	-28.8%	24.5%	0.38%	984.6	59.5	36%
	Support activities	601	-9.1%			-						-				-	-	
Ports, warehousing and water projects	Cargo handling	3,453	3.1%			972	37.5%			43%		418	27.9%			121.1	58.2	30%
	Warehousing and storage	1,015	21.4%	17.6%	0.21%	153	-38.9%		14.0%	79%	56%	121	29.1%	24.7%	0.38%	119.6	47.1	-5%
	Construction of water projects	8,129	30.1%			1,676	0.3%			51%		849	3.4%			104.4	45.0	-23%
	Service activities	4,408	14.1%			1,509	31.5%			67%		1,015	36.9%			230.3	44.0	-21%
Maritime transport	Sea and coastal passenger	1,681	-1.8%			-						-				-	-	
	Sea and coastal freight	6,966	-29.7%			5,304	14.4%			32%		1,694	30.3%			243.2	62.0	117%
	Inland passenger	3,192	1.2%	23.1%	0.27%	-			17.2%		32%	-		17.4%	0.27%	-	-	
	Inland freight	10,126	-4.1%			-						-				-	-	
	Renting and leasing of equipment	363	99.5%			-						-				-	-	
Shipbuilding & repair	Building of pleasure and sporting boats	5,023	-7.6%			2,218	-5.8%			22%		499	26.7%			99.2	48.7	18%
	Building of ships and floating structures	6,450	-0.6%	18.0%	0.21%	2,218	-5.8%		14.4%	22%	22%	499	26.7%	10.3%	0.16%	77.3	37.9	9%
	Repair and maintenance	5,935	22.7%			-						-				-	-	
Coastal tourism	Accommodation	7,381	19.7%			1,095	50.1%			42%		460	50.1%			62.3		
	Transport	164	-5.3%	20.4%	0.24%	543	29.2%		8.6%	42%	42%	228	29.2%	11.5%	0.18%	1,388.8	-	
	Other	12,215	24.0%			1,031	33.8%			42%		433	33.8%			35.4	-	
	Total Blue Economy (established sectors)	96,839	6.2%	1.18%		30,875	-8.0%		31.5%			9,721	7.5%	1.54%		137.8	46.5	21%
	National jobs and economy	8,223,000	-2.6%									631,032	14.0%					

POLAND (PL)

The Polish blue economy employs over 117 000 people and generates almost EUR 2.6 billion in GVA. It is dominated by the coastal tourism sector, which contributed 47 % of blue economy jobs and 43 % to profits in 2016. The living resources and shipbuilding sectors are also important contributors to the blue economy, providing 24 % and 17 % of the jobs and 22 % and 20 % of the profits in 2016 respectively.

Although Poland's national GDP growth has been rising since 2010, growth in blue economy GVA has been sluggish. At 0.68 % in 2016, the share of blue economy GVA to national GDP fell 31 % compared to 2009. Blue economy employment also decreased over the reporting period picking up slightly in 2015. While national employment grew by almost 2 %, blue economy job growth fell 19 % compared to 2009.

Average wage in the Polish blue economy sectors in 2016 was EUR 10 800, a 27 % increase on 2009. The living resources sector saw a 50 % increase in average wage compared to 2009.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Poland										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	26.8	25.8	24.7	24.8	25.5	26.9	27.3	27.9	4.4%	
Marine extraction of oil and gas	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	7.7%	
Ports, warehousing and water projects	12.8	12.5	12.7	11.5	11.6	10.8	9.9	9.9	-22.6%	
Maritime transport	3.8	3.8	3.7	3.5	3.4	4.0	3.9	3.9	3.8%	
Shipbuilding & repair	27.9	22.6	21.5	20.1	19.7	19.8	20.2	20.2	-27.8%	
Coastal tourism	72.7	72.7	72.7	72.7	68.1	44.4	48.5	54.9	-24.4%	
National employment	*15,629*	*15,233*	*15,313*	*15,340*	*15,313*	*15,591*	*15,812*	*15,902*	1.7%	
Total BE jobs	144.0	137.6	135.5	132.7	128.5	106.1	109.9	117.0	-18.8%	
Blue economy as % of national jobs	**0.92%**	**0.90%**	**0.88%**	**0.86%**	**0.84%**	**0.68%**	**0.70%**	**0.74%**	-20.2%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	460.2	471.7	469.6	461.3	465.5	594.6	591.1	595.8	29.5%	
Marine extraction of oil and gas	4.1	5.4	5.6	4.6	6.4	6.6	5.6	5.6	36.9%	
Ports, warehousing and water projects	302.6	301.3	301.7	250.6	244.5	232.9	231.2	231.2	-23.6%	
Maritime transport	171.9	161.2	220.9	204.7	228.1	187.4	156.1	156.1	-9.2%	
Shipbuilding & repair	673.8	547.7	545.9	433.1	516.3	546.1	577.0	577.0	-14.4%	
Coastal tourism	1,173.3	1,173.3	1,173.3	1,173.3	1,131.9	825.1	905.5	999.4	-14.8%	
National economy	*281,934*	*318,291*	*334,167*	*344,985*	*350,427*	*364,459*	*381,532*	*377,029*	33.7%	
Total BE GVA	2,786	2,661	2,717	2,528	2,593	2,393	2,466	2,565	-7.9%	
BE as % of national GVA	**0.99%**	**0.84%**	**0.81%**	**0.73%**	**0.74%**	**0.66%**	**0.65%**	**0.68%**	-31.1%	

Poland		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector / Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	2,497	-7.5%			52	24.6%			63%		33	37.7%			13.1	4.7	24%
	Aquaculture	-				-						-						
	Processing and preserving	18,178	5.7%	23.9%	0.18%	2,612	83.7%		43.6%	14%	13%	375	31.9%	23.2%	0.16%	20.6	9.8	56%
	Wholesale	5,330	9.5%			1,740	48.1%			10%		174	34.6%			32.7	11.9	35%
	Retail sale	1,938	-2.6%			108	-48.5%			13%		14	-38.0%			7.3	2.5	40%
Marine extraction of oil and gas	Extraction of crude petroleum	-				-						-						
	Extraction of natural gas	0.3	125.7%	0.1%	0.00%	0.04	594.7%		0.1%	6%	86%	0.003	100.0%	0.2%	0.00%	10.1	84.8	2868%
	Support activities	113	7.6%			6.6	-19.3%			86%		5.6	36.9%			49.8	18.3	16%
Ports, warehousing and water projects	Cargo handling	565	-27.6%			34	-19.2%			48%		16	1.2%			28.9	11.0	26%
	Warehousing and storage	152	83.7%	8.5%	0.06%	15	301.6%		9.4%	17%	24%	3	122.6%	9.0%	0.06%	17.1	8.3	20%
	Construction of water projects	7,392	-22.3%			652	-27.0%			22%		145	-29.7%			19.6	10.6	18%
	Service activities	1,792	-25.9%			270	29.1%			25%		67	-15.0%			37.6	13.2	1%
Maritime transport	Sea and coastal passenger	634	69.7%			77	82.9%			21%		16	12.5%			25.6	9.1	29%
	Sea and coastal freight	1,456	-21.6%			280	-3.0%			40%		113	28.4%			77.4	19.8	15%
	Inland passenger	672	-3.9%	3.4%	0.02%	12	-86.3%		4.4%	47%	34%	5.5	-79.6%	6.1%	0.04%	8.2	5.2	-13%
	Inland freight	918	27.0%			82	-22.5%			27%		22	-31.0%			24.3	6.8	-8%
	Renting and leasing of equipment	242	93.6%			6.2	-69.6%			-10%		- 0.6	-105.8%			- 2.5	2.9	-60%
Shipbuilding & repair	Building of pleasure and sporting boats	5,034	27.2%			290	76.8%			31%		90	59.7%			18.0	10.1	58%
	Building of ships and floating structures	4,817	-66.2%	17.3%	0.13%	838	-31.6%		19.6%	21%	28%	174	-60.3%	22.5%	0.15%	36.1	16.1	34%
	Repair and maintenance	10,330	6.3%			899	127.0%			35%		313	74.6%			30.3	12.3	57%
Coastal tourism	Accommodation	24,606	-10.3%			798	4.2%			42%		335	4.2%			13.6		
	Transport	8,156	-45.8%	47.0%	0.35%	531	-29.0%		23.0%	42%	42%	223	-29.0%	39.0%	0.27%	27.4	-	
	Other	22,169	-26.6%			1,051	-17.9%			42%		441	-17.9%			19.9	-	
	Total Blue Economy (established sectors)	**116,990**	**-18.8%**		**0.74%**	**10,352**	**13.5%**			**24.8%**		**2,565**	**-7.9%**		**0.68%**	**21.9**	**10.8**	**27%**
	National jobs and economy	15,902,000	1.7%									377,029	33.7%					

PORTUGAL (PT)

The Portuguese blue economy employs around 178 000 people and generates almost EUR 4.2 billion in GVA. It is dominated by coastal tourism, which contributed 75 % to the total blue economy jobs and 78 % to profits in 2016. The living resources is also an important contributor, providing 21 % of blue economy jobs, 15 % of GVA and 12 % of the profits. While shipbuilding supplies only 2 % of blue economy jobs, it produces 7 % of GVA and 6 % of the profits.

Blue economy GVA was steady in 2009-2012 and sharply increased hitting its highest level for the reporting period in 2016. The share of blue economy GVA to national GDP also saw a significant increase of 22 % for that same period. Contrary to blue economy GVA, national GDP in Portugal remained steady with no sharp increases.

For employment, the blue economy again saw a rise in 2009-2016 whereas national employment fell. The share of blue economy employment to national employment also rose over the reporting period by 21.5 %. In terms of overall national employment, the trend was negative.

Average wage in blue economy sector-based jobs in 2016 was EUR 11 200, a 9 % increase on 2009 figures. Average wage increased compared to 2009 wages in all blue economy sectors apart from maritime transport, where it saw a 14 % fall.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Portugal

Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	40.8	39.3	40.5	38.1	38.1	37.2	36.4	36.7	-9.9%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	3.9	3.9	3.8	3.6	3.6	3.7	3.6	3.6	-7.8%	
Maritime transport	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2	-8.8%	
Shipbuilding & repair	4.3	2.9	2.7	2.7	2.8	3.0	3.3	3.3	-24.8%	
Coastal tourism	105.0	105.0	105.0	105.0	116.3	121.1	124.2	132.9	26.5%	
National employment	*4,645*	*4,577*	*4,453*	*4,256*	*4,158*	*4,254*	*4,309*	*4,371*	-5.9%	
Total BE jobs	155.5	152.5	153.5	150.8	162.1	166.2	168.7	177.8	14.3%	
Blue economy as % of national jobs	**3.35%**	**3.33%**	**3.45%**	**3.54%**	**3.90%**	**3.91%**	**3.91%**	**4.07%**	21.5%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	640.1	637.6	668.7	611.5	589.9	618.6	640.5	631.1	-1.4%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	273.2	283.7	285.9	288.5	299.7	297.0	283.8	283.8	3.9%	
Maritime transport	62.6	50.4	53.7	46.9	54.8	74.7	64.3	64.3	2.7%	
Shipbuilding & repair	107.4	76.2	65.5	66.2	77.5	83.3	109.8	109.8	2.2%	
Coastal tourism	2,212.1	2,212.1	2,212.1	2,212.1	2,678.1	2,923.3	2,914.9	3,086.7	39.5%	
National economy	*155,506*	*158,326*	*154,243*	*147,362*	*149,768*	*151,365*	*156,839*	*161,006*	3.5%	
Total BE GVA	3,295	3,260	3,286	3,225	3,700	3,997	4,013	4,176	26.7%	
BE as % of national GVA	**2.12%**	**2.06%**	**2.13%**	**2.19%**	**2.47%**	**2.64%**	**2.56%**	**2.59%**	22.4%	

Portugal		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thousand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	15,876	-11.1%	20.7%	0.84%	361	-2.0%		30.3%	68%	17%	245	5.3%	15.1%	0.39%	15.4	8.1	7%
	Aquaculture	2,357	2.2%			60	62.9%			41%		24	48.8%			10.3	3.9	29%
	Processing and preserving	7,706	8.6%			1,215	14.1%			14%		174	10.8%			22.6	11.0	2%
	Wholesale	6,149	-19.2%			1,822	-9.6%			8%		149	-21.7%			24.2	12.5	5%
	Retail sale	4,661	-21.4%			269	-11.0%			14%		39	-11.2%			8.3	3.2	36%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	156	-7.6%	2.0%	0.08%	36	8.9%		4.6%	34%	51%	12	3.4%	6.8%	0.18%	77.8	26.6	-3%
	Warehousing and storage	84	31.6%			8.4	16.5%			49%		4.2	1.8%			49.3	14.6	-10%
	Construction of water projects	992	-27.7%			177	-26.3%			19%		34	-55.8%			34.0	20.8	-9%
	Service activities	2,386	2.8%			339	22.7%			69%		234	29.1%			98.0	33.7	8%
Maritime transport	Sea and coastal passenger	406	-0.4%	0.7%	0.03%	13	-0.8%		2.9%	54%	18%	6.8	17.2%	1.5%	0.04%	16.8	9.6	3%
	Sea and coastal freight	467	-24.2%			324	8.3%			16%		50	0.6%			107.7	27.4	-9%
	Inland passenger	245	1.2%			12	1.7%			46%		5.4	0.0%			22.0	14.3	-7%
	Inland freight																	
	Renting and leasing of equipment	128	26.7%			7.9	54.9%			23%		1.8	28.6%			14.1	6.3	5%
Shipbuilding & repair	Building of pleasure and sporting boats	493	20.2%	1.8%	0.07%	42	90.4%		2.4%	33%	37%	14	245.0%	2.6%	0.07%	28.0	14.0	30%
	Building of ships and floating structures	876	-60.7%			56	-28.8%			38%		21	-39.9%			24.1	16.4	47%
	Repair and maintenance	1,894	11.5%			202	-0.6%			37%		75	9.7%			39.5	19.6	15%
Coastal tourism	Accommodation	66,434	27.8%	74.8%	3.04%	2,875	52.8%		59.8%	42%	42%	1,207	52.8%	73.9%	1.92%	18.2		
	Transport	13,602	20.7%			1,535	26.9%			42%		645	26.9%			47.4	-	
	Other	52,838	26.5%			2,940	35.1%			42%		1,235	35.1%			23.4	-	
	Total Blue Economy (established sectors)	**177,750**	**14.3%**	**4.07%**		**12,291**	**20.0%**			**34.0%**		**4,176**	**26.7%**	**2.59%**		**23.5**	**11.2**	**9%**
	National jobs and economy	4,371,000	-5.9%									161,006	3.5%					

ROMANIA (RO)

The Romanian blue economy employs over 71 600 people and generates around EUR 956 million in GVA. It is dominated by the shipbuilding and repair sector, which contributed 37 % of blue economy jobs and 34 % of GVA but only 13 % of the profits. In terms of profit, ports, warehousing and water projects lead with 33 % of overall blue economy profits in 2016, while providing 19 % of the jobs. Coastal tourism and living resources are also important contributors, generating 24 % and 22 % of the profits respectively.

Romania's national GDP has seen a significant increase in recent years, however the blue economy GVA has been more volatile and has mainly declined although it showed signs of recovery in 2015-2016. In 2009-2016, the share of blue economy to national GDP fell by 28.7 %. Employment has remained steadier at both national and blue economy level, although it fell from 2009 levels. The share of blue economy to national overall jobs also fell by 13 %.

Average wage in the Romanian blue economy in 2016 was EUR 7 500, a 27 % increase on 2009. Compared to 2009 average wage increased in all blue economy based sectors.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Romania										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	7.0	8.0	6.3	6.6	6.1	6.4	6.5	6.6	-6.0%	
Marine extraction of oil and gas	8.6	7.4	7.0	6.6	6.6	6.5	6.1	5.2	-39.2%	
Ports, warehousing and water projects	19.4	19.0	19.7	17.8	14.2	13.5	13.2	13.2	-31.9%	
Maritime transport	3.4	3.4	3.0	2.7	2.7	2.5	2.5	2.5	-27.0%	
Shipbuilding & repair	30.2	23.6	22.4	22.4	23.8	25.3	26.7	26.7	-11.4%	
Coastal tourism	19.8	19.8	19.8	19.8	18.3	17.5	16.7	17.3	-12.3%	
National employment	*8,805*	*8,307*	*8,139*	*8,222*	*8,179*	*8,254*	*8,235*	*8,166*	-7.3%	
Total BE jobs	88.3	81.0	78.3	75.9	71.8	71.7	71.7	71.6	-19.0%	
Blue economy as % of national jobs	**1.00%**	**0.98%**	**0.96%**	**0.92%**	**0.88%**	**0.87%**	**0.87%**	**0.88%**	-12.7%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	71.1	53.5	42.1	45.6	64.5	79.7	85.0	84.8	19.2%	
Marine extraction of oil and gas	86.9	35.1	25.8	33.9	40.1	53.2	32.6	32.6	-62.5%	
Ports, warehousing and water projects	307.9	324.5	310.4	259.4	232.2	189.8	274.6	274.6	-10.8%	
Maritime transport	62.6	56.7	55.4	52.3	51.6	58.0	46.2	45.5	-27.3%	
Shipbuilding & repair	281.7	362.2	321.1	237.6	291.4	269.5	326.8	326.8	16.0%	
Coastal tourism	177.8	177.8	177.8	177.8	164.6	173.0	187.4	191.7	7.8%	
National economy	*112,177*	*112,090*	*116,207*	*117,125*	*127,043*	*133,044*	*140,944*	*152,334*	35.8%	
Total BE GVA	988	1,010	933	807	844	823	953	956	-3.2%	
BE as % of national GVA	**0.88%**	**0.90%**	**0.80%**	**0.69%**	**0.66%**	**0.62%**	**0.68%**	**0.63%**	-28.7%	

Romania		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	343	18.6%	9.2%	0.08%	3.9	447.1%		12.4%	84%	17%	3.3	481.0%	8.9%	0.06%	9.6	2.1	141%
	Aquaculture	2,542	-4.8%			110	19.6%			39%		43	72.0%			17.0	3.3	19%
	Processing and preserving	1,347	-1.7%			105	42.7%			9%		10	-28.8%			7.3	5.2	58%
	Wholesale	1,458	-22.2%			251	-23.4%			10%		26	-8.3%			17.8	5.7	42%
	Retail sale	890	11.8%			36	55.6%			7%		2.5	-23.1%			2.8	3.0	86%
Marine extraction of oil and gas	Extraction of crude petroleum	2,884	-51.2%	7.3%	0.06%	568	-6.2%		20.0%	0%	4%	-		3.4%	0.02%	-	-	
	Extraction of natural gas	1,280	8.2%			163	4.9%			0%		-				-	-	
	Support activities	1,040	-29.1%			85	-20.3%			38%		33	-62.5%			31.3	15.5	59%
Ports, warehousing and water projects	Cargo handling	1,666	4.2%	18.5%	0.16%	64	37.5%		22.9%	51%	29%	33	31.3%	28.7%	0.18%	19.6	8.7	33%
	Warehousing and storage	54	9.0%			4.1	75.5%			19%		0.8	0.2%			14.5	5.5	11%
	Construction of water projects	6,232	-48.9%			536	2.2%			21%		111	-32.1%			17.8	6.2	6%
	Service activities	5,268	-5.3%			329	21.3%			40%		130	9.6%			24.7	8.5	9%
Maritime transport	Sea and coastal passenger	31	416.7%	3.5%	0.03%	0.6			4.1%	50%	27%	0.3	-25.0%	4.8%	0.03%	9.7	3.2	
	Sea and coastal freight	263	-67.4%			59	-8.7%			17%		10	-38.9%			38.8	12.2	85%
	Inland passenger	289	-18.4%			5.8	-3.3%			61%		3.5	10.0%			12.2	4.6	47%
	Inland freight	1,751	-17.9%			101	-16.0%			31%		32	-25.5%			18.0	6.9	8%
	Renting and leasing of equipment	144	51.6%			4.0	29.0%			0%		-				-	-	
Shipbuilding & repair	Building of pleasure and sporting boats	208	-22.1%	37.4%	0.33%	10	40.3%		29.5%	15%	27%	1.5	-6.3%	34.2%	0.21%	7.2	3.8	47%
	Building of ships and floating structures	18,324	-16.7%			1,021	1.7%			23%		235	8.1%			12.8	9.0	34%
	Repair and maintenance	8,194	3.7%			173	31.2%			52%		91	43.8%			11.1	6.2	47%
Coastal tourism	Accommodation	3,692	-23.1%	24.2%	0.21%	84	-14.3%		11.2%	42%	42%	35	-14.3%	20.1%	0.13%	9.5		
	Transport	5,550	23.7%			146	47.4%			42%		61	47.4%			11.0	-	
	Other	8,102	-22.8%			227	0.0%			42%		95	0.0%			11.8	-	
	Total Blue Economy (established sectors)	**71,552**	**-19.0%**	**0.88%**		**4,086**	**2.4%**		**23.4%**			**956**	**-3.2%**	**0.63%**		**14.2**	**7.5**	**27%**
	National jobs and economy	8,166,000	-7.3%									152,334	35.8%					

SLOVAKIA (SK)

As a landlocked country the blue economy is not a main contributor to the Slovakian economy as a whole. Slovakia's national GDP grew steadily throughout the reporting period, overall increasing 26 % compared to 2000. However, the blue economy GVA, observed significant growth for the reporting period. Overall, blue economy GVA growth outpaced the national economy, increasing by more than twice compared to 2009. The share of blue economy GVA to national GDP oscillated over the period, increasing from its lowest point in 2009 (0.04 %) to 0.12 % in 2016. On employment, blue economy-based job growth outpaced the national employment growth, which remained rather stagnant over the reporting period. As for the blue economy share of national employment it increased 43 % between 2009 and 2016.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Slovakia										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	1.2	1.2	1.1	1.0	0.9	0.9	0.8	0.8	-34.2%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	1.5	1.9	1.8	1.8	2.9	3.0	3.2	3.7	145.1%	
Maritime transport	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	-22.2%	
Shipbuilding & repair	0.3	0.6	0.6	0.2	0.2	0.2	0.2	0.2	-35.3%	
Coastal tourism	-	-	-	-	-	-	-	-		
National employment	*2,357*	*2,307*	*2,303*	*2,317*	*2,318*	*2,349*	*2,405*	*2,472*	4.9%	
Total BE jobs	3.6	4.1	3.9	3.4	4.5	4.5	4.6	5.1	43.1%	
Blue economy as % of national jobs	**0.15%**	**0.18%**	**0.17%**	**0.15%**	**0.19%**	**0.19%**	**0.19%**	**0.21%**	36.4%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	22.7	21.2	14.7	20.4	13.0	11.9	14.4	14.4	-36.6%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	- 12.1	7.5	4.1	2.5	31.2	70.8	58.9	58.9	-586.8%	
Maritime transport	12.7	12.6	12.4	15.1	9.3	12.8	13.7	13.7	7.9%	
Shipbuilding & repair	2.1	3.1	2.8	1.6	2.7	2.4	1.4	1.4	-34.3%	
Coastal tourism	-	-	-	-	-	-	-	-		
National economy	*58,033*	*61,368*	*63,982*	*66,410*	*67,522*	*68,907*	*71,204*	*73,362*	26.4%	
Total BE GVA	25	44	34	40	56	98	88	88	247.6%	
BE as % of national GVA	**0.04%**	**0.07%**	**0.05%**	**0.06%**	**0.08%**	**0.14%**	**0.12%**	**0.12%**	175.0%	

Slovakia		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	-				-						-						
	Aquaculture	-				-						-						
	Processing and preserving	476	-31.7%	15.1%	0.03%	82	40.7%		45.6%	9%	3%	7.1	-33.6%	16.3%	0.02%	14.9	9.0	10%
	Wholesale	286	-39.5%			343	267.9%			2%		7.1	-39.3%			24.8	12.4	15%
	Retail sale	13	85.7%			1	75.0%			29%		0.2	-33.3%			15.4	7.7	-46%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	272	17.7%			21	194.5%			54%		11	209.5%			42.1	8.6	21%
	Warehousing and storage	3,120	226.4%	71.9%	0.15%	397	443.5%		46.2%	10%	14%	40	266.5%	66.6%	0.08%	13.0	11.2	5%
	Construction of water projects	85	-70.8%			6.5	-71.7%			46%		3.0	-55.9%			35.3	14.1	52%
	Service activities	207	728.0%			6.9	72.5%			58%		4.0	135.3%			19.3	2.4	-80%
Maritime transport	Sea and coastal passenger	4.0				0.1						-				-	-	
	Sea and coastal freight	-				-						-						
	Inland passenger	203	372.1%	9.6%	0.02%	7.1	97.2%		6.9%	45%	21%	3.2	60.0%	15.5%	0.02%	15.8	6.9	-41%
	Inland freight	280	-51.1%			56	7.5%			19%		11	6.1%			37.5	16.1	64%
	Renting and leasing of equipment	6.0	-66.7%			1.1	-26.7%			0%		-				-	-	-100%
Shipbuilding & repair	Building of pleasure and sporting boats	65	10.6%			3.1	25.3%			-6%		- 0.2	-157%			- 3.1	7.7	6%
	Building of ships and floating structures	41	-69.1%	3.4%	0.01%	2.2	-70.2%		1.3%	27%	12%	0.6	-11.8%	1.6%	0.00%	14.6	4.9	-34%
	Repair and maintenance	67	-11.8%			6.6	57.1%			15%		1.0	-9.1%			14.9	9.0	13%
Coastal tourism	Accommodation																	
	Transport																	
	Other																	
	Total Blue Economy (established sectors)	**5,125**	**43.1%**	**0.21%**		**933**	**182.7%**			**9.5%**		**88**	**247.6%**	**0.12%**		**17.3**	**10.6**	**12%**
	National jobs and economy	2,472,000	4.9%									73,362	26.4%					

SLOVENIA (SI)

Although a coastal state, Slovenia has a coastline only 47 km long. The Slovenian blue economy employs 3 900 people and generates around EUR 127 million in GVA. Not surprisingly, it is dominated by the coastal tourism sector, which contributed 45 % to blue economy jobs, 35 % to GVA and 41 % to overall profits in 2016. Ports, warehousing and water projects are also an important contributor to the blue economy, generating 26 % of jobs, 32 % of GVA and 24 % of the profits.

The Slovenian blue economy, represents a meagre 0.36 % share of the national economy and 0.43 % of employment. The blue economy share fell by 2.4 % in terms of GVA and 20 % in terms of jobs compared to 2009. While the national GDP remained stable, growing slightly towards the end of the reporting period, 10.7 % compared to 2009, overall the blue economy GVA decreased 2.4 %.

In terms of employment, national jobs decreased 5.5 % while blue economy jobs decreased 20 % compared to 2009. The number of jobs decreased in all sectors apart from coastal tourism, where they increased 10 % on 2009. Average wage in the Slovenian blue economy sectors in 2016 was EUR 19 300, a 12 % increase on 2009. Compared to 2009 wages, average wage increased in all blue economy sectors except shipbuilding, where it decreased 35 %.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Slovenia										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	-26.8%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	1.5	1.4	1.3	1.1	0.9	0.9	1.0	1.0	-33.3%	
Maritime transport	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-17.2%	
Shipbuilding & repair	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.3	-54.4%	
Coastal tourism	1.6	1.6	1.6	1.6	1.6	1.8	1.5	1.7	10.1%	
National employment	*955*	*942*	*915*	*906*	*888*	*892*	*902*	*902*	-5.5%	
Total BE jobs	4.8	4.4	4.2	3.9	3.7	3.9	3.6	3.9	-19.7%	
Blue economy as % of national jobs	**0.50%**	**0.47%**	**0.46%**	**0.43%**	**0.42%**	**0.43%**	**0.40%**	**0.43%**	-15.0%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	18.6	16.9	21.8	17.4	18.1	16.3	17.6	17.9	-3.9%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	47.3	42.3	44.6	33.0	25.9	39.5	41.2	41.2	-13.0%	
Maritime transport	11.9	14.5	11.8	24.0	11.5	13.2	14.4	16.2	36.3%	
Shipbuilding & repair	6.8	10.7	5.3	4.8	7.1	5.2	7.4	7.4	8.8%	
Coastal tourism	45.5	45.5	45.5	45.5	40.9	45.2	37.4	44.4	-2.4%	
National economy	*31,638*	*31,583*	*32,106*	*31,299*	*31,294*	*32,515*	*33,578*	*35,010*	10.7%	
Total BE GVA	130	130	129	125	103	119	118	127	-2.4%	
BE as % of national GVA	**0.41%**	**0.41%**	**0.40%**	**0.40%**	**0.33%**	**0.37%**	**0.35%**	**0.36%**	-11.8%	

Slovenia		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	120	2.9%	14.9%	0.06%	1.9	-33.3%		29.7%	80%	13%	1.5	-9.5%	14.1%	0.05%	12.6	5.1	-33%
	Aquaculture	20	-42.9%			2.9	-35.8%			23%		0.7	-68.2%			33.7	13.7	-24%
	Processing and preserving	97	-67.1%			13	-16.0%			24%		3.1	-20.5%			32.0	19.6	141%
	Wholesale	247	4.2%			107	106.5%			10%		11	21.9%			43.9	20.6	19%
	Retail sale	88	-10.2%			8.1	-11.0%			21%		1.7	-13.6%			19.6	12.0	-2%
Marine extraction of oil and gas	Extraction of crude petroleum																	
	Extraction of natural gas																	
	Support activities																	
Ports, warehousing and water projects	Cargo handling	127	12.5%	25.7%	0.11%	16	36.2%		30.8%	56%	30%	9.2	38.7%	32.4%	0.12%	72.1	26.0	12%
	Warehousing and storage	0.8	-47.9%			0.1	11.9%			19%		0.0	-20.2%			24.8	11.5	-25%
	Construction of water projects	591	-45.8%			86	-2.1%			20%		18	-44.4%			29.6	19.5	2%
	Service activities	273	-3.5%			36	62.7%			41%		15	57.6%			53.1	28.9	36%
Maritime transport	Sea and coastal passenger	40	-13.0%	6.7%	0.03%	2.3	4.5%		11.5%	30%	31%	0.7	-12.5%	12.8%	0.05%	17.5	10.8	0%
	Sea and coastal freight	136	-30.3%			40	-20.4%			28%		11	11.9%			83.1	39.0	23%
	Inland passenger	38	0.0%			1.8	80.0%			67%		1.2	140.0%			31.6	5.3	100%
	Inland freight	-				1.2	0.0%			25%		0.3	0.0%					
	Renting and leasing of equipment	46	31.4%			6.7	25.9%			41%		2.7	1257.1%			59.0	6.5	-24%
Shipbuilding & repair	Building of pleasure and sporting boats	111	-76.0%	7.5%	0.03%	10	-79.6%		4.4%	40%	38%	3.8	-17.4%	5.8%	0.02%	34.2	9.0	-51%
	Building of ships and floating structures	48	2.1%			1.5	-6.3%			40%		0.6	-14.3%			12.5	10.4	-2%
	Repair and maintenance	131	3.4%			8.6	72.0%			35%		3.0	100.0%			22.8	10.7	69%
Coastal tourism	Accommodation	1,062	24.5%	45.1%	0.19%	50	4.0%		23.6%	42%	42%	21	4.0%	34.9%	0.13%	19.9		
	Transport	161	-13.0%			16	-10.2%			42%		6.9	-10.2%			43.0	-	
	Other	515	-4.7%			39	-6.6%			42%		16	-6.6%			31.6	-	
	Total Blue Economy (established sectors)	**3,853**	**-19.7%**	**0.43%**		**448**	**5.0%**			**28.4%**		**127**	**-2.4%**	**0.36%**		**33.0**	**19.3**	**12%**
	National jobs and economy	902,000	-5.5%									35,010	10.7%					

SPAIN (ES)

The Spanish blue economy employs over 691 000 people and generates around EUR 23 billion in GVA. It is dominated by the coastal tourism sector, which contributed 77 % to blue economy jobs, 75.5 % to GVA and 84 % to overall profits in 2016. The living resources sector is also an important contributor, with 17 % of jobs and 14 % of GVA.

The blue economy has generally had a positive impact on the Spanish economy and employment rates. In Spain, the share of blue economy GVA to national GDP increased by 7 % between 2009 and 2016. Also, blue economy GVA share was at its highest in 2016 and growing at a faster pace than the overall national GDP.

On employment, a similar pattern emerges. The share of blue economy jobs to national employment increased by 4.5 % in 2009-2016. Although national employment decreased over the reporting period and was at lower levels in 2016 than in 2009, blue economy jobs grew and were at higher levels by 2016 than in 2009.

Average wage in the Spanish blue economy in 2016 was EUR 19 100, a 4 % increase on 2009. Average wage has increased compared to 2009 wages in all sectors except maritime transport, where it dropped 9 %.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Spain										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	133.8	133.4	125.7	118.5	114.4	113.6	114.7	114.8	-14.2%	
Marine extraction of oil and gas	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-11.8%	
Ports, warehousing and water projects	30.6	24.1	21.9	18.7	16.8	16.4	17.6	17.6	-42.4%	
Maritime transport	7.8	7.4	7.3	7.0	6.8	6.7	7.0	7.2	-7.7%	
Shipbuilding & repair	26.8	24.1	22.7	21.3	18.5	19.3	20.8	20.8	-22.3%	
Coastal tourism	474.7	474.7	474.7	474.7	468.5	451.6	500.9	530.1	11.7%	
National employment	*18,957*	*18,574*	*18,271*	*17,477*	*17,002*	*17,211*	*17,717*	*18,183*	-4.1%	
Total BE jobs	674.1	664.2	652.8	640.6	625.5	608.2	661.4	691.0	2.5%	
Blue economy as % of national jobs	**3.56%**	**3.58%**	**3.57%**	**3.67%**	**3.68%**	**3.53%**	**3.73%**	**3.80%**	6.9%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	3,029.7	3,062.8	3,136.0	2,875.7	3,004.2	3,271.8	3,190.7	3,235.3	6.8%	
Marine extraction of oil and gas	78.4	120.0	104.9	104.9	198.1	151.4	98.8	98.8	26.0%	
Ports, warehousing and water projects	1,423.0	1,246.8	1,150.3	1,044.3	833.2	802.0	901.9	901.9	-36.6%	
Maritime transport	514.3	551.8	456.1	472.4	455.6	477.1	585.8	585.8	13.9%	
Shipbuilding & repair	1,170.9	1,391.5	1,102.3	1,057.9	763.4	1,031.9	870.3	870.3	-25.7%	
Coastal tourism	15,758	15,758	15,758	15,758	15,705	15,229	16,598	17,504	11.1%	
National economy	*1,006,093*	*989,883*	*983,670*	*953,986*	*935,616*	*944,470*	*979,874*	*1,014,911*	0.9%	
Total BE GVA	21,975	22,131	21,708	21,314	20,959	20,963	22,246	23,196	5.6%	
BE as % of national GVA	**2.18%**	**2.24%**	**2.21%**	**2.23%**	**2.24%**	**2.22%**	**2.27%**	**2.29%**	4.6%	

Spain		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector / Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	31,308	-17.7%			1,999	0.5%			51%		1,015	14.8%			32.4	16.8	-2%
	Aquaculture	19,914	-31.1%			620	17.1%			32%		196	106.0%			9.8	4.7	54%
	Processing and preserving	19,907	2.5%	16.6%	0.63%	5,180	25.8%		27.1%	14%	18%	742	2.8%	13.9%	0.32%	37.3	18.6	7%
	Wholesale	22,897	-12.3%			8,810	-10.7%			11%		947	-4.2%			41.4	21.1	10%
	Retail sale	20,748	-2.9%			1,706	0.0%			20%		336	-1.3%			16.2	5.9	12%
Marine extraction of oil and gas	Extraction of crude petroleum	308	0.0%			82	0.0%			58%		48	0.0%			156.3	90.5	0%
	Extraction of natural gas	-		0.1%	0.00%	-			0.3%		52%	-		0.4%	0.01%			
	Support activities	149	-29.0%			108	92.0%			47%		51	67.2%			339.6	93.1	127%
Ports, warehousing and water projects	Cargo handling	3,610	-13.0%			431	-3.3%			55%		239	-5.0%			66.1	44.7	18%
	Warehousing and storage	366	6.7%	2.5%	0.10%	61	50.2%		3.5%	42%	38%	25	22.1%	3.9%	0.09%	69.0	25.7	2%
	Construction of water projects	13,637	-47.7%			1,885	-46.9%			34%		638	-44.6%			46.8	30.7	12%
	Service activities	-				-						-						
Maritime transport	Sea and coastal passenger	3,483	-23.1%			579	-35.5%			41%		236	-8.6%			67.8	24.9	-14%
	Sea and coastal freight	3,293	16.0%			1,234	32.5%			27%		338	39.8%			102.6	33.1	-10%
	Inland passenger	375	-4.3%	1.0%	0.04%	18	-11.6%		2.7%	60%	32%	11	-14.8%	2.5%	0.06%	29.1	16.5	3%
	Inland freight	54	10.2%			2.4	-38.5%			42%		1.0	-33.3%			18.5	14.8	-19%
	Renting and leasing of equipment	-				-						-						
Shipbuilding & repair	Building of pleasure and sporting boats	1,004	-21.8%			118	-30.7%			33%		39	-46.5%			38.3	26.7	-11%
	Building of ships and floating structures	8,940	-29.4%	3.0%	0.11%	1,837	-54.2%		4.6%	19%	28%	349	-41.9%	3.8%	0.09%	39.0	38.0	7%
	Repair and maintenance	10,858	-15.3%			1,153	8.8%			42%		483	-3.2%			44.5	25.1	4%
Coastal tourism	Accommodation	222,681	6.3%			16,254	14.9%			42%		6,827	14.9%			30.7		
	Transport	68,301	14.7%	76.7%	2.92%	8,922	16.1%		61.7%	42%	42%	3,747	16.1%	75.5%	1.72%	54.9	-	
	Other	239,139	16.3%			16,501	5.1%			42%		6,931	5.1%			29.0	-	
	Total Blue Economy (established sectors)	**690,972**	**2.5%**	**3.80%**		**67,499**	**0.8%**		**34.4%**			**23,196**	**5.6%**	**2.29%**		**33.6**	**19.1**	**4%**
	National jobs and economy	18,183,000	-4.1%									1,014,911	0.9%					

SWEDEN (SE)

The Swedish blue economy employs over 86 000 people and generates almost EUR 5 billion in GVA. It is dominated by the coastal tourism sector, which contributed 66 % of blue economy jobs and 75 % of profits in 2016. Both blue economy GVA and national GDP have substantially increased in Sweden over the reporting period. The share of blue economy GVA to national GDP was slightly higher in 2016 than in 2009 despite the decrease observed in 2011-2012, Employment in Sweden shows an even more positive result for the blue economy as its share to national employment was at its highest in 2016, with an overall increase of 10 % compared to 2009. Also blue economy employment growth outperformed national employment in Sweden for the reporting period, 21 % against 8 % at the national level.

Average wage in the Swedish blue economy in 2016 was EUR 32 300, a 33 % rise on 2009 figures. Compared to 2009 wages, the fact that average wage increased in all blue economy sectors.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

Sweden										
Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	7.7	7.9	8.0	8.0	8.2	8.2	7.8	7.7	-0.2%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	4.0	4.1	4.0	3.8	3.7	3.7	3.7	3.8	-5.9%	
Maritime transport	17.6	16.8	16.3	15.9	14.9	14.0	13.7	13.4	-23.6%	
Shipbuilding & repair	5.7	5.3	5.2	5.0	4.8	4.6	4.6	4.6	-19.0%	
Coastal tourism	36.1	36.1	36.1	36.1	41.6	45.4	45.4	56.7	56.8%	
National employment	*4,391*	*4,403*	*4,498*	*4,510*	*4,554*	*4,597*	*4,660*	*4,736*	7.9%	
Total BE jobs	71.1	70.3	69.6	68.9	73.1	75.9	75.2	86.2	21.1%	
Blue economy as % of national jobs	**1.62%**	**1.60%**	**1.55%**	**1.53%**	**1.60%**	**1.65%**	**1.61%**	**1.82%**	12.3%	
Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	**Trend**
Living resources	300.0	362.6	372.7	405.9	444.8	428.5	390.5	407.1	35.7%	
Marine extraction of oil and gas	-	-	-	-	-	-	-	-		
Ports, warehousing and water projects	240.8	295.7	306.8	303.1	299.6	336.9	332.8	332.8	38.2%	
Maritime transport	622.2	819.3	739.3	793.6	716.8	745.1	943.1	943.1	51.6%	
Shipbuilding & repair	208.2	257.4	260.4	299.4	276.9	246.2	278.6	278.6	33.8%	
Coastal tourism	1,867.6	1,867.6	1,867.6	1,867.6	2,337.1	2,486.0	2,539.7	3,024.7	62.0%	
National economy	*271,943*	*324,493*	*356,922*	*373,844*	*385,302*	*383,237*	*397,686*	*411,269*	51.2%	
Total BE GVA	3,239	3,603	3,547	3,670	4,075	4,243	4,485	4,986	54.0%	
BE as % of national GVA	**1.19%**	**1.11%**	**0.99%**	**0.98%**	**1.06%**	**1.11%**	**1.13%**	**1.21%**	1.8%	

Sweden		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	1,438	-18.2%			137	14.2%			62%		84	63.1%			58.7	12.3	95%
	Aquaculture	411	-3.1%			62	84.9%			29%		18	109.1%			44.4	26.4	116%
	Processing and preserving	2,059	0.8%	8.9%	0.16%	565	20.8%		15.2%	17%	18%	97	-2.5%	8.2%	0.10%	46.9	26.2	15%
	Wholesale	2,471	9.3%			1,293	46.2%			13%		167	54.5%			67.7	29.1	35%
	Retail sale	1,332	7.3%			164	18.3%			25%		41	26.2%			30.6	17.1	27%
Marine extraction of oil and gas	Extraction of crude petroleum	-																
	Extraction of natural gas	-																
	Support activities	-																
Ports, warehousing and water projects	Cargo handling	786	-5.7%			112	37.3%			53%		59	20.9%			75.4	35.8	21%
	Warehousing and storage	286	31.1%	4.4%	0.08%	50	48.9%		4.6%	35%	49%	17	40.8%	6.7%	0.08%	59.9	26.5	10%
	Construction of water projects	466	-10.6%			126	52.9%			23%		29	18.8%			61.2	29.6	23%
	Service activities	2,238	-8.3%			390	24.1%			59%		228	46.5%			101.8	44.1	35%
Maritime transport	Sea and coastal passenger	8,186	-15.4%			1,780	50.1%			23%		404	28.0%			49.4	33.0	46%
	Sea and coastal freight	3,596	-46.5%			1,641	-29.6%			25%		413	91.1%			114.8	48.0	51%
	Inland passenger	1,462	48.7%	15.6%	0.28%	184	131.8%		25.3%	41%	26%	75	359.1%	18.9%	0.23%	51.5	24.2	29%
	Inland freight	104	-35.4%			18	50.8%			28%		5	25.0%			48.1	23.1	38%
	Renting and leasing of equipment	91	51.7%			62	-24.2%			75%		46	-34.5%			505.5	25.3	26%
Shipbuilding & repair	Building of pleasure and sporting boats	1,216	-43.0%			193	-26.5%			27%		52	-24.6%			43.1	28.4	23%
	Building of ships and floating structures	1,507	-8.4%	5.3%	0.10%	298	34.9%		5.4%	44%	35%	130	132.0%	5.6%	0.07%	86.2	42.1	30%
	Repair and maintenance	1,855	-0.9%			301	4.2%			32%		96	16.4%			51.9	25.5	9%
Coastal tourism	Accommodation	30,410	46.6%			2,809	41.3%			42%		1,180	41.3%			38.8		
	Transport	7,463	12.8%	65.8%	1.20%	1,602	22.5%		49.4%	42%	42%	673	22.5%	60.7%	0.74%	90.2	-	
	Other	18,787	114.0%			2,791	142.3%			42%		1,172	142.3%			62.4	-	
	Total Blue Economy (established sectors)	**86,164**	**21.1%**	**1.82%**		**14,575**	**31.7%**			**34.2%**		**4,986**	**54.0%**	**1.21%**		**57.9**	**32.3**	**33%**
	National jobs and economy	4,736,000	7.9%									411,269	51.2%					

UNITED KINGDOM (UK)

The UK blue economy employs over 387 000 people and generates around EUR 39 billion in GVA. It is dominated by the offshore oil sector, which contributed 51 % to overall profits in 2016 and is where most of the investment is concentrated. While this sector produces only 9 % of the blue economy jobs, coastal tourism produces 57 %, employing 221 000 people in 2016.

Average wage in the UK blue economy in 2016 was EUR 58 800, a 28 % increase on 2009. Average wage has increased compared to 2009 wages in living resources (42 %), ports (33 %), transport (51 %) and shipbuilding (73 %) while it dropped to a mere 0.3 % in offshore oil and gas, due to the extraction of crude petroleum sub-sector (-18%).

Overall, blue economy GVA increased 16.4 % compared to 2009, increasing in all sectors: 34 % in living resources, 5 % in offshore oil, 30 % in ports, 52 % in transport, 90 % in shipbuilding and 3 % in tourism. On employment, the blue economy share, at 1.3 % in 2016, fell over the last few years. Employment tended to follow that of national employment up until 2013, to subsequently weaken. Overall blue economy jobs in 2016 decreased 6 % compared to 2009.

Summary tables below provide more detailed statistics, including figures on employment, turnover, GVA, labour productivity (GVA per person employed) and average wage in 2016, with percentage variation to 2009, by blue economy sector and sub-sectors.

United Kingdom

Persons employed (thousand)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	42.2	41.8	40.6	40.5	40.4	41.5	41.1	41.4	-1.9%	
Marine extraction of oil and gas	30.2	35.1	32.9	31.9	31.2	32.5	33.8	33.4	10.5%	
Ports, warehousing and water projects	27.9	28.8	27.5	31.8	33.3	33.6	34.7	36.4	30.4%	
Maritime transport	17.2	17.8	16.1	17.1	16.0	17.8	16.5	15.9	-7.9%	
Shipbuilding & repair	42.7	38.1	36.5	38.6	37.3	39.9	39.4	39.4	-7.8%	
Coastal tourism	252.1	252.1	252.1	252.1	270.9	240.7	216.7	220.6	-12.5%	
National employment	*27,148*	*27,197*	*27,389*	*27,621*	*27,941*	*28,568*	*28,970*	*29,389*	8.3%	
Total BE jobs	412.3	413.6	405.6	412.0	429.0	405.9	382.3	387.0	-6.1%	
Blue economy as % of national jobs	**1.52%**	**1.52%**	**1.48%**	**1.49%**	**1.54%**	**1.42%**	**1.32%**	**1.32%**	-13.3%	

Value added at factor cost (million EUR)	2009	2010	2011	2012	2013	2014	2015	2016	%Δ 2016-09	Trend
Living resources	1,908.3	1,755.9	1,838.1	1,930.2	1,953.9	2,442.5	2,459.3	2,552.2	33.7%	
Marine extraction of oil and gas	16,562.1	17,282.1	16,561.0	17,293.3	17,228.6	16,679.2	17,442.8	17,442.8	5.3%	
Ports, warehousing and water projects	3,106.8	2,664.1	2,811.2	2,883.3	3,203.3	3,430.9	4,032.4	4,032.4	29.8%	
Maritime transport	2,600.9	2,790.8	2,354.9	2,620.5	2,538.7	3,201.9	3,960.7	3,960.7	52.3%	
Shipbuilding & repair	1,573.7	1,994.9	2,003.3	2,719.9	2,216.5	2,805.8	3,002.7	3,002.7	90.8%	
Coastal tourism	7,662.1	7,662.1	7,662.1	7,662.1	8,016.0	7,903.2	7,836.5	7,887.6	2.9%	
National economy	*1,562,701*	*1,657,684*	*1,680,901*	*1,856,917*	*1,842,110*	*2,032,851*	*2,321,362*	*2,135,288*	36.6%	
Total BE GVA	33,414	34,150	33,231	35,109	35,157	36,463	38,734	38,878	16.4%	
BE as % of national GVA	**2.14%**	**2.06%**	**1.98%**	**1.89%**	**1.91%**	**1.79%**	**1.67%**	**1.82%**	-14.8%	

United Kingdom		Persons employed - number				Turnover or gross premiums written - million euro						Value added at factor cost - million euro				GVA per person employed (thouand euro)	Average wage (thousand euro)	Average wage %Δ 2016-09
Sector	Sub-sector /Iindustry	2016	%Δ 2016-09	Sector share of BE jobs	Sector share of national jobs	2016	%Δ 2016-09	Trend 2009-2016	Sector share of BE turnover	Industry GVA to turnover	Sector GVA to turnover	2016	%Δ 2016-09	Sector share of BE GVA	Sector share of national GDP			
Living resources	Capture fisheries	12,024	-1.5%	10.7%	0.14%	1,160	29.1%		12.5%	57%	25%	660	55.9%	6.6%	0.12%	54.9	20.7	12%
	Aquaculture	3,310	8.5%			1,010	80.3%			34%		341	164.8%			103.0	29.2	54%
	Processing and preserving	14,557	-8.1%			3,282	5.9%			25%		808	18.9%			55.5	31.5	66%
	Wholesale	7,965	-0.3%			4,168	37.1%			15%		644	6.1%			80.9	33.3	32%
	Retail sale	3,587	13.6%			400	38.8%			25%		99	42.4%			27.5	11.0	409%
Marine extraction of oil and gas	Extraction of crude petroleum	15,928	9.9%	8.6%	0.11%	21,076	-21.7%		33.2%	66%	66%	13,845	0.0%	44.9%	0.82%	869.2	142.5	-18%
	Extraction of natural gas	144	-61.1%			131	-12.7%			96%		125	0.0%			871.7	81.8	83%
	Support activities	17,286	12.8%			5,415	-14.0%			64%		3,473	34.0%			200.9	86.8	46%
Ports, warehousing and water projects	Cargo handling	1,788	57.7%	9.4%	0.12%	429	73.0%		9.4%	33%	53%	143	51.3%	10.4%	0.19%	80.2	39.5	11%
	Warehousing and storage	10,010	86.1%			1,663	169.7%			28%		468	95.6%			46.8	30.3	20%
	Construction of water projects	1,919	1.6%			527	-19.8%			50%		265	-22.8%			138.1	90.5	252%
	Service activities	22,649	16.2%			4,934	38.0%			64%		3,156	29.9%			139.3	49.7	31%
Maritime transport	Sea and coastal passenger	6,326	-29.7%	4.1%	0.05%	3,196	-4.7%		10.7%	44%	46%	1,412	41.9%	10.2%	0.19%	223.1	77.3	57%
	Sea and coastal freight	6,855	24.6%			4,631	-14.4%			47%		2,189	49.7%			319.3	130.3	30%
	Inland passenger	1,173	-11.2%			120	99.2%			48%		57	146.1%			48.7	19.2	18%
	Inland freight	365	7.7%			60	-2.4%			65%		39	139.5%			106.3	12.9	15%
	Renting and leasing of equipment	1,150	6.0%			545	152.8%			49%		264	153.5%			229.9	15.6	112%
Shipbuilding & repair	Building of pleasure and sporting boats	10,547	7.0%	10.2%	0.13%	1,144	8.7%		10.7%	37%	35%	423	10.1%	7.7%	0.14%	40.1	28.2	-3%
	Building of ships and floating structures	22,519	-22.1%			6,134	97.5%			36%		2,184	114.1%			97.0	53.6	110%
	Repair and maintenance	6,318	60.5%			1,292	247.5%			31%		396	133.2%			62.7	45.0	89%
Coastal tourism	Accommodation	84,027	-16.0%	57.0%	0.75%	6,322	5.5%		23.4%	42%	42%	2,655	5.5%	20.3%	0.37%	31.6		
	Transport	28,544	9.2%			4,302	4.1%			42%		1,807	4.1%			63.3	-	
	Other	107,989	-14.2%			8,156	0.4%			42%		3,425	0.4%			31.7	-	
	Total Blue Economy (established sectors)	**386,978**	**-6.1%**	**1.32%**		**80,097**	**2.4%**			**48.5%**		**38,878**	**16.4%**	**1.82%**		**100.5**	**58.8**	**28%**
	National jobs and economy	29,389,000	8.3%									2,135,288	36.6%					

ANNEX

REVIEW FOR BLUE ECONOMY ESTABLISHED SECTORS BY MEMBER STATE

Table 4 Number of persons employed by Member State and established blue economy sector in 2016, including percentage change to 2009 and MS share of the EU total.

Persons employed	Living resources			Marine extraction of oil and gas			Ports, warehousing and water projects			Maritime transport		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	2,347	15%	0.4%	-			1,538	27%	0.6%	538	-3%	0.2%
Belgium	5,614	20%	1.1%	-			11,020	11%	4.1%	2,178	89%	0.9%
Bulgaria	8,020	-4%	1.5%	37	48%	0.1%	5,512	-21%	2.1%	1,660	-7%	0.7%
Croatia	9,362	307%	1.8%	939	-58%	1.6%	4,471	-15%	1.7%	6,502	7%	2.8%
Cyprus	2,197	35%	0.4%	-			873	-17%	0.3%	3,066	10%	1.3%
Czech Republic	775	111%	0.1%	-			6,337	38%	2.4%	298	-1%	0.1%
Denmark	8,605	1%	1.6%	2,619	5%	4.4%	5,421	55%	2.0%	22,974	11%	9.8%
Estonia	4,401	5%	0.8%	-			2,548	7%	1.0%	807	-9%	0.3%
Finland	5,074	5%	1.0%	-			3,589	-9%	1.3%	8,846	-9%	3.8%
France	56,629	20%	10.7%	469	27%	0.8%	21,312	16%	8.0%	17,593	-3%	7.5%
Germany	41,695	0%	7.9%	5,569	3%	9.3%	34,909	25%	13.1%	28,141	-28%	12.0%
Greece	38,490	234%	7.3%	170	1%	0.3%	15,637	129%	5.9%	19,237	-2%	8.2%
Hungary	2,763	20%	0.5%	-			8,728	42%	3.3%	875	-17%	0.4%
Ireland	7,593	-13%	1.4%	-			245	41%	0.1%	701	-22%	0.3%
Italy	66,602	-3%	12.6%	9,418	-2%	15.7%	31,526	-13%	11.8%	51,751	50%	22.0%
Latvia	5,313	-27%	1.0%	-			4,477	33%	1.7%	851	-17%	0.4%
Lithuania	6,894	13%	1.3%	-			2,232	-20%	0.8%	1,440	-19%	0.6%
Luxembourg	12	-4%	0.0%	-			95	-17%	0.0%	-		
Malta	2,117	14%	0.4%	-			276	5%	0.1%	130	-18%	0.1%
Netherlands	18,681	11%	3.5%	1,656	9%	2.8%	17,005	19%	6.4%	22,328	-12%	9.5%
Poland	27,942	4%	5.3%	114	8%	0.2%	9,900	-23%	3.7%	3,922	4%	1.7%
Portugal	36,749	-10%	6.9%	-			3,618	-8%	1.4%	1,246	-9%	0.5%
Romania	6,579	-6%	1.2%	5,205	-39%	8.7%	13,220	-32%	5.0%	2,478	-27%	1.1%
Slovakia	775	-34%	0.1%	-			3,684	145%	1.4%	493	-22%	0.2%
Slovenia	572	-27%	0.1%	-			992	-33%	0.4%	260	-17%	0.1%
Spain	114,774	-14%	21.7%	457	-12%	0.8%	17,613	-42%	6.6%	7,205	-8%	3.1%
Sweden	7,711	0%	1.5%	-			3,776	-6%	1.4%	13,439	-24%	5.7%
United Kingdom	41,443	-2%	7.8%	33,357	10%	55.6%	36,366	30%	13.6%	15,869	-8%	6.8%
EU28	**529,729**	**4%**		**60,009**	**-2%**		**266,920**	**4%**		**234,826**	**-1%**	

Shipbuilding & repair			Coastal tourism			Blue Economy		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
404	2%	0.2%	-			4,826	15%	0.1%
1,135	-39%	0.4%	3,923	-17%	0.2%	23,870	7%	0.7%
4,807	-29%	1.8%	97,919	2%	4.6%	117,955	-2%	3.4%
9,424	-42%	3.6%	101,656	-22%	4.8%	132,354	-18%	3.8%
890	569%	0.3%	19,079	0%	0.9%	26,105	6%	0.7%
346	0%	0.1%	-			7,756	39%	0.2%
3,006	-22%	1.1%	43,380	23%	2.0%	86,006	16%	2.5%
2,417	31%	0.9%	17,791	6%	0.8%	27,964	7%	0.8%
6,303	-28%	2.4%	19,142	-5%	0.9%	42,954	-10%	1.2%
28,217	6%	10.8%	154,767	-12%	7.3%	278,987	-2%	8.0%
25,969	0%	9.9%	131,654	1%	6.2%	267,937	-1%	7.7%
7,461	-19%	2.9%	252,544	52%	11.9%	333,538	56%	9.6%
429	4%	0.2%	-			12,795	29%	0.4%
422	8%	0.2%	31,007	32%	1.5%	39,968	18%	1.1%
31,285	-26%	12.0%	199,718	-10%	9.4%	390,301	-6%	11.2%
2,091	-21%	0.8%	10,146	-13%	0.5%	22,879	-12%	0.7%
4,033	-24%	1.5%	3,235	-22%	0.2%	17,833	-11%	0.5%
-			-			107	-15%	0.0%
327	12%	0.1%	7,501	-10%	0.4%	10,352	-5%	0.3%
17,408	4%	6.7%	19,760	22%	0.9%	96,839	6%	2.8%
20,181	-28%	7.7%	54,931	-24%	2.6%	116,990	-19%	3.4%
3,263	-25%	1.2%	132,875	27%	6.2%	177,750	14%	5.1%
26,726	-11%	10.2%	17,344	-12%	0.8%	71,552	-19%	2.1%
173	-35%	0.1%	-			5,125	43%	0.1%
290	-54%	0.1%	1,739	10%	0.1%	3,853	-20%	0.1%
20,802	-22%	7.9%	530,121	12%	24.9%	690,972	2%	19.9%
4,578	-19%	1.7%	56,660	57%	2.7%	86,164	21%	2.5%
39,384	-8%	15.0%	220,560	-12%	10.4%	386,978	-6%	11.1%
261,772	**-15%**		**2,127,453**	**4%**		**3,480,710**	**2%**	

Table 5 Value added at factor costs (GVA) by Member State and established blue economy sector in 2016, including percentage change to 2009 and MS share of the EU total.

Value added at factor cost - million euro	Living resources			Marine extraction of oil and gas			Ports, warehousing and water projects			Maritime transport		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	149	13%	0.8%	-			199	108%	1.0%	37	-2%	0.1%
Belgium	390	35%	2.1%	-			1,886	23%	9.6%	1,101	283%	4.0%
Bulgaria	66	227%	0.4%	8.1	141%	0.0%	98	-14%	0.5%	28	-19%	0.1%
Croatia	46	41%	0.2%	55	0%	0.2%	98	-27%	0.5%	227	13%	0.8%
Cyprus	26	41%	0.1%	-		0.0%	80	-6%	0.4%	86	-10.4%	0.3%
Czech Republic	15	215%	0.1%	-		0.0%	195	-13%	1.0%	5	7%	0.0%
Denmark	821	30%	4.4%	4,117	-20%	15.6%	593	48%	3.0%	4,308	57%	15.7%
Estonia	45	12%	0.2%	-		0.0%	195	19%	1.0%	51	93%	0.2%
Finland	173	-12%	0.9%	-		0.0%	346	5%	1.8%	752	30%	2.7%
France	2,738	49%	14.8%	148	69%	0.6%	1,484	-34%	7.6%	1,959	173%	7.1%
Germany	2,122	15%	11.4%	716	-39%	2.7%	2,572	28%	13.2%	5,857	-34%	21.4%
Greece	297	-15%	1.6%	8	0%	0.0%	718	117%	3.7%	1,121	10%	4.1%
Hungary	57	53%	0.3%	-		0.0%	225	-7%	1.2%	18	90%	0.1%
Ireland	367	75%	2.0%	-		0.0%	22	83%	0.1%	218	67%	0.8%
Italy	2,325	8%	12.5%	1,386	-9%	5.3%	1,933	20%	9.9%	4,089	50%	14.9%
Latvia	74	28%	0.4%	-		0.0%	191	76%	1.0%	18	-13%	0.1%
Lithuania	149	90%	0.8%	-		0.0%	120	29%	0.6%	46	-19%	0.2%
Luxembourg	0.4	19%	0.0%	-		0.0%	7	6%	0.0%	-		0.0%
Malta	37	1089%	0.2%	-		0.0%	23	-3%	0.1%	30	1647%	0.1%
Netherlands	1,126	37%	6.1%	2,380	-29%	9.0%	2,404	21%	12.3%	1,694	30%	6.2%
Poland	596	29%	3.2%	6	37%	0.0%	231	-24%	1.2%	156	-9%	0.6%
Portugal	631	-1%	3.4%	-		0.0%	284	4%	1.5%	64	3%	0.2%
Romania	85	19%	0.5%	33	-63%	0.1%	275	-11%	1.4%	46	-27%	0.2%
Slovakia	14	-37%	0.1%	-		0.0%	59	587%	0.3%	14	8%	0.0%
Slovenia	18	-4%	0.1%	-		0.0%	41	-13%	0.2%	16	36%	0.1%
Spain	3,235	7%	17.4%	99	26%	0.4%	902	-37%	4.6%	586	14%	2.1%
Sweden	407	36%	2.2%	-		0.0%	333	38%	1.7%	943	52%	3.4%
United Kingdom	2,552	34%	13.7%	17,443	5%	66.1%	4,032	30%	20.6%	3,961	52%	14.4%
EU28	**18,563**	**22%**		**26,398**	**-6%**		**19,546**	**12%**		**27,428**	**20%**	

Shipbuilding & repair			Coastal tourism			Blue Economy		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
28	73%	0.2%	-			412	47%	0.2%
- 1	-101%	0.0%	191	-28%	0.3%	3,568	45%	2.0%
47	-24%	0.4%	845	175%	1.2%	1,092	101%	0.6%
132	-47%	1.1%	2,195	-12%	3.1%	2,752	-13%	1.6%
31	505%	0.3%	509	-10%	0.7%	732	-5%	0.4%
4	0%	0.0%	-		0.0%	218	-8%	0.1%
192	-17%	1.6%	2,738	31%	3.9%	12,768	13%	7.3%
60	49%	0.5%	367	10%	0.5%	718	19%	0.4%
284	-10%	2.4%	1,003	-8%	1.4%	2,558	2%	1.5%
1,827	58%	15.4%	9,564	-1%	13.6%	17,721	13%	10.2%
1,240	-15%	10.4%	4,066	4%	5.8%	16,573	-14%	9.5%
210	-51%	1.8%	4,837	27%	6.9%	7,191	21%	4.1%
5	41%	0.0%	-		0.0%	304	4%	0.2%
22	18%	0.2%	1,252	25%	1.8%	1,880	37%	1.1%
1,512	-9%	12.7%	8,502	-3%	12.1%	19,747	7%	11.3%
28	-11%	0.2%	137	-13%	0.2%	449	19%	0.3%
77	10%	0.6%	38	-16%	0.1%	430	25%	0.2%
-		0.0%	-		0.0%	7	6%	0.0%
10	-16%	0.1%	306	13%	0.4%	406	33%	0.2%
997	27%	8.4%	1,121	39%	1.6%	9,721	8%	5.6%
577	-14%	4.9%	999	-15%	1.4%	2,565	-8%	1.5%
110	2%	0.9%	3,087	40%	4.4%	4,176	27%	2.4%
327	16%	2.8%	192	8%	0.3%	956	-3%	0.5%
1	-34%	0.0%	-		0.0%	88	248%	0.1%
7	9%	0.1%	44	-2%	0.1%	127	-2%	0.1%
870	-26%	7.3%	17,504	11%	24.9%	23,196	6%	13.3%
279	34%	2.3%	3,025	62%	4.3%	4,986	54%	2.9%
3,003	91%	25.3%	7,888	3%	11.2%	38,878	16%	22.3%
11,878	**11%**		**70,410**	**9%**		**174,222**	**10%**	

Table 6 Turnover by Member State and established blue economy sector in 2016, including percentage change to 2009 and MS share of the EU total.

Turnover or gross premiums written - million euro	Living resources			Marine extraction of oil and gas			Ports, warehousing and water projects			Maritime transport		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	1,323	20%	1.1%	-			470	81%	1.0%	151	9%	0.1%
Belgium	2,988	26%	2.5%	-			6,185	83%	13.6%	3,470	100%	3.1%
Bulgaria	457	24%	0.4%	0.8	-33%	0.0%	481	32%	1.1%	88	-3%	0.1%
Croatia	435	245%	0.4%	77	-21%	0.1%	251	-10%	0.6%	481	-11%	0.4%
Cyprus	116	24%	0.1%	-			123	0%	0.3%	228	0.4%	0.2%
Czech Republic	86	109%	0.1%	-			1,269	-21%	2.8%	27	18%	0.0%
Denmark	5,083	44%	4.2%	3,435	-47%	4.6%	1,240	34%	2.7%	24,052	-2%	21.2%
Estonia	391	76%	0.3%	-			348	25%	0.8%	545	29%	0.5%
Finland	1,169	16%	1.0%	-			655	12%	1.4%	2,421	0%	2.1%
France	13,802	27%	11.5%	277	29%	0.4%	4,475	27%	9.8%	14,615	30%	12.9%
Germany	24,576	57%	20.5%	3,315	7%	4.5%	4,989	34%	11.0%	31,523	27%	27.8%
Greece	2,294	-8%	1.9%	29	0%	0.0%	1,235	94%	2.7%	2,191	2%	1.9%
Hungary	522	23%	0.4%	-			577	-19%	1.3%	90	24%	0.1%
Ireland	1,071	40%	0.9%	-			43	12%	0.1%	758	6%	0.7%
Italy	16,774	19%	14.0%	32,877	-17%	44.2%	4,406	-16%	9.7%	12,026	8%	10.6%
Latvia	385	18%	0.3%	-			425	35%	0.9%	51	5%	0.0%
Lithuania	889	93%	0.7%	-			250	55%	0.5%	227	48%	0.2%
Luxembourg	2.1	8%	0.0%	-			13	13%	0.0%	-		0.0%
Malta	265	39%	0.2%	-			43	-1%	0.1%	42	794%	0.0%
Netherlands	7,487	48%	6.2%	6,668	-50%	9.0%	4,311	14%	9.5%	5,304	14%	4.7%
Poland	4,512	58%	3.8%	7	-19%	0.0%	971	-15%	2.1%	457	-16%	0.4%
Portugal	3,726	-2%	3.1%	-			560	1%	1.2%	357	8%	0.3%
Romania	506	-2%	0.4%	817	-6%	1.1%	934	10%	2.1%	170	-12%	0.1%
Slovakia	426	180%	0.4%	-			432	302%	0.9%	64	12%	0.1%
Slovenia	133	59%	0.1%	-			138	13%	0.3%	52	-13%	0.0%
Spain	18,314	1%	15.3%	191	37%	0.3%	2,377	-41%	5.2%	1,833	-1%	1.6%
Sweden	2,221	35%	1.9%	-			677	32%	1.5%	3,685	0%	3.2%
United Kingdom	10,020	27%	8.4%	26,623	-20%	35.8%	7,553	48%	16.6%	8,552	-6%	7.5%
EU28	**119,973**	**27%**		**74,315**	**-24%**		**45,428**	**18%**		**113,460**	**12%**	

Shipbuilding & repair			Coastal tourism			Blue Economy		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
61	23%	0.1%	-			2,005	29%	0.4%
199	-21%	0.4%	455	-28%	0.3%	13,298	59%	2.3%
151	-9%	0.3%	2,012	175%	1.2%	3,190	85%	0.6%
524	-42%	1.2%	5,226	-12%	3.1%	6,993	-11%	1.2%
60	405%	0.1%	1,211	-10%	0.7%	1,737	-3%	0.3%
22	0%	0.0%	-			1,404	-17%	0.2%
727	-25%	1.6%	6,519	31%	3.9%	41,056	-1%	7.3%
216	50%	0.5%	874	10%	0.5%	2,374	28%	0.4%
1,316	-12%	2.9%	2,388	-8%	1.4%	7,948	-2%	1.4%
6,831	15%	15.1%	22,772	-1%	13.6%	62,772	14%	11.1%
5,782	-5%	12.7%	9,682	4%	5.8%	79,867	27%	14.1%
417	-38%	0.9%	11,517	27%	6.9%	17,682	17%	3.1%
13	-4%	0.0%	-			1,202	-2%	0.2%
68	23%	0.1%	2,980	25%	1.8%	4,920	24%	0.9%
8,214	7%	18.1%	20,243	-3%	12.1%	94,542	-4%	16.7%
70	-7%	0.2%	326	-13%	0.2%	1,256	10%	0.2%
200	-22%	0.4%	91	-16%	0.1%	1,657	45%	0.3%
-			-			15	12%	0.0%
22	8%	0.0%	728	13%	0.4%	1,099	22%	0.2%
4,437	-6%	9.8%	2,668	39%	1.6%	30,875	-8%	5.5%
2,026	14%	4.5%	2,379	-15%	1.4%	10,352	13%	1.8%
299	-1%	0.7%	7,349	40%	4.4%	12,291	20%	2.2%
1,204	5%	2.7%	456	8%	0.3%	4,086	2%	0.7%
12	-15%	0.0%	-			933	183%	0.2%
20	-63%	0.0%	106	-2%	0.1%	448	5%	0.1%
3,107	-41%	6.9%	41,677	11%	24.9%	67,499	1%	11.9%
791	3%	1.7%	7,202	62%	4.3%	14,575	32%	2.6%
8,570	89%	18.9%	18,780	3%	11.2%	80,097	2%	14.1%
45,357	**5%**		**167,642**	**9%**		**566,175**	**7%**	

Table 7 Wages and Salaries by Member State and established blue economy sector in 2016, including percentage change to 2009 and MS share of the EU total blue economy wages and salaries (data unavailable for coastal tourism)

Wages and Salaries - million euro	Living resources			Marine extraction of oil and gas			Ports, warehousing and water projects		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	79	28%	0.9%	-			47	44%	0.5%
Belgium	175	30%	2.0%	-			622	14%	7.2%
Bulgaria	25	37%	0.3%	0.6	56%	0.0%	34	-17%	0.4%
Croatia	63	253%	0.7%	19	-18%	0.0%	60	-15%	0.7%
Cyprus	13	9%	0.1%	-			26	-26%	0.3%
Czech Republic	7	236%	0.1%	-			63	28%	0.7%
Denmark	365	7%	4.2%	291	34%	0.4%	257	41%	3.0%
Estonia	24	20%	0.3%	-			48	47%	0.5%
Finland	93	2%	1.1%	-			155	2%	1.8%
France	1,316	17%	15.2%	70	251%	0.1%	826	2%	9.5%
Germany	1,109	20%	12.8%	465	9%	0.6%	1,314	30%	15.2%
Greece	175	54%	2.0%	7	1%	0.0%	582	300%	6.7%
Hungary	22	41%	0.3%	-			77	54%	0.9%
Ireland	188	39%	2.2%	-			8	23%	0.1%
Italy	939	3%	10.8%	639	5%	0.9%	855	4%	9.9%
Latvia	30	14%	0.3%	-			63	81%	0.7%
Lithuania	48	34%	0.6%	-			30	4%	0.3%
Luxembourg	0.3	-14%	0.0%	-			4	-15%	0.0%
Malta	12	11%	0.1%	-			6	8%	0.1%
Netherlands	488	27%	5.6%	144	60%	0.2%	808	5%	9.3%
Poland	258	57%	3.0%	2	26%	0.0%	110	-12%	1.3%
Portugal	315	-3%	3.6%	-			106	-3%	1.2%
Romania	27	29%	0.3%	16	13%	0.0%	98	-22%	1.1%
Slovakia	8	-27%	0.1%	-			39	163%	0.4%
Slovenia	9	-3%	0.1%	-			23	-23%	0.3%
Spain	1,595	-5%	18.4%	42	14%	0.1%	589	-33%	6.8%
Sweden	177	38%	2.0%	-			148	22%	1.7%
United Kingdom	1,108	40%	12.8%	3,782	10%	5.1%	1,673	74%	19.3%
EU28	**8,668**	**15%**		**5,477**	**12%**		**8,669**	**20%**	

Maritime transport			Shipbuilding & repair			Blue Economy		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
14	-7%	0.2%	13	15%	0.2%	153	27%	0.4%
119	140%	1.4%	34	-46%	0.4%	950	20%	2.4%
13	-1%	0.1%	31	-3%	0.4%	104	-1%	0.3%
76	-14%	0.9%	110	-41%	1.5%	328	-15%	0.8%
49	-1.0%	0.6%	20	784%	0.3%	108	10%	0.3%
2	2%	0.0%	2	0%	0.0%	74	34%	0.2%
1,372	13%	15.8%	128	-42%	1.7%	2,413	11%	6.2%
13	14%	0.2%	32	57%	0.4%	117	38%	0.3%
355	-3%	4.1%	223	-15%	3.0%	826	-5%	2.1%
822	13%	9.5%	1,074	22%	14.3%	4,107	15%	10.5%
1,034	-26%	11.9%	1,156	7%	15.4%	5,077	5%	13.0%
644	21%	7.4%	104	-40%	1.4%	1,511	56%	3.9%
7	-15%	0.1%	2	0%	0.0%	107	43%	0.3%
24	-40%	0.3%	14	14%	0.2%	232	20%	0.6%
1,441	9%	16.6%	894	-11%	11.9%	4,767	2%	12.2%
9	-15%	0.1%	14	0%	0.2%	116	35%	0.3%
23	-6%	0.3%	43	-15%	0.6%	145	3%	0.4%
-		0.0%	-		0.0%	4	-15%	0.0%
2	32%	0.0%	4	8%	0.1%	24	11%	0.1%
432	52%	5.0%	489	9%	6.5%	2,362	19%	6.1%
45	0%	0.5%	255	-6%	3.4%	670	10%	1.7%
21	-21%	0.2%	59	0%	0.8%	501	-3%	1.3%
17	-16%	0.2%	217	19%	2.9%	375	3%	1.0%
6	-5%	0.1%	1	-35%	0.0%	54	59%	0.1%
6	-12%	0.1%	3	-70%	0.0%	41	-26%	0.1%
203	-16%	2.3%	638	-20%	8.5%	3,067	-16%	7.9%
483	6%	5.6%	145	-1%	1.9%	953	12%	2.4%
1,427	39%	16.5%	1,788	60%	23.9%	9,778	33%	25.1%
8,657	**8%**		**7,492**	**6%**		38,963	13%	

Table 8 GVA in living resources by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Value added at factor cost - million euro	Aquaculture			Commercial fisheries			Processing and preserving of fish, crustaceans and molluscs		
	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
Austria	-			-			9	-6%	0.2%
Belgium	-			57	92%	1.3%	90	18%	2.0%
Bulgaria	12	170%	0.7%	5	113%	0.1%	13	93%	0.3%
Croatia	- 39			42		1.0%	31	16%	0.7%
Cyprus	12	90%	0.7%	1	258%	0.0%	-		0.0%
Czech Republic	-		0.0%	-		0.0%	15	215%	0.3%
Denmark	37	30%	2.3%	313	67%	7.3%	283	1%	6.2%
Estonia	0	-81%	0.0%	11	0%	0.2%	25	10%	0.6%
Finland	17	-11%	1.0%	17	19%	0.4%	44	22%	1.0%
France	473		29.6%	697	29%	16.2%	625	12%	13.7%
Germany	9	248%	0.6%	96	48%	2.2%	372	9%	8.1%
Greece	119		7.5%	-		0.0%	45	4%	1.0%
Hungary	-		0.0%	-		0.0%	-	-100%	0.0%
Ireland	49	48%	3.1%	187	169%	4.3%	130	22%	2.9%
Italy	231	10%	14.5%	506	-40%	11.7%	366	24%	8.0%
Latvia	-		0.0%	13	7%	0.3%	45	51%	1.0%
Lithuania	-		0.0%	35	135%	0.8%	85	70%	1.9%
Luxembourg	-		0.0%	-		0.0%	-		0.0%
Malta	14	168%	0.9%	6	109%	0.1%	-		0.0%
Netherlands	41	-9%	2.6%	286	90%	6.6%	170	23%	3.7%
Poland	-		0.0%	33	38%	0.8%	375	32%	8.2%
Portugal	24	49%	1.5%	245	5%	5.7%	174	11%	3.8%
Romania	43	72%	2.7%	3	481%	0.1%	10	-29%	0.2%
Slovakia	-		0.0%	-		0.0%	7	-34%	0.2%
Slovenia	1	-68%	0.0%	2	-9%	0.0%	3	-21%	0.1%
Spain	196	106%	12.3%	1,015	15%	23.5%	742	3%	16.3%
Sweden	18	109%	1.1%	84	63%	2.0%	97	-3%	2.1%
United Kingdom	341	165%	21.4%	660	56%	15.3%	808	19%	17.7%
EU28	**1,596**	**174%**		**4,313**	**21%**		**4,565**	**14%**	

Retail sale of fish, crustaceans and molluscs in specialised stores			Wholesale of other food, including fish, crustaceans and molluscs			EU28 Bioeconomy		
2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
3	20%	0.3%	136	14%	2.0%	149	13%	0.8%
34	4%	2.9%	209	40%	3.0%	390	35%	2.1%
3	81%	0.3%	34	29%	0.5%	66	227%	0.4%
3	136%	0.2%	9	81%	0.1%	46	41%	0.2%
8	-14%	0.7%	6	43%	0.1%	26	41%	0.1%
-		0.0%	-		0.0%	15	215%	0.1%
29	24%	2.5%	158	39%	2.3%	821	30%	4.4%
0	0%	0.0%	9	39%	0.1%	45	12%	0.2%
18	-21%	1.6%	77	-26%	1.1%	173	-12%	0.9%
210	56%	18.1%	734	21%	10.6%	2,738	49%	14.8%
147	18%	12.7%	1,497	15%	21.6%	2,122	15%	11.4%
8	-89%	0.7%	125	-46%	1.8%	297	-15%	1.6%
1	60%	0.1%	56	55%	0.8%	57	53%	0.3%
-		0.0%	-		0.0%	367	75%	2.0%
159	-8%	13.7%	1,064	67%	15.3%	2,325	8%	12.5%
0	0%	0.0%	17	2%	0.2%	74	28%	0.4%
0		0.0%	30	114%	0.4%	149	90%	0.8%
0	19%	0.0%	-		0.0%	0	19%	0.0%
1	-4%	0.1%	16	34%	0.2%	37	1089%	0.2%
-		0.0%	629	29%	9.1%	1,126	37%	6.1%
14	-38%	1.2%	174	35%	2.5%	596	29%	3.2%
39	-11%	3.4%	149	-22%	2.1%	631	-1%	3.4%
3	-23%	0.2%	26	-8%	0.4%	85	19%	0.5%
0	-33%	0.0%	7	-39%	0.1%	14	-37%	0.1%
2	-14%	0.1%	11	22%	0.2%	18	-4%	0.1%
336	-1%	29.0%	947	-4%	13.7%	3,235	7%	17.4%
41	26%	3.5%	167	54%	2.4%	407	36%	2.2%
99	42%	8.5%	644	6%	9.3%	2,552	34%	13.7%
1,157	**3%**		**6,932**	**17%**		**18,563**	**22%**	

Table 9 Jobs in Living resources by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Persons employed - number	Aquaculture			Commercial fisheries			Processing and preserving of fish, crustaceans and molluscs		
	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
Austria	-			-			174	34%	0.1%
Belgium	-			331	-21%	0.2%	1,137	9%	1.0%
Bulgaria	924	-33%	1.5%	1,675	40%	1.1%	1,644	11%	1.4%
Croatia	2,231		3.6%	5,001		3.3%	1,359	-24%	1.2%
Cyprus	388	55%	0.6%	1,289	42%	0.9%	-		
Czech Republic	-			-			775	111%	0.7%
Denmark	506	3%	0.8%	1,330	-21%	0.9%	4,178	0%	3.6%
Estonia	36	80%	0.1%	2,268	19%	1.5%	1,589	-13%	1.4%
Finland	515	15%	0.8%	1,898	18%	1.3%	887	-2%	0.8%
France	16,454		26.5%	13,442	-15%	8.9%	12,122	-5%	10.4%
Germany	60	3%	0.1%	1,482	-3%	1.0%	7,061	-16%	6.1%
Greece	5,129		8.3%	24,759		16.4%	1,379	16%	1.2%
Hungary	-			-		0.0%	12	-85%	0.0%
Ireland	1,821	-7%	2.9%	3,436	-30%	2.3%	2,336	22%	2.0%
Italy	5,112	-13%	8.2%	25,548	-13%	16.9%	5,608	5%	4.8%
Latvia	-			678	-59%	0.4%	3,783	-20%	3.2%
Lithuania	-			705	-1%	0.5%	5,013	18%	4.3%
Luxembourg	-			-			-		
Malta	179	3%	0.3%	1,428	22%	0.9%	-		
Netherlands	212	-46%	0.3%	1,974	-5%	1.3%	3,210	-4%	2.8%
Poland	-			2,497	-7%	1.7%	18,178	6%	15.6%
Portugal	2,357	2%	3.8%	15,876	-11%	10.5%	7,706	9%	6.6%
Romania	2,542	-5%	4.1%	343	19%	0.2%	1,347	-2%	1.2%
Slovakia	-			-			476	-32%	0.4%
Slovenia	20	-43%	0.0%	120	3%	0.1%	97	-67%	0.1%
Spain	19,914	-31%	32.1%	31,308	-18%	20.8%	19,907	2%	17.1%
Sweden	411	-3%	0.7%	1,438	-18%	1.0%	2,059	1%	1.8%
United Kingdom	3,310	9%	5.3%	12,024	-2%	8.0%	14,557	-8%	12.5%
EU28	**62,121**	**28%**		**150,851**	**9%**		**116,594**	**-1%**	

Retail sale of fish, crustaceans and molluscs in specialised stores			Wholesale of other food, including fish, crustaceans and molluscs			EU28 Bioeconomy		
2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
216	1%	0.3%	1,957	16%	1.5%	2,347	15%	0.4%
1,082	14%	1.6%	3,064	36%	2.3%	5,614	20%	1.1%
836	5%	1.2%	2,942	-15%	2.2%	8,020	-4%	1.5%
325	41%	0.5%	447	54%	0.3%	9,362	307%	1.8%
308	3%	0.5%	212	25%	0.2%	2,197	35%	0.4%
-			-			775	111%	0.1%
675	-13%	1.0%	1,916	38%	1.4%	8,605	1%	1.6%
43	0%	0.1%	465	18%	0.4%	4,401	5%	0.8%
759	8%	1.1%	1,015	-13%	0.8%	5,074	5%	1.0%
3,623	-23%	5.4%	10,989	-21%	8.3%	56,629	20%	10.7%
7,228	-5%	10.7%	25,864	8%	19.5%	41,695	0%	7.9%
3,353	-27%	5.0%	3,870	-33%	2.9%	38,490	234%	7.3%
209	0%	0.3%	2,542	27%	1.9%	2,763	20%	0.5%
-			-			7,593	-13%	1.4%
11,117	-1%	16.4%	19,217	14%	14.5%	66,602	-3%	12.6%
112	30%	0.2%	740	-12%	0.6%	5,313	-27%	1.0%
41	215%	0.1%	1,135	0%	0.9%	6,894	13%	1.3%
12	-4%		-			12	-4%	0.0%
77	0%	0.1%	434	1%	0.3%	2,117	14%	0.4%
4,407	13%	6.5%	8,878	24%	6.7%	18,681	11%	3.5%
1,938	-3%	2.9%	5,330	10%	4.0%	27,942	4%	5.3%
4,661	-21%	6.9%	6,149	-19%	4.6%	36,749	-10%	6.9%
890	12%	1.3%	1,458	-22%	1.1%	6,579	-6%	1.2%
13	86%	0.0%	286	-40%	0.2%	775	-34%	0.1%
88	-10%	0.1%	247	4%	0.2%	572	-27%	0.1%
20,748	-3%	30.7%	22,897	-12%	17.3%	114,774	-14%	21.7%
1,332	7%	2.0%	2,471	9%	1.9%	7,711	0%	1.5%
3,587	14%	5.3%	7,965	0%	6.0%	41,443	-2%	7.8%
67,681	**-5%**		**132,483**	**-1%**		**529,729**	**4%**	

Table 10 GVA in offshore oil and gas by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Value added at factor cost - million euro	Extraction of crude petroleum			Extraction of natural gas		
	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
Austria	-			-		
Belgium	-			-		
Bulgaria	4	130%	0.0%	4	130%	0.1%
Croatia	-			-		
Cyprus	-			-		
Czech Republic	-			-		
Denmark	3,896	-20%	19.8%	-		
Estonia	-			-		
Finland	-			-		
France	100	0%	0.5%	-		
Germany	-			716	-39%	26.8%
Greece	-			-		
Hungary	-			-		
Ireland	-			-		
Italy	65	-50%	0.3%	1,143	-11%	42.9%
Latvia	-			-		
Lithuania	-			-		
Luxembourg	-			-		
Malta	-			-		
Netherlands	1,701	-29%	8.7%	679	-29%	25.5%
Poland	-			0.003	100%	0.0%
Portugal	-			-		
Romania	-			-		
Slovakia	-			-		
Slovenia	-			-		
Spain	48	0%	0.2%	-		
Sweden	-			-		
United Kingdom	13,845	0%	70.4%	125	0%	4.7%
EU28	**19,659**	**-8%**		**2,667**	**-24%**	

Support activities for petroleum and natural gas extraction			EU28 Marine extraction of oil and gas		
2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
-			-		
-			-		
0.14	238%	0.0%	8	141%	0.0%
55	0%	1.3%	55	0%	0.2%
-			-		
-			-		
221	-16%	5.4%	4,117	-20%	15.6%
-			-		
-			-		
48	467%	1.2%	148	69%	0.6%
-			716	-39%	2.7%
8	0%	0.2%	8	0%	0.0%
-			-		
-			-		
178	54%	4.4%	1,386	-9%	5.3%
-			-		
-			-		
-			-		
-			-		
-			2,380	-29%	9.0%
6	37%	0.1%	6	37%	0.0%
-			-		
33	-63%	0.8%	33	-63%	0.1%
-			-		
-			-		
51	67%	1.2%	99	26%	0.4%
-			-		
3,473	34%	85.3%	17,443	5%	66.1%
4,071	**30%**		26,398	-6%	

Table 11 Jobs in offshore oil and gas by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Persons employed - number	Extraction of crude petroleum			Extraction of natural gas		
	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
Austria	-			-		
Belgium	-			-		
Bulgaria	-			25	23%	0.2%
Croatia	-			19	-98%	0.1%
Cyprus	-			-		
Czech Republic	-			-		
Denmark	929	78%	4.5%	-		
Estonia	-			-		
Finland	-			-		
France	157	-4%	0.8%	157	-4%	1.1%
Germany	-			3,927	5%	26.6%
Greece	20	0%	0.1%	-		
Hungary	-			-		
Ireland	-			-		
Italy	65	29%	0.3%	8,535	-2%	57.8%
Latvia	-			-		
Lithuania	-			-		
Luxembourg	-			-		
Malta	-			-		
Netherlands	365	33%	1.8%	690	18%	4.7%
Poland	-			0	126%	0.0%
Portugal	-			-		
Romania	2,884	-51%	14.0%	1,280	8%	8.7%
Slovakia	-			-		
Slovenia	-			-		
Spain	308	0%	1.5%	-		
Sweden	-			-		
United Kingdom	15,928	10%	77.1%	144	-61%	1.0%
EU28	**20,655**	**-5%**		**14,776**	**-8%**	

Support activities for petroleum and natural gas extraction			EU28 Marine extraction of oil and gas		
2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
-			-		
-			-		
13	150%	0.1%	37	48%	0.1%
920	-12%	3.7%	939	-58%	1.6%
-			-		
-			-		
1,690	-14%	6.9%	2,619	5%	4.4%
-			-		
-			-		
154	251%	0.6%	469	27%	0.8%
1,642	0%	6.7%	5,569	3%	9.3%
150	1%	0.6%	170	1%	0.3%
-			-		
-			-		
819	2%	3.3%	9,418	-2%	15.7%
-			-		
-			-		
-			-		
-			-		
601	-9%	2.4%	1,656	9%	2.8%
113	8%	0.5%	114	8%	0.2%
-			-		
1,040	-29%	4.2%	5,205	-39%	8.7%
-			-		
-			-		
149	-29%	0.6%	457	-12%	0.8%
-			-		
17,286	13%	70.3%	33,357	10%	55.6%
24,578	**5%**		60,009	-2%	

Table 12 Port activity based GVA by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Value added at factor cost - million euro	Cargo handling			Construction of water projects			Service activities incidental to water transportation		
	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
Austria	0.8	600%	0.0%	8	-22%	0.2%	14	70%	0.1%
Belgium	183	-41%	8.3%	841	206%	20.1%	687	-19%	6.2%
Bulgaria	9	68%	0.4%	51	-28%	1.2%	38	-2%	0.3%
Croatia	4	-15%	0.2%	55	-32%	1.3%	39	-20%	0.4%
Cyprus	15	-15%	0.7%	6	-36%	0.2%	49	-7%	0.4%
Czech Republic	-			-			-		
Denmark	18	92%	0.8%	73	16%	1.7%	353	82%	3.2%
Estonia	48	-26%	2.2%	5	83%	0.1%	134	48%	1.2%
Finland	90	11%	4.1%	25	-35%	0.6%	230	10%	2.1%
France	82	20%	3.7%	350	-72%	8.4%	837	15%	7.6%
Germany	258	106%	11.7%	172	47%	4.1%	1,823	17%	16.5%
Greece	40	151%	1.8%	28	-71%	0.7%	635	215%	5.7%
Hungary	23	50%	1.0%	40	59%	1.0%	8.2	21%	0.1%
Ireland	-			17	302%	0.4%	-		0.0%
Italy	331	5%	15.1%	391	-22%	9.4%	1,188	52%	10.8%
Latvia	97	16%	4.4%	17	-15%	0.4%	77	1691%	0.7%
Lithuania	53	61%	2.4%	8	-50%	0.2%	60	34%	0.5%
Luxembourg	7	6%	0.3%	-			-		
Malta	-			-			21	-3%	0.2%
Netherlands	418	28%	19.0%	849	3%	20.3%	1,015	37%	9.2%
Poland	16	1%	0.7%	145	-30%	3.5%	67	-15%	0.6%
Portugal	12	3%	0.6%	34	-56%	0.8%	234	29%	2.1%
Romania	33	31%	1.5%	111	-32%	2.7%	130	10%	1.2%
Slovakia	11	209%	0.5%	3	-56%	0.1%	4.0	135%	0.0%
Slovenia	9	39%	0.4%	18	-44%	0.4%	14.5	58%	0.1%
Spain	239	-5%	10.9%	638	-45%	15.3%	-		
Sweden	59	21%	2.7%	29	19%	0.7%	228	46%	2.1%
United Kingdom	143	51%	6.5%	265	-23%	6.3%	3,156	30%	28.6%
EU28	**2,199**	**13%**		**4,175**	**-23%**		**11,042**	**29%**	

Warehousing and storage			EU28 Ports, warehousing and water projects		
2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
176	127%	8.3%	199	108%	1.0%
175	83%	8.2%	1,886	23%	9.6%
0.4	39%	0.0%	98	-14%	0.5%
0.2	78%	0.0%	98	-27%	0.5%
9	93%	0.4%	80	-6%	0.4%
195	-13%	9.1%	195	-13%	1.0%
149	11%	7.0%	593	48%	3.0%
8.5	43%	0.4%	195	19%	1.0%
2.0	-4%	0.1%	346	5%	1.8%
215	11%	10.1%	1,484	-34%	7.6%
319	49%	15.0%	2,572	28%	13.2%
16	-14%	0.7%	718	117%	3.7%
155	-21%	7.3%	225	-7%	1.2%
5.2	-34%	0.2%	22	83%	0.1%
23	68%	1.1%	1,933	20%	9.9%
0.3	75%	0.0%	191	76%	1.0%
0.3	41%	0.0%	120	29%	0.6%
-			7	6%	0.0%
1.5	0%	0.1%	23	-3%	0.1%
121	29%	5.7%	2,404	21%	12.3%
2.6	123%	0.1%	231	-24%	1.2%
4.2	2%	0.2%	284	4%	1.5%
0.8	0%	0.0%	275	-11%	1.4%
40	266%	1.9%	59	587%	0.3%
0.0	-20%	0.0%	41	-13%	0.2%
25	22%	1.2%	902	-37%	4.6%
17	41%	0.8%	333	38%	1.7%
468	96%	22.0%	4,032	30%	20.6%
2,130	**38%**		19,546	**12%**	

Table 13 Port activity based jobs by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Persons employed - number	Cargo handling			Warehousing and storage			Construction of water projects		
	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
Austria	36	196%		999	40%		410	-2%	0.6%
Belgium	1,278	-13%		2,322	127%	5.3%	3,321	31%	4.6%
Bulgaria	549	-15%	1.4%	28	31%	0.1%	3,505	-28%	4.8%
Croatia	226	-25%	0.6%	8	291%	0.0%	2,891	-19%	4.0%
Cyprus	312	-16%	0.8%	156	20%	0.4%	84	-40%	
Czech Republic	-			6,337	38%		-		0.0%
Denmark	256	77%	0.7%	1,761	37%	4.0%	741	8%	1.0%
Estonia	888	1%	2.3%	173	28%	0.4%	153	24%	0.2%
Finland	1,406	-10%	3.6%	39	-14%	0.1%	503	-9%	0.7%
France	1,318	3%	3.4%	3,403	5%	7.8%	6,504	31%	8.9%
Germany	3,318	63%	8.5%	8,370	62%	19.2%	2,598	-2%	3.6%
Greece	822	62%	2.1%	497	-22%	1.1%	1,405	-48%	1.9%
Hungary	1,456	19%		3,936	50%	9.0%	2,907	56%	4.0%
Ireland	-		0.0%	95	-6%	0.2%	150	105%	0.2%
Italy	11,170	-17%	28.6%	262	-8%	0.6%	6,740	-29%	9.3%
Latvia	2,447	7%		19	61%	0.0%	778	-14%	1.1%
Lithuania	1,045	3%		18	69%	0.0%	611	-45%	0.8%
Luxembourg	95	-17%		-			-		
Malta	-		0.0%	-		0.0%	-		
Netherlands	3,453	3%	8.8%	1,015	21%	2.3%	8,129	30%	11.2%
Poland	565	-28%		152	84%	0.3%	7,392	-22%	10.2%
Portugal	156	-8%	0.4%	84	32%	0.2%	992	-28%	1.4%
Romania	1,666	4%	4.3%	54	9%	0.1%	6,232	-49%	8.6%
Slovakia	272	18%		3,120	226%		85	-71%	0.1%
Slovenia	127	13%	0.3%	1	-48%	0.0%	591	-46%	0.8%
Spain	3,610	-13%	9.2%	366	7%	0.8%	13,637	-48%	18.7%
Sweden	786	-6%	2.0%	286	31%	0.7%	466	-11%	0.6%
United Kingdom	1,788	58%	4.6%	10,010	86%	23.0%	1,919	2%	2.6%
EU28	**39,043**	**-2%**		**43,510**	**56%**		**72,744**	**-24%**	

Service activities incidental to water transportation			EU28 Ports, warehousing and water projects		
2016	% Δ 2016-08	% over EU28 Total	2016	% Δ 2016-08	% over EU28 Total
93	29%	0.1%	1,538	27%	0.6%
4,098	-16%	3.7%	11,020	11%	4.1%
1,430	0%	1.3%	5,512	-21%	2.1%
1,346	-4%	1.2%	4,471	-15%	1.7%
321	-23%	0.3%	873	-17%	0.3%
-			6,337	38%	2.4%
2,663	94%	2.4%	5,421	55%	2.0%
1,334	8%	1.2%	2,548	7%	1.0%
1,642	-7%	1.5%	3,589	-9%	1.3%
10,088	14%	9.0%	21,312	16%	8.0%
20,623	14%	18.5%	34,909	25%	13.1%
12,913	336%	11.6%	15,637	129%	5.9%
429	-1%	0.4%	8,728	42%	3.3%
-			245	41%	0.1%
13,355	3%	12.0%	31,526	-13%	11.8%
1,233	680%	1.1%	4,477	33%	1.7%
558	-15%	0.5%	2,232	-20%	0.8%
-			95	-17%	0.0%
276	5%	0.2%	276	5%	0.1%
4,408	14%	3.9%	17,005	19%	6.4%
1,792	-26%	1.6%	9,900	-23%	3.7%
2,386	3%	2.1%	3,618	-8%	1.4%
5,268	-5%	4.7%	13,220	-32%	5.0%
207	728%	0.2%	3,684	145%	1.4%
273	-4%	0.2%	992	-33%	0.4%
-		0.0%	17,613	-42%	6.6%
2,238	-8%	2.0%	3,776	-6%	1.4%
22,649	16%	20.3%	36,366	30%	13.6%
111,623	**20%**		266,920	**4%**	

Table 14 Maritime transport based GVA by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Value added at factor cost - million euro	Inland freight water transport			Inland passenger water transport			Renting and leasing of water transport equipment		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	5	-51%	0.6%	20	32%	2.8%	12	-4%	0.9%
Belgium	72	79%	8.9%	17	-3%	2.5%	117	390%	8.6%
Bulgaria	8	-43%	0.9%	4		0.6%	3	313%	0.2%
Croatia	2	-22%	0.2%	0			43	-18%	3.1%
Cyprus	-			-			-		
Czech Republic	5	7%	0.6%	-			-		
Denmark	3	8%	0.4%	6	0%	0.8%	47	84%	3.4%
Estonia	-			-			12	0%	0.8%
Finland	2	12%	0.2%	6	-6%	0.9%	1	43%	0.1%
France	106	8%	13.1%	135	23%	19.4%	535	17%	39.0%
Germany	470	-28%	57.8%	224	21%	32.2%	111	-87%	8.1%
Greece	-			-			30	-13%	2.2%
Hungary	0	100%	0.0%	10	52%	1.4%	7	800%	0.5%
Ireland	-			7	0%	1.0%	-		
Italy	26	54%	3.2%	102	12%	14.6%	103	133%	7.5%
Latvia	6	2700%	0.7%	0	-39%	0.0%	3	6%	0.2%
Lithuania	-			3	-1%	0.5%	4	600%	0.3%
Luxembourg	-			-			-		
Malta	-			-			30	1647%	2.2%
Netherlands	-			-			-		
Poland	22	-31%	2.7%	6	-80%	0.8%	- 1	-106%	0.0%
Portugal	-			5	0%	0.8%	2	29%	0.1%
Romania	32	-26%	3.9%	4	10%	0.5%	-		
Slovakia	11	6%	1.3%	3	60%	0.5%	-	-100%	0.0%
Slovenia	0	0%	0.0%	1	140%	0.2%	3	1257%	0.2%
Spain	1	-33%	0.1%	11	-15%	1.6%	-		
Sweden	5	25%	0.6%	75	359%	10.8%	46	-34%	3.4%
United Kingdom	39	140%	4.8%	57	146%	8.2%	264	153%	19.3%
EU28	**813**	**-14%**		**696**	**29%**		**1,371**	**-21%**	

Sea and coastal freight water transport			Sea and coastal passenger water transport			EU28 Maritime transport		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
-			-			37	-2%	0.1%
837	464%	5.0%	57	0%	0.8%	1,101	283%	4.0%
11	-45%	0.1%	2	650%	0.0%	28	-19%	0.1%
88	22%	0.5%	94	28%	1.2%	227	13%	0.8%
6	0%	0.0%	92	-10%	1.2%	86	-10%	0.3%
-			-			5	7%	0.0%
3,441	50%	20.4%	811	96%	10.6%	4,308	57%	15.7%
-			39	166%	0.5%	51	93%	0.2%
427	46%	2.5%	316	15%	4.1%	752	30%	2.7%
738	497%	4.4%	446	87%	5.8%	1,959	173%	7.1%
4,120	-41%	24.4%	932	327%	12.2%	5,857	-34%	21.4%
552	124%	3.3%	539	-27%	7.1%	1,121	10%	4.1%
0	-88%	0.0%	-			18	90%	0.1%
69	230%	0.4%	142	39%	1.9%	218	67%	0.8%
1,761	140%	10.4%	2,098	14%	27.4%	4,089	50%	14.9%
10	-45%	0.1%	-			18	-13%	0.1%
39	-26%	0.2%	-			46	-19%	0.2%
-			-			-		
-			-			30	1647%	0.1%
1,694	30%	10.0%	-			1,694	30%	6.2%
113	28%	0.7%	16	13%	0.2%	156	-9%	0.6%
50	1%	0.3%	7	17%	0.1%	64	3%	0.2%
10	-39%	0.1%	0	-25%	0.0%	46	-27%	0.2%
-			-			14	8%	0.0%
11	12%	0.1%	1	-13%	0.0%	16	36%	0.1%
338	40%	2.0%	236	-9%	3.1%	586	14%	2.1%
413	91%	2.4%	404	28%	5.3%	943	52%	3.4%
2,189	50%	12.9%	1,412	42%	18.5%	3,961	52%	14.4%
16,904	**21%**		**7,643**	**35%**		27,428	**20%**	

Table 15 Maritime transport based jobs by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Persons employed	Inland freight water transport			Inland passenger water transport			Renting and leasing of water transport equipment		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	123	-24%	0.6%	389	5%	1.9%	26	31%	0.3%
Belgium	667	73%	3.0%	184	0%	0.9%	160	105%	1.9%
Bulgaria	582	-47%	2.6%	234		1.2%	153	467%	1.9%
Croatia	38	-64%	0.2%	24		0.1%	2,307	11%	28.0%
Cyprus	-			-			-		
Czech Republic	298	-1%	1.3%	-			-		
Denmark	36	31%	0.2%	160	0%	0.8%	57	21%	0.7%
Estonia	-			-			40	0%	0.5%
Finland	39	3%	0.2%	227	-3%	1.1%	16	52%	0.2%
France	1,707	2%	7.7%	2,323	14%	11.6%	158	139%	1.9%
Germany	4,296	5%	19.3%	5,819	31%	29.0%	1,047	-49%	12.7%
Greece	-			-			1,264	-55%	15.3%
Hungary	109	-63%	0.5%	663	16%	3.3%	94	-15%	1.1%
Ireland	-			60	0%	0.3%	-		
Italy	596	7%	2.7%	2,156	-15%	10.7%	603	-78%	7.3%
Latvia	140	536%	0.6%	39	290%	0.2%	65	160%	0.8%
Lithuania	-			137	-5%	0.7%	45	41%	0.5%
Luxembourg	-			-			-		
Malta	-			1	-60%		43	-38%	0.5%
Netherlands	10,126	-4%	45.6%	3,192	1%	15.9%	363	99%	4.4%
Poland	918	27%	4.1%	672	-4%	3.3%	242	94%	2.9%
Portugal	-			245	1%	1.2%	128	27%	1.6%
Romania	1,751	-18%	7.9%	289	-18%	1.4%	144	52%	1.7%
Slovakia	280	-51%	1.3%	203	372%	1.0%	6	-67%	0.1%
Slovenia	-			38	0%	0.2%	46	31%	0.6%
Spain	54	10%	0.2%	375	-4%	1.9%	-		
Sweden	104	-35%	0.5%	1,462	49%	7.3%	91	52%	1.1%
United Kingdom	365	8%	1.6%	1,173	-11%	5.8%	1,150	6%	13.9%
EU28	**22,229**	**-5%**		**20,064**	**12%**		**8,248**	**-31%**	

Sea and coastal freight water transport			Sea and coastal passenger water transport			EU28 Maritime transport		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
-			-			538	-3%	0.2%
898	277%	1.0%	269	0%	0.3%	2,178	89%	0.9%
522	-1%	0.6%	169	28%	0.2%	1,660	-7%	0.7%
743	-1%	0.8%	3,390	8%	3.6%	6,502	7%	2.8%
67	0%	0.1%	2,999	11%	3.2%	3,066	10%	1.3%
-			-			298	-1%	0.1%
17,235	8%	19.1%	5,486	24%	5.8%	22,974	11%	9.8%
-			767	-9%	0.8%	807	-9%	0.3%
2,802	-26%	3.1%	5,762	2%	6.1%	8,846	-9%	3.8%
8,341	-6%	9.3%	5,064	-8%	5.4%	17,593	-3%	7.5%
13,635	-49%	15.1%	3,344	108%	3.6%	28,141	-28%	12.0%
10,298	105%	11.4%	7,675	-35%	8.2%	19,237	-2%	8.2%
6	-90%	0.0%	3	-79%	0.0%	875	-17%	0.4%
323	7%	0.4%	318	-41%	0.3%	701	-22%	0.3%
10,706	-10%	11.9%	37,690	124%	40.0%	51,751	50%	22.0%
186	-59%	0.2%	421	-18%	0.4%	851	-17%	0.4%
1,258	-21%	1.4%	-			1,440	-19%	0.6%
-			-			-		0.0%
86	0%	0.1%	-			130	-18%	0.1%
6,966	-30%	7.7%	1,681	-2%	1.8%	22,328	-12%	9.5%
1,456	-22%	1.6%	634	70%	0.7%	3,922	4%	1.7%
467	-24%	0.5%	406	0%	0.4%	1,246	-9%	0.5%
263	-67%	0.3%	31	417%	0.0%	2,478	-27%	1.1%
-			4		0.0%	493	-22%	0.2%
136	-30%	0.2%	40	-13%	0.0%	260	-17%	0.1%
3,293	16%	3.7%	3,483	-23%	3.7%	7,205	-8%	3.1%
3,596	-46%	4.0%	8,186	-15%	8.7%	13,439	-24%	5.7%
6,855	25%	7.6%	6,326	-30%	6.7%	15,869	-8%	6.8%
90,138	**-14%**		**94,147**	**18%**		234,826	**-1%**	

Table 16 Shipbuilding based GVA by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Value added at factor cost - million euro	Building of pleasure and sporting boats			Building of ships and floating structures		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	16	135%	0.7%	-		0.0%
Belgium	0	-88%	0.0%	- 57	-348%	-0.9%
Bulgaria	-		0.0%	8	-44%	0.1%
Croatia	2	-78%	0.1%	64	-65%	1.0%
Cyprus	1	57%	0.0%	-		0.0%
Czech Republic	1	0%	0.0%	2	0%	0.0%
Denmark	13	-21%	0.5%	78	-37%	1.2%
Estonia	7	26%	0.3%	11	0%	0.2%
Finland	95	50%	3.8%	152	-31%	2.4%
France	390	51%	15.8%	1,110	83%	17.5%
Germany	462	80%	18.8%	467	-40%	7.4%
Greece	5	25%	0.2%	67	-75%	1.1%
Hungary	2	5%	0.1%	2	375%	0.0%
Ireland	2	-21%	0.1%	5	0%	0.1%
Italy	339	-26%	13.8%	814	-7%	12.8%
Latvia	2	16%	0.1%	12	9%	0.2%
Lithuania	4	255%	0.2%	19	-43%	0.3%
Luxembourg	-		0.0%	-		0.0%
Malta	-		0.0%	0	-75%	0.0%
Netherlands	499	27%	20.3%	499	27%	7.9%
Poland	90	60%	3.7%	174	-60%	2.7%
Portugal	14	245%	0.6%	21	-40%	0.3%
Romania	2	-6%	0.1%	235	8%	3.7%
Slovakia	- 0	-157%	0.0%	1	-12%	0.0%
Slovenia	4	-17%	0.2%	1	-14%	0.0%
Spain	39	-46%	1.6%	349	-42%	5.5%
Sweden	52	-25%	2.1%	130	132%	2.0%
United Kingdom	423	10%	17.2%	2,184	114%	34.4%
EU28	**2,460**	**19%**		**6,346**	**8%**	

Repair and maintenance of ships and boats			EU28 Shipbuilding and repair		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
12	27%	0.4%	28	73%	0.2%
56	-41%	1.8%	- 1	-101%	0.0%
39	-18%	1.3%	47	-24%	0.4%
66	14%	2.1%	132	-47%	1.1%
31	553%	1.0%	31	505%	0.3%
1	0%	0.0%	4	0%	0.0%
101	9%	3.3%	192	-17%	1.6%
42	77%	1.4%	60	49%	0.5%
37	12%	1.2%	284	-10%	2.4%
328	12%	10.7%	1,827	58%	15.4%
311	-27%	10.1%	1,240	-15%	10.4%
138	-10%	4.5%	210	-51%	1.8%
1	-38%	0.0%	5	41%	0.0%
15	36%	0.5%	22	18%	0.2%
360	7%	11.7%	1,512	-9%	12.7%
14	-25%	0.5%	28	-11%	0.2%
54	52%	1.8%	77	10%	0.6%
-		0.0%	-		0.0%
10	-14%	0.3%	10	-16%	0.1%
-		0.0%	997	27%	8.4%
313	75%	10.2%	577	-14%	4.9%
75	10%	2.4%	110	2%	0.9%
91	44%	2.9%	327	16%	2.8%
1	-9%	0.0%	1	-34%	0.0%
3	100%	0.1%	7	9%	0.1%
483	-3%	15.7%	870	-26%	7.3%
96	16%	3.1%	279	34%	2.3%
396	133%	12.9%	3,003	91%	25.3%
3,072	**13%**		11,878	**11%**	

Table 17 Shipbuilding based jobs by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Persons employed	Building of pleasure and sporting boats			Building of ships and floating structures		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	229	4%	0.5%	-		
Belgium	15	-42%	0.0%	100	-11%	0.1%
Bulgaria	33	-43%	0.1%	616	-76%	0.5%
Croatia	333	-49%	0.7%	5,843	-53%	4.8%
Cyprus	33	15%	0.1%	-		0.0%
Czech Republic	77	0%	0.2%	219	0%	0.2%
Denmark	266	18%	0.5%	1,181	-49%	1.0%
Estonia	349	15%	0.7%	345	0%	0.3%
Finland	1,930	-21%	3.9%	3,541	-36%	2.9%
France	7,027	-6%	14.1%	14,593	16%	12.0%
Germany	7,873	110%	15.8%	13,041	-15%	10.7%
Greece	221	7%	0.4%	1,389	-66%	1.1%
Hungary	188	-15%	0.4%	152	111%	0.1%
Ireland	43	-15%	0.1%	111	0%	0.1%
Italy	7,034	-44%	14.1%	15,767	-19%	12.9%
Latvia	316	161%	0.6%	648	-23%	0.5%
Lithuania	194	17%	0.4%	893	-48%	0.7%
Luxembourg	-			-		
Malta	20	0%	0.0%	-		
Netherlands	5,023	-8%	10.1%	6,450	-1%	5.3%
Poland	5,034	27%	10.1%	4,817	-66%	3.9%
Portugal	493	20%	1.0%	876	-61%	0.7%
Romania	208	-22%	0.4%	18,324	-17%	15.0%
Slovakia	65	11%	0.1%	41	-69%	0.0%
Slovenia	111	-76%	0.2%	48	2%	0.0%
Spain	1,004	-22%	2.0%	8,940	-29%	7.3%
Sweden	1,216	-43%	2.4%	1,507	-8%	1.2%
United Kingdom	10,547	7%	21.1%	22,519	-22%	18.5%
EU28	**49,883**	**-5%**		**121,961**	**-26%**	

Repair and maintenance of ships and boats			EU28 Shipbuilding and repair		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
175	-1%	0.2%	404	2%	0.2%
1,020	-40%	1.1%	1,135	-39%	0.4%
4,158	-1%	4.6%	4,807	-29%	1.8%
3,248	-3%	3.6%	9,424	-42%	3.6%
857	724%	1.0%	890	569%	0.3%
50	0%	0.1%	346	0%	0.1%
1,559	17%	1.7%	3,006	-22%	1.1%
1,723	44%	1.9%	2,417	31%	0.9%
832	5%	0.9%	6,303	-28%	2.4%
6,597	1%	7.3%	28,217	6%	10.8%
5,055	-26%	5.6%	25,969	0%	9.9%
5,851	21%	6.5%	7,461	-19%	2.9%
89	-25%	0.1%	429	4%	0.2%
268	18%	0.3%	422	8%	0.2%
8,484	-18%	9.4%	31,285	-26%	12.0%
1,127	-32%	1.3%	2,091	-21%	0.8%
2,946	-15%	3.3%	4,033	-24%	1.5%
-			-		
307	13%	0.3%	327	12%	0.1%
5,935	23%	6.6%	17,408	4%	6.7%
10,330	6%	11.5%	20,181	-28%	7.7%
1,894	12%	2.1%	3,263	-25%	1.2%
8,194	4%	9.1%	26,726	-11%	10.2%
67	-12%	0.1%	173	-35%	0.1%
131	3%	0.1%	290	-54%	0.1%
10,858	-15%	12.1%	20,802	-22%	7.9%
1,855	-1%	2.1%	4,578	-19%	1.7%
6,318	60%	7.0%	39,384	-8%	15.0%
89,928	**0%**		261,772	**-15%**	

Table 18 Coastal tourism based GVA by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Value added at factor cost - million euro	Accommodation			Transport		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	-			-		
Belgium	72	-32%	0.3%	85	-21%	0.3%
Bulgaria	370	317%	1.4%	322	-7%	1.1%
Croatia	905	-5%	3.5%	935	-15%	3.3%
Cyprus	221	-11%	0.8%	162	-6%	0.6%
Czech Republic	-			-		
Denmark	802	17%	3.1%	1,188	35%	4.2%
Estonia	109	18%	0.4%	184	6%	0.6%
Finland	228	-6%	0.9%	478	-2%	1.7%
France	2,720	5%	10.4%	4,768	-1%	16.7%
Germany	1,513	12%	5.8%	1,387	10%	4.8%
Greece	1,953	35%	7.5%	1,747	16%	6.1%
Hungary	-			-		
Ireland	564	32%	2.2%	439	18%	1.5%
Italy	3,784	-1%	14.5%	3,003	-3%	10.5%
Latvia	46	15%	0.2%	55	-26%	0.2%
Lithuania	16	32%	0.1%	14	-18%	0.0%
Luxembourg	-			-		
Malta	134	22%	0.5%	107	4%	0.4%
Netherlands	460	50%	1.8%	433	34%	1.5%
Poland	335	4%	1.3%	441	-18%	1.5%
Portugal	1,207	53%	4.6%	1,235	35%	4.3%
Romania	35	-14%	0.1%	95	0%	0.3%
Slovakia	-			-		
Slovenia	21	4%	0.1%	16	-7%	0.1%
Spain	6,827	15%	26.1%	6,931	5%	24.2%
Sweden	1,180	41%	4.5%	1,172	142%	4.1%
United Kingdom	2,655	6%	10.2%	3,425	0%	12.0%
EU28	**26,156**	**15%**		**28,621**	**7%**	

Other			EU28 Coastal tourism		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
-			-		
34	-33%	0.2%	191	-28%	0.3%
153	17%	1.0%	845	175%	1.2%
354	-18%	2.3%	2,195	-12%	3.1%
126	-13%	0.8%	509	-10%	0.7%
-			-		
748	40%	4.8%	2,738	31%	3.9%
74	7%	0.5%	367	10%	0.5%
297	-18%	1.9%	1,003	-8%	1.4%
2,077	-9%	13.3%	9,564	-1%	13.6%
1,166	-10%	7.5%	4,066	4%	5.8%
1,137	31%	7.3%	4,837	27%	6.9%
-			-		
249	23%	1.6%	1,252	25%	1.8%
1,715	-9%	11.0%	8,502	-3%	12.1%
37	-15%	0.2%	137	-13%	0.2%
9	-48%	0.1%	38	-16%	0.1%
-			-		0.0%
64	11%	0.4%	306	13%	0.4%
228	29%	1.5%	1,121	39%	1.6%
223	-29%	1.4%	999	-15%	1.4%
645	27%	4.1%	3,087	40%	4.4%
61	47%	0.4%	192	8%	0.3%
-			-		
7	-10%	0.0%	44	-2%	0.1%
3,747	16%	24.0%	17,504	11%	24.9%
673	23%	4.3%	3,025	62%	4.3%
1,807	4%	11.6%	7,888	3%	11.2%
15,633	**5%**		70,410	**9%**	

Table 19 Coastal tourism based jobs by Member State and sub-sector (2016), including percentage change to 2009 and share of the total EU-28.

Persons employed	Accommodation			Transport		
	2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
Austria	-			-		
Belgium	1,777	-30%	0.2%	410	-26%	0.1%
Bulgaria	54,378	23%	5.7%	9,677	11%	3.3%
Croatia	44,064	-16%	4.6%	8,475	-35%	2.9%
Cyprus	9,545	-11%	1.0%	4,784	69%	1.7%
Czech Republic	-			-		
Denmark	16,340	4%	1.7%	11,111	40%	3.8%
Estonia	6,960	19%	0.7%	940	-1%	0.3%
Finland	4,632	-6%	0.5%	5,646	-14%	2.0%
France	48,019	-2%	5.0%	35,293	-12%	12.2%
Germany	73,731	4%	7.7%	24,720	-11%	8.5%
Greece	121,084	54%	12.7%	27,181	47%	9.4%
Hungary	-			-		
Ireland	19,972	27%	2.1%	2,340	80%	0.8%
Italy	104,667	-14%	11.0%	24,350	-17%	8.4%
Latvia	4,510	22%	0.5%	1,618	-21%	0.6%
Lithuania	1,419	11%	0.1%	523	-54%	0.2%
Luxembourg	-			-		
Malta	3,768	-9%	0.4%	438	-10%	0.2%
Netherlands	7,381	20%	0.8%	164	-5%	0.1%
Poland	24,606	-10%	2.6%	8,156	-46%	2.8%
Portugal	66,434	28%	7.0%	13,602	21%	4.7%
Romania	3,692	-23%	0.4%	5,550	24%	1.9%
Slovakia	-		0.0%	-		0.0%
Slovenia	1,062	24%	0.1%	161	-13%	0.1%
Spain	222,681	6%	23.3%	68,301	15%	23.6%
Sweden	30,410	47%	3.2%	7,463	13%	2.6%
United Kingdom	84,027	-16%	8.8%	28,544	9%	9.9%
EU28	**955,159**	**6%**		**289,446**	**2%**	

Other			EU28 Coastal tourism		
2016	% Δ 2016-09	% over EU28 Total	2016	% Δ 2016-09	% over EU28 Total
-			-		
1,735	5%	0.2%	3,923	-17%	0.2%
33,865	-22%	3.8%	97,919	2%	4.6%
49,117	-24%	5.6%	101,656	-22%	4.8%
4,749	-13%	0.5%	19,079	0%	0.9%
-			-		
15,930	35%	1.8%	43,380	23%	2.0%
9,892	-2%	1.1%	17,791	6%	0.8%
8,864	1%	1.0%	19,142	-5%	0.9%
71,455	-17%	8.1%	154,767	-12%	7.3%
33,203	4%	3.8%	131,654	1%	6.2%
104,279	50%	11.8%	252,544	52%	11.9%
-			-		
8,696	34%	1.0%	31,007	32%	1.5%
70,701	-1%	8.0%	199,718	-10%	9.4%
4,019	-33%	0.5%	10,146	-13%	0.5%
1,293	-25%	0.1%	3,235	-22%	0.2%
-			-		
3,296	-11%	0.4%	7,501	-10%	0.4%
12,215	24%	1.4%	19,760	22%	0.9%
22,169	-27%	2.5%	54,931	-24%	2.6%
52,838	27%	6.0%	132,875	27%	6.2%
8,102	-23%	0.9%	17,344	-12%	0.8%
-		0.0%	-		
515	-5%	0.1%	1,739	10%	0.1%
239,139	16%	27.1%	530,121	12%	24.9%
18,787	114%	2.1%	56,660	57%	2.7%
107,989	-14%	12.2%	220,560	-12%	10.4%
882,848	**3%**		2,127,453	**4%**	

LIST OF FIGURES

LIST OF TABLES

NACE CODES
& DATA ASSUMPTIONS

Sector	Sub-sector	Corresponding NACE sectors		Data assumptions: NACE codes to be split between maritime and non-maritime
EXTRACTION AND COMMERCIALISATION OF MARINE LIVING RESOURCES (LIVING RESOURCES)	Primary Production	Capture fisheries		DCF data, 100% maritime
		Aquaculture		DCF data; assumed 100% maritime
	Processing and Distribution	Processing and preserving of fish, crustaceans and molluscs	C10.20	NACE R2 = C102
		Wholesale of other food, including fish, crustaceans and molluscs	G46.38	Maritime share assumed to be 50 %, unless country specific information was available
		Retail sale of fish, crustaceans and molluscs in specialised stores	G47.23	100% maritime
MARINE EXTRACTION OF OIL AND GAS	Oil and Gas	Extraction of crude petroleum	B06.10	Offshore oil and gas production ratios obtained from JRC Offshore Authorities Group where available or from the Cogea study
		Extraction of natural gas	B06.20	
		Support activities for petroleum and natural gas extraction	B09.10	
PORTS, WAREHOUSING AND CONSTRUCTION OF WATER PROJECTS	Ports	Service activities incidental to water transportation	H52.22	Assumed 100% maritime
		Cargo handling	H52.24	Seaport related share assumed to be 50%, unless country specific information was available
		Warehousing and storage	H52.10	Seaport related share assumed to be 50%, unless country specific information was available
	Construction of Water Projects	Construction of water projects	F42.91	Assumed 100% maritime
SHIPBUILDING AND REPAIR	Shipbuilding	Building of ships and floating structures	C30.11	Assumed 100% maritime
		Building of pleasure and sporting boats	C30.12	
		Repair and maintenance of ships and boats	C33.15	
MARITIME TRANSPORT	Shipping and transport	Sea and coastal passenger water transport	H50.10	Assumed 100% maritime
		Sea and coastal freight water transport	H50.20	
		Inland passenger water transport	H50.30	
		Inland freight water transport	H50.40	
		Renting and leasing of water transport equipment	N77.34	Assumed 100% maritime

Sector	Sub-sector	Corresponding NACE sectors		Data assumptions: NACE codes to be split between maritime and non-maritime
COASTAL TOURISM	Accommodation	Hotels and similar accommodation	I55.10	Allocation maritime/ non-maritime: % of tourist nights spent in coastal municipalities compared to the total – by Member State
		Holiday and other short-stay accommodation	I55.20	
		Camping grounds, recreational vehicle parks and trailer parks	I55.30	
		Other accommodation	I55.90	
	Transport	Retail sale of automotive fuel in specialised stores	G47.30	
		Passenger rail transport, interurban	H49.10	
		Urban and suburban passenger land transport	H49.30	
		Sea and coastal passenger water transport	H50.10	
		Passenger air transport	H51.10	
	Other expenditures	Retail sale of cultural and recreation goods in specialised stores	G47.6	
		Retail sale of other goods in specialised stores	G47.7	
		Food and beverage service activities	I56	

COMPARISON WITH SECTORS USED IN THE COGEA REPORT

Sector	Sub-sector	Corresponding NACE sectors	COGEA report	
EXTRACTION AND COMMERCIALISATION OF MARINE LIVING RESOURCES	PROCESSING AND DISTRIBUTION	C10.20 Processing and preserving of fish, crustaceans and molluscs	C10.20 Processing and preserving of fish, crustaceans and molluscs Eurostat SBS (sbs_na_ind_r2)	FISHERIES AND AQUACULTURE SECTOR
		G47.23 Retail sale of fish, crustaceans and molluscs in specialised stores		
		G46.38 Wholesale of other food, including fish, crustaceans and molluscs		
			Manufacture of oils and fats Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
			Prepared meals and dishes Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
			Other food products n.e.c. Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
	PRIMARY PRODUCTION	Capture fisheries (source: DCF)	Marine fishing (source: DCF)	
		Aquaculture (source: DCF)	Freshwater Aquaculture	
			Marine Aquaculture (source: DCF)	
MARINE EXTRACTION OF MINERALS, OIL AND GAS	EXTRACTION OF OIL AND GAS	B06.10 Extraction of crude petroleum	B06.10 Extraction of crude petroleum Eurostat SBS (sbs_na_ind_r2), plus a variety of sources at Member State level	EXTRACTION OF OIL AND GAS
		B06.20 Extraction of natural gas	B06.20 Extraction of natural gas Eurostat SBS (sbs_na_ind_r2), plus a variety of sources at Member State level	
		B09.10 Support activities for petroleum and natural gas extraction	B09.10 Support activities for petroleum and natural gas extraction Eurostat SBS (sbs_na_ind_r2), Eurostat Energy statistics (nrg_109a), plus a variety of sources at Member State level	
	EXTRACTION OF AGGREGATES		Eurostat SBS (sbs_na_ind_r2) and UEPG Includes 4 NACE classes	EXTRACTION OF AGGREGATES
	EXTRACTION OF SALT		www.eusalt.com	EXTRACTION OF SALT
SEABED MINING			Seabed mining	SEABED MINING
DESALINATION			Desalination	DESALINATION

Sector	Sub-sector	Corresponding NACE sectors	COGEA report	
SHIPBUILDING AND REPAIR	SHIPBUILDING	C30.11 Building of ships and floating structures	C30.11 Building of ships and floating structures	SHIPBUILDING
		C30.12 Building of pleasure and sporting boats	C30.12 Building of pleasure and sporting boats	
			C 32.30 Manufacture of sports goods Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
			C28.11 Manufacture of engines and turbines except aircraft, vehicle and cycle engines	
		C33.15 Repair and maintenance of ships and boats	C33.15 Repair and maintenance of ships and boats	SHIP REPAIR
	Dismantling of wrecks		E38.31 Dismantling of wrecks	
EQUIPMENT			C28.11 Manufacture of engines and turbines except aircraft, vehicle and cycle engines Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	EQUIPMENT
			C13.94 Manufacture of cordage, rope, twine and netting Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
			C26.51 Manufacture of instruments and appliances for measuring, testing and navigation Manufacture of instruments and appliances for measuring, testing and navigation Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
			C13.92 Manufacture of made-up textile articles, except Apparel Eurostat SBS (sbs_na_ind_r2) and PRODCOM (DS-066341)	
MARITIME TRANSPORT	Maritime Transport	H50.10 Sea and coastal passenger water transport	H50.10 Sea and coastal passenger water transport	MARINE TRANSPORT
		H50.20 Sea and coastal freight water transport	H50.20 Sea and coastal freight water transport	
		H50.30 Inland passenger water transport	H50.30 Inland passenger water transport	
		H50.40 Inland freight water transport	H50.40 Inland freight water transport	
			K65.12 Non-life insurance Eurostat SBS (na_1a_se_r2) and Eurostat naio_10_cp	
			K65.20 Reinsurance Eurostat SBS (na_1a_se_r2) and Eurostat naio_10_cp	
		Rental and leasing services of water transport equipment	Rental and leasing services of water transport equipment	
			Other transportation support activities Eurostat SBS (na_1a_se_r2) and Eurostat naio_10_cp	

Sector	Sub-sector	Corresponding NACE sectors	COGEA report	
PORT ACTIVITIES AND CONSTRUCTION OF WATER PROJECTS	PORTS, WAREHOUSING AND WATER PROJECTS	H52.22 Service activities incidental to water transportation	H52.22 Service activities incidental to water transportation	PORTS (INCLUDING DREDGING)
		H52.24 Cargo handling	H52.24 Cargo handling Eurostat SBS (na_1a_se_r2) and Eurostat naio_10_cp	
		H52.10 Warehousing and storage	H52.10 Warehousing and storage Eurostat SBS (na_1a_se_r2) and Eurostat naio_10_cp	
		F42.91 Construction of water projects	F42.91 Construction of water projects Eurostat SBS (na_1a_se_r2)	
COASTAL TOURISM	ACCOMMODATION	I55.10 Hotels and similar accommodation		COASTAL TOURISM
		I55.20 Holiday and other short-stay accommodation		
		I55.30 Camping grounds, recreational vehicle parks and trailer parks		
		I55.90 Other accommodation		
	TRANSPORT	G47.30 Retail sale of automotive fuel in specialised stores		
		H49.10 Passenger rail transport, interurban		
		H49.30 Urban and suburban passenger land transport		
		H50.10 Sea and coastal passenger water transport	H50.10 Sea and coastal passenger water transport	CRUISE TOURISM
		H51.10 Passenger air transport		COASTAL TOURISM
	OTHER EXPENDITURES	G47.6 Retail sale of cultural and recreation goods in specialised stores		
		G47.7 Retail sale of other goods in specialised stores		
		I56 Food and beverage service activities		

GLOSSARY

→**Number of persons employed** is defined as the 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). It excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service (ESTAT).

→**Personnel costs** are defined as 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 and salaries and employers' social security costs.

→**Turnover** comprises the totals 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 the 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. Price reductions, rebates and discounts as well as the value of returned packing must be deducted.

→**Value added at factor costs** (GVA) is the gross income from operating activities after adjusting for 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.

It 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. The duties and taxes linked to production are compulsory, unrequited payments, in cash or in kind which are levied by general government, or by the Institutions of the European Union, in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production irrespective of the quantity or the value of goods and services produced or sold. Alternatively, it can be calculated from gross operating surplus by adding personnel costs.

→**Gross operating surplus** is 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 recompense the providers of own funds and debt, to pay taxes and eventually to finance all or a part of its investment.

→**Gross investment in tangible goods** is defined as 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 (ESTAT).

→**Gross investment in tangible goods is based on:** Gross investment in land + Gross investment in existing buildings and structures + Gross investment in construction and alteration of buildings + Gross investment in machinery and equipment Gross investment in tangible goods can be greater than the sum of 15 12 0+15 13 0+15 14 0+15 15 0 as there are asset items such as art, forests, orchards, cattle... which cannot be attributed to either of the categories of tangible goods