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Directorate General for Maritime Policy

PORTUGAL INVESTMENT PORTFOLIO IN THE OCEAN

ECONOMIC, SOCIAL AND ENVIRONMENTAL VALORIZATION
OF THE OCEAN AND COASTAL AREAS

Lisbon, 5th June 2014

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INVESTMENT PORTFOLIO IN THE OCEAN

ECONOMIC, SOCIAL AND ENVIRONMENTAL VALORIZATION
OF THE OCEAN AND COASTAL AREAS

EQUIPA TÉCNICA

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1. ECONOMIC POTENTIAL AND OCEAN INVESTMENT OPPORTUNITIES IN PORTUGAL

Blue Growth is a priority for Portugal. In the context of the European Integrated Maritime Policy (IMP), from 2007 until now, great developments has been observed in the strategic plan, both at the European level and its relationship with other parts of the globe, as well as at a National level. The UE Maritime Strategy for the Atlantic Area and its Action Plan was released in 13th May 2013, followed by the Galway Statement on Atlantic Ocean Cooperation, launching a European Union – Canada – United States of America Research Alliance, signed on the 24th May 2013. Directorate-General for Maritime Affairs and Fisheries from the European Commission (DG MARE), also promoted the “Blue Growth” study with several reports being released since August 2012. The National Ocean Strategy 2013-2020 (NOS 2013-2020) and its Action Plan were officially published on the 12th February 2014.

Portugal is being an active partner in the several *fora* where this matters are discussed, profiting from the synergies and coherence among the strategic documents.

The NOS 2013-2020 fits the new paradigm for sustainable development, guided by the vision of the European Commission for the maritime sector: the Blue Growth. This new paradigm seeks to identify and provide answers to economic, environmental and social challenges through the development of synergies between sectorial policies.

The “Blue Growth” identifies five strategic domains of preferential intervention, namely: blue energy, aquaculture, tourism, marine mineral resources and blue biotechnology.

According to the document “Ocean Economy in Portugal” coordinated in 2012 by Directorate-General for Maritime Policy (DGMP), which involved a broad set of institutional representatives of the sectors, in 2010 the Ocean Economy represented, in direct terms, around 2,5% of Gross Value Added (GVA) and 2,3% of national employment. Estimated values for 2012 reveal an increase of the weight of the Ocean Economy to around 2,7% of GVA.

Scenarios

In the course of the scenario based approach made to the Ocean Economy in Portugal, two key uncertainties or critical drivers were considered to understand the future dynamics of the focus - the affirmation of Ocean Economy in Portugal: A) the European Economy Dynamics (winds), with two extreme configurations “unfavorable winds” or “favorable winds”; and B) the National Governance in the Sea Area (currents), with two extreme configurations “unfavorable currents” or “favorable currents”. The intersection of these uncertainties resulted in four generated scenarios for the Ocean Economy in Portugal.

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For the purposes of quantification and drafting of the scenario's narratives, only two were selected: Scenario C1-"unfavorable winds and favorable currents" and C2-"favorable winds and currents".

The basis for consideration of a "National Governance in the Sea Area" positive dynamics, in both scenarios, are as follows: 1) there is a new institutional structure dedicated to the integration of Maritime Affairs, inter alia, organs of the Ministry of Agriculture and Sea (MAS), whose mission relates to the sea, in particular the Directorate General for Maritime Policy (DGMP) with competencies in the area of strategic information and support to policy and investment decisions in the Ocean Economy, as well as other bodies such as the Directorate General for Natural Resources, Safety and Maritime Services (DGMR), the Portuguese Sea and Atmosphere Institute (PSAI) and the structure of the Task Group for the Extension of the Continental Shelf (TGECS), to which must be added the liaison with the Inter-ministerial Commission for Maritime Affairs (ICMA) providing a structure for strategic thinking and decision on the sea, as well as the demand for a strengthening of institutional relationships with civil society and the business organizations; 2) the design of a National Ocean Strategy, for alignment of the options of the past with the new European policy, the IMP and that relates to the guidelines for Blue Growth, the development of actions for oceanic basin (the Atlantic Strategy) and the respective financial package (which includes the Partnership Agreement for 2014-2020 EU funds).

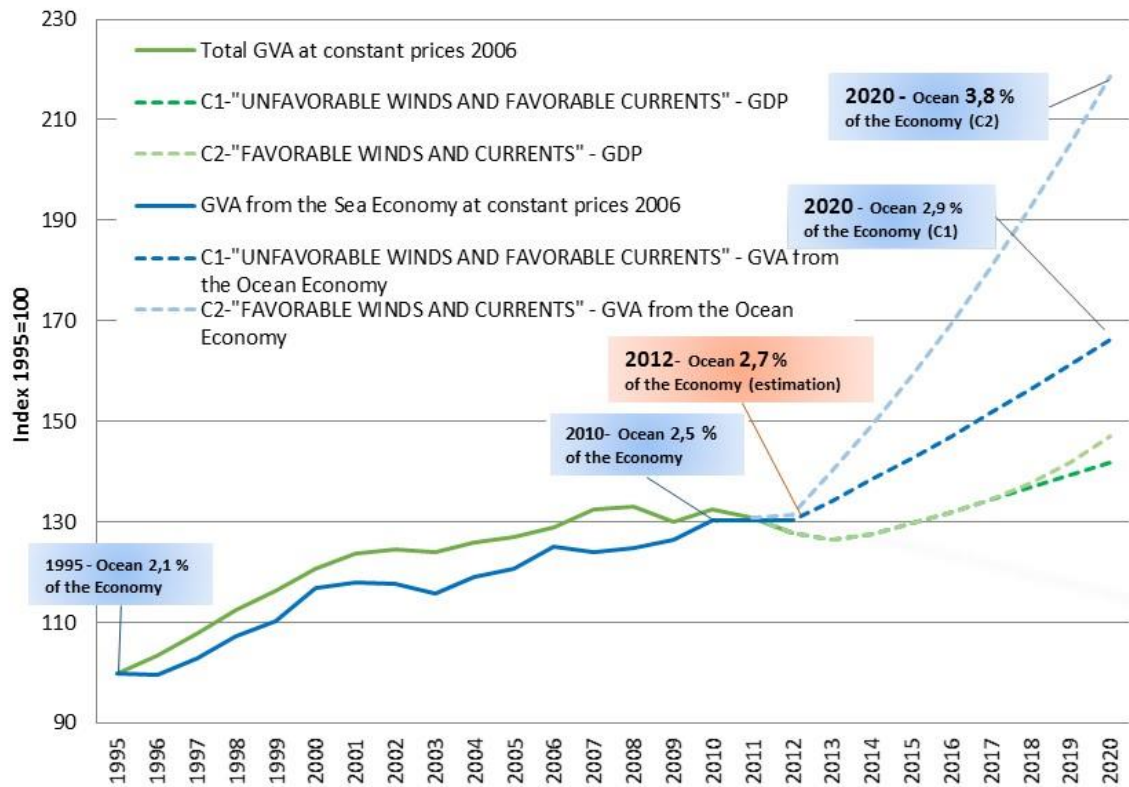
- Scenario C1 - "unfavorable winds and favorable currents" – in this scenario, resulting from the crossing of an economic downturn in Europe, with a strong inner dynamism and proactivity in governance for the sea area, the country will follow a trajectory of "gradual economic adjustment" after 2017, managing to boost some projects in networks of international partnerships in the sea area, as well as some private investments (especially in the growing activities such as aquaculture, boating and cruises), despite the context of financing difficulties.
- Scenario C2 - "favorable winds and currents" - scenario in which favorable factors come together, namely a dynamic of European economic recovery, which will enable Portugal an "economic boom after 2017", with a strong internal governance in the sea area that will seek to achieve the vision for the country enshrined in the National Ocean Strategy in all its fullness, ripping way to new emerging activities in a broader time horizon (marine biotechnology, non-energy mineral resource exploitation, marine energies), evolving in the value chain of activities established (for example in robotics and IT associated with the sea), betting on the enhancement of technological capabilities and networks of international partnerships, aimed at the economic statement by exports of goods and services of high quality.

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Figure 1- Scenarios for total GDP and GVA of the Ocean Economy 2020



Source: NOS 2013-2020, Annex A

In scenario C1 - "unfavorable winds and favorable currents", the Ocean Economy amounts to 2.9% of Gross Domestic Product (GDP) in 2020, while in a more optimistic scenario C2 - "favorable winds and currents" the Ocean Economy reaches 3.8% of GDP in 2020. The historical evolutions and scenarios considered for GDP and for GVA of the Ocean Economy are reflected in figure 1. and in table 1. Note that these calculations include only the direct effects of the uses and activities of the Ocean Economy in GDP. Quantification of indirect and induced effects on the economy, not made in this analysis, would lead to a greater contribution of the Ocean Economy, which it is important not to minimize in the decision making.

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Table 1- Historical evolution and quantified scenarios for the Ocean Economy in Portugal

	Real annual average rate of change (%)						
	1995/ 2000	2001/ 2006	2006/ 2010	1995/ 2010	2011/ 2012	C1- "Unfavora- ble winds and favorable currents"	C2- "Favorable winds and currents"
						2012/2020	2012/2020
Total GVA	3,8	1,1	0,7	1,7	-1,9		
GDP						0,7	1,2
GVA from the Ocean Economy	3,2	1,1	1,0	1,6	0,25	3,1	6,6
	Weight of the Ocean Economy (%)						
	1995	2000	2005	2010	2012	2020	2020
GVA from the Ocean Economy (at current prices) / Total GVA (at current prices)	2,1	2,2	2,2	2,5	2,7	2,9	3,8

estimated value

Source: NOS 2013-2020, Annex A

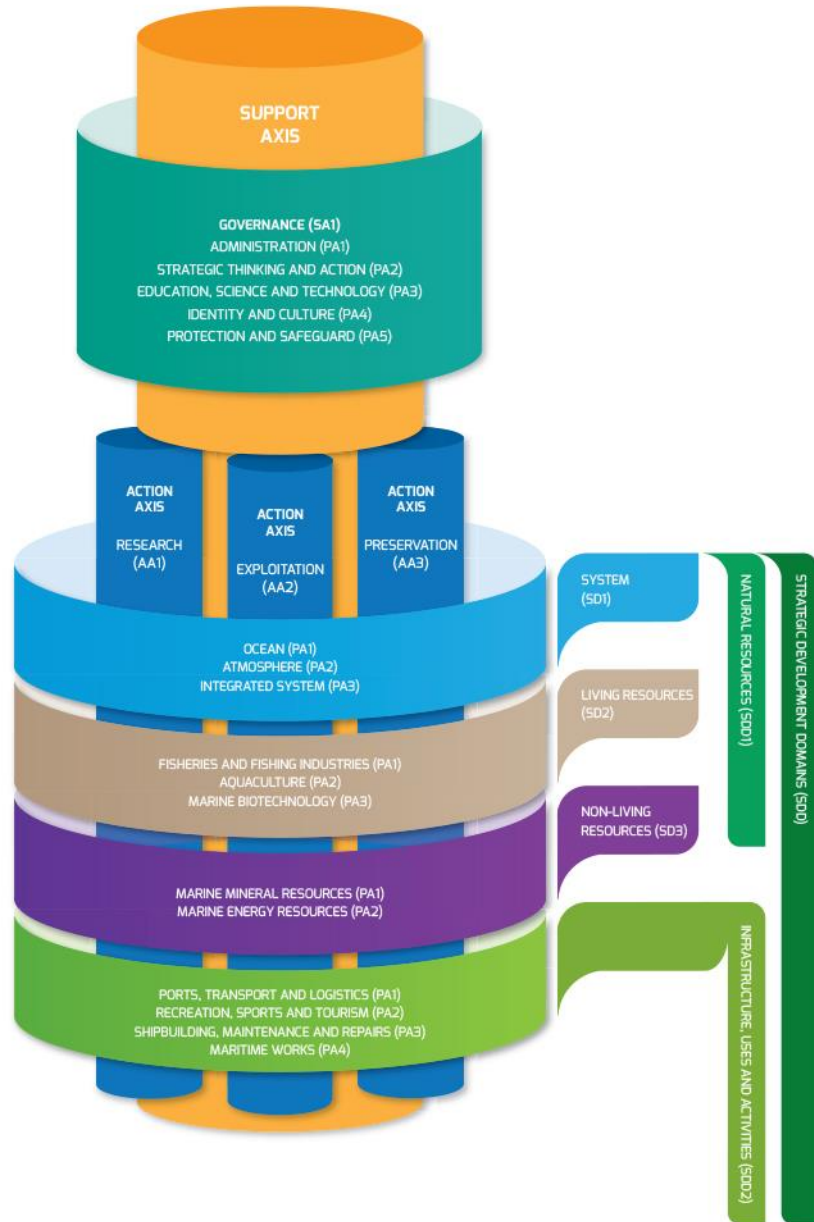
NOS 2013-2020 and its action plan, the Mar Portugal Plan (MPP), are the framework documents for the maritime policy in the near future. It is organized in an Action Matrix (AM) described in Figure 2. The strategic development domains (SDD) includes Natural Resources – with three subdomains (SD): System (blue colour), Living Resources (beige colour) and Non-living Resources (violet colour) – and Infrastructure, uses and Activities (green colour).

The same colours will be adopted for the activities included in each NOS 2013-200 domain and subdomain along this document.

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Figure 2 - Mar Portugal Plan (MPP) Action Matrix (AM)



Source: NOS 2013-2020

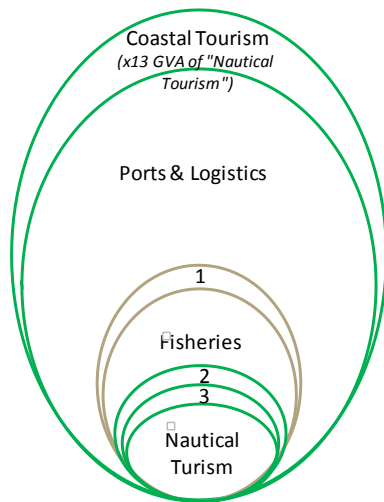
Maritime activities in Portugal can be split in established and emergent activities, or according to the development stage in the value chain, following the European Commission criteria for the Blue Growth [Ecorys, 2012]. As mentioned in that report, established mature economic activities are the “bedrock” of blue growth. Figures 3 and 4 give a quick image of the top 7 biggest established activities in Portugal in terms of GVA and Employment, in 2010-11, as well as the top 5 fastest growers over the last 15 years. Figure 5 gives a picture of the fastest growers in the last 15 year, from 1995 to 2010.

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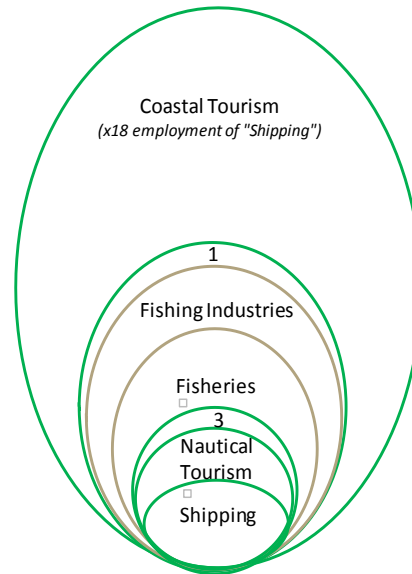
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Figure 3 - TOP 7 Biggest established maritime activities -GVA



- 1 - Fishing Industries
- 2 - Shipping
- 3- Shipbuilding, Maintenance & Repair

Figure 4 – TOP 7 Biggest established maritime activities



- 1 - Ports & Logistics
- 2 - Fishing Industries
- 3- Shipbuilding, Maintenance & Repair

Source: based on data from DGPM (2012)

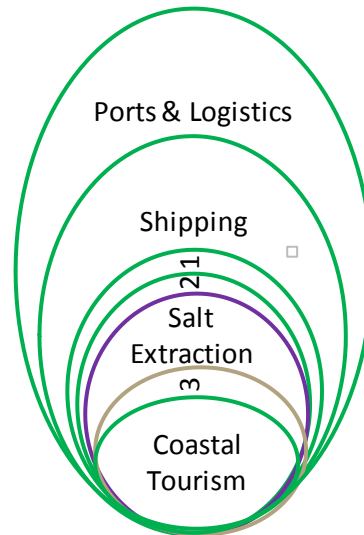
Figures 3 to 5 were elaborated from the last available statistics from National Accounts, allowing for a coherent data comparison based on GVA and Employment. There is no data available yet, from the same source, with the required level of detail, to evaluate the recent years.

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**Figure 5-TOP 7 Fastest growers in the last 15 years
(GVA at 2006 constant prices 1995-2010)**



Source: based on data from DGPM (2012)

Nevertheless, using other indicators, according to the sector in analysis, it is possible to have an idea of the fastest growing activities in the most recent years, namely: salt extraction, aquaculture and cruise tourism (Figure 6). Nautical tourism is also the case, although difficult to measure.

Figure 6 - Fastest growing activities in the last 3 years (2010/2012)

	Percentage Increase, between 2010 and 2012
SALT EXTRACTION - Production (t)	99%
AQUICULTURE - Production (t)	29%
AQUICULTURE - Production (€)	15%
CRUISE TOURISM - Number of passengers	24%

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Figure 7 is a synthesis of the historic evolution of marine economic activities in the socioeconomic and environmental perspectives, as well as the expected trends for 2020.

Figure 7 - Maritime activities past and future trends dynamics

Maritime Activity	Historic (1995-2010)		Trends (2010-2020)	
	Socio-economic dynamics	Environmental degradation dynamics	Socio-economic dynamics	Environmental degradation dynamics
Fisheries	↘	→	→	→
Fishing industries	→	→	↗	→
Aquaculture	→	→	↗	→
Seaweed and other food products	↘	→	→	→
Blue biotechnology	neg.	neg.	→	→
Shipbuilding	↘	→	→	→
Ship maintenance and repair	→	→	↗	→
Ports and logistics	↗	→	↗	→
Shipping	↗	→	↗	→
Coastal tourism	↗	→	→	→
Nautical tourism	neg.	-	↗	→
Cruise tourism	neg.	-	↗	→
Maritime works	↗	→	↗	→
Submarine cables and pipelines	→	→	↗	→
Water abstraction and dessalination	-	neg.	-	→
Waste dumping	-	→	-	→
Wastewater discharges	-	↘	-	↘
Gas storage	neg.	neg.	neg.	neg.
Marine mineral resources	neg.	neg.	↗	→
Salt extraction and refining	→	→	→	→
Oils & gas	↗	neg.	↗	→
Blue energy	↗	→	↗	→
Defence	→	→	→	→
Education and R&D	↗	-	↗	-

↗ - Increase; → - Stabilization; ↘ - reduction (activity or marine environment impact); neg. - negligible

Source: DGMP, adapted from MAMAOT (2012)

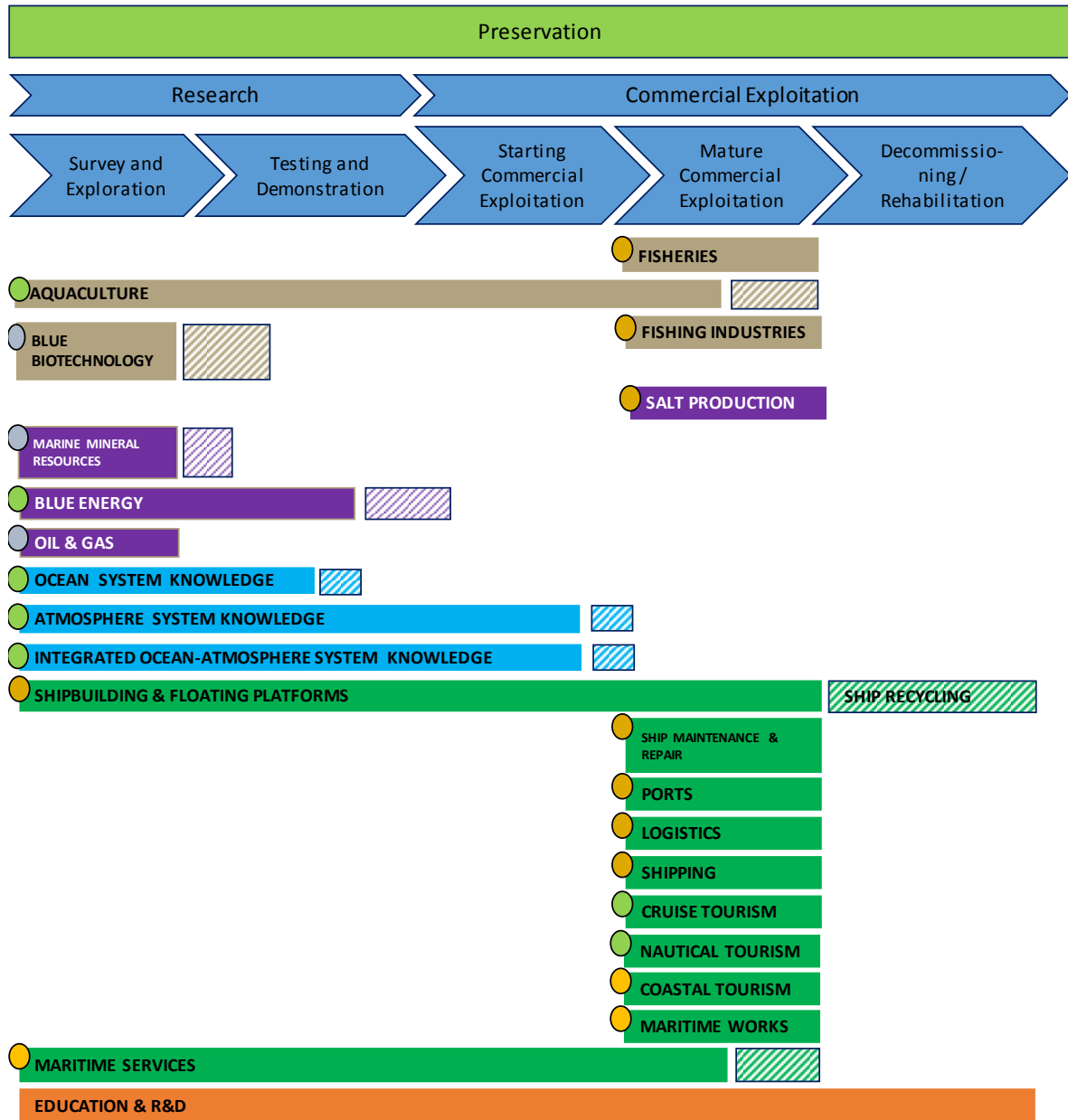
Figure 8 gives a synthetic image of the maritime activities in Portugal and their development stage. The text that follows indicates the areas with most potential and others with a medium opportunity.

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Figure 8 - Maritime activities in Portugal and their development stage



Sub-titles:

ACTIVITIES ACCORDING TO "NOS 2013-2020":

- LIVING RESOURCES
- NON-LIVING RESOURCES
- SYSTEM
- INFRASTRUCTURE, USES AND ACTIVITIES
- GOVERNANCE/ EDUCATION & R&D
- POTENTIAL FOR GROWTH

DEVELOPMENT STAGE:

- PRE-DEVELOPMENT STAGE
- GROWTH-STAGE
- MATURITY ECONOMIC ACTIVITIES

Source: DGMP, adapted from DGPM (2012)

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The Ocean Economy activities with high potential in Portugal were selected considering a conjunction of the established activities with the fastest growing in the most recent years, and the emergent activities with high value added and a potential spill-over effect on other economic activities.

Ocean Economy activities with high potential in Portugal

A. Established activities

AQUACULTURE

Aquaculture is a relatively new activity in Portugal, being in a growth stage in the last few years. It presents an increasing economic potential until 2020, namely in what concerns the exploitation of new off-shore areas. The National Plan for Aquaculture is being finalized and is an ex-ante conditionality for the European Structural and Investment Funds (ESI Funds). Its aim is to stimulate the business, to create employment, to contribute to the local and regional development and social cohesion, to equilibrate the food trade balance and to contribute to the economic activity.

The promotion of aquaculture, in line with the consumption growth, is a national and community priority. Within the Maritime Spatial Planning (MSP), zoning the identified potential will be promoted, in order to increase profitability of platforms and infrastructures, leverage the value of the production chain and contribute to local and regional development and employment.

The aquaculture production capacity in 2012 was around 15 000 tons. NOS 2013-2020 estimates an increase of production capacity of plus 40 000 tons from 2012 to 2016. Business investment in Research, Technological Development and Innovation (R&TD&I) for a sustainable aquaculture is a priority.

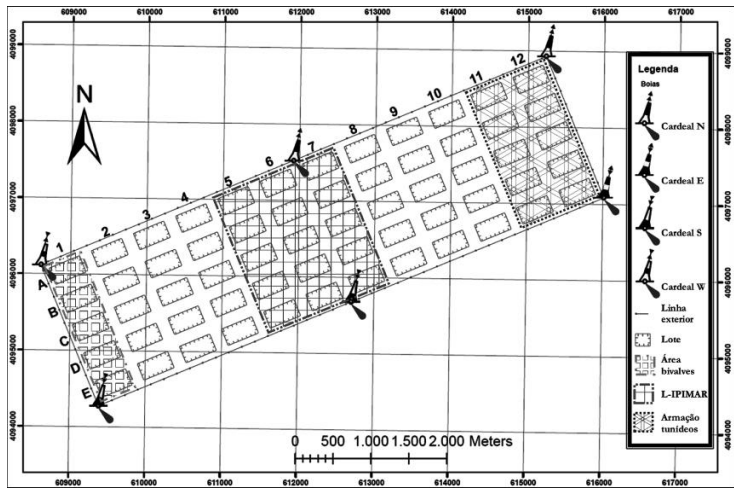
Opportunities in Aquaculture in the near future:

- Pre-Licensing System - Portugal has developed a system of pre-licensed areas for the development of aquaculture production, with the definition of a point of reference, environmental conditions assessment, monitoring and maritime signaling. The available and future areas will be awarded through international auctions
- Pre-Licensing: Available Areas in pilot area Armona – Olhão, Algarve - The first pre-licensed area, located on the coastal region of Armona (Algarve). Originally divided in 60 allotments, there are still allotments available to develop fish or molluscs aquaculture units.

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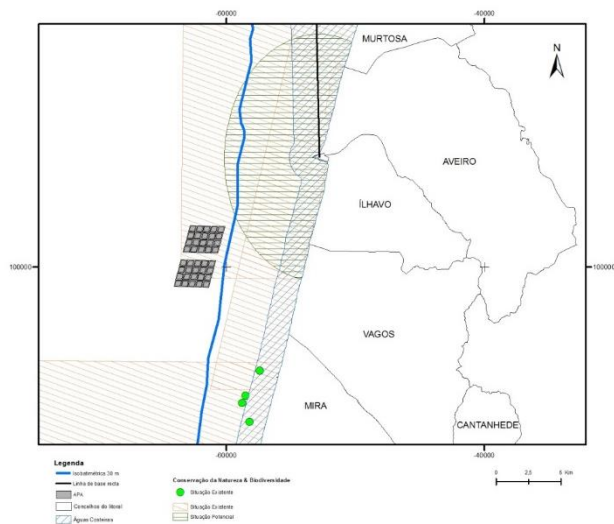
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- Pre-Licensing: Future Areas – Aveiro: 40 allotments for installation of offshore units primarily for indigenous species of molluscs. (Despacho n.º 4222/2014, 21 of march of 2014)



Allotment production area 16 ha (400 m x 400 m)



- Pre-Licensing: Future Areas – Monte Gordo: 32 allotments for: installation of offshore units primarily for indigenous species of molluscs. (Despacho n.º 4223/2014, 21 of march of 2014)

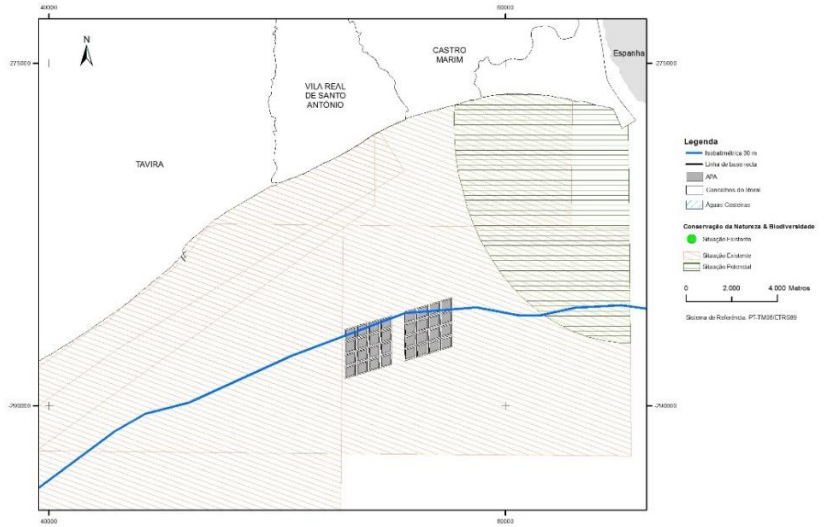
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Allotment production area 16 ha (400 m x 400 m)



SALT PRODUCTION

Salt production is a mature and traditional activity in Portugal. In the last decade new gourmet product appeared such as "fleur de sel", salt with flavors, and, most recently the greenhouse production of salicornia, a halophytic plant that profits from saline soils and replaces table salt.

CRUISE TOURISM

Cruise Tourism is an activity that increased a lot in Portugal, in the last years. The country's Atlantic seaboard have good port conditions to receive cruise ships in the ports of Lisboa, Funchal, Leixões, Açores, Portimão and, more recently Cascais. Lisbon is the European city with the greatest number of cruise stops in the Atlantic seaboard. As mentioned in the Tourism of Portugal site "the sea is a natural way of getting to Portugal and a good starting point to gain an insight into the history of this country of explorers". The Continent and Madeira and Azores Islands location are ideal to integrate the Atlantic and the Mediterranean circuits.

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The National Strategic Plan for Tourism 2013-2015, revised in 2013, promotes the development of the maritime tourism and the implementation of a project for cruise attracting, Cruise Portugal. The Strategic Plan for Transports and Infrastructures Horizon 2014-2020, released by the Ministry of Economy in April 2014, also envisages the promotion of a competitive network of cruise terminals and recreational boating infrastructures, profiting from the country's geographical position, in the centre of the main cruising routes from the Mediterranean and the North of Europe. Investments are foreseen in a new cruise terminal in Leixões, as well as in the construction of a new maritime station and efficiency improvements in the cruise terminal of Alcântara, in Lisbon.

NAUTICAL TOURISM

Nautical tourism is increasing in Portugal and has a huge potential in the near future. Some recreational boating activities have been practised intensively since the eighties, such as surf, windsurf, water skiing, canoeing and kayaking but other activities emerged later on, like jetski, skimboarding, knee-board, kitesurf or flyboard. The number of practitioners have increased a lot in Portugal, due to the diversity of supply and the fashion phenomenon in general.

Within the National Strategic Plan for Tourism 2013-2015 the development of nautical tourism in the recreational boating and surfing segments are priorities, through the infrastructures upgrade to respond to the increasing demand and promoting connecting activities. The country has a number of advantages: the 800 km of coastline in the Continent and several islands are capable of a 365 days surf conditions guarantee; Ericeira is the second world surf reserve; Peniche is the stage of one of the most important surf events of the world; Nazaré has the world record of the biggest waves (tow-in); Figueira da Foz has the right hander wave with the greatest length in Europe; Guincho, in Cascais, has an excellent wind and wave conjunction to kitesurf practice; Cascais and Lagos bays have some of the best regatta sites in the world; Azores has great natural conditions for diving.

Along the coast there are several marinas and yacht harbours with high quality, particularly in the Algarve. Sailing is a traditional activity given the mild climate, bright sunshine and favourable winds. Boat trips, dolphin safaris or whales watching are also increasing. The same is happening with sport fishing and scuba diving, both for leisure or sports.

Races and sporting events have a great potential, with the increase of major sporting international events, such as, the America's Cup, the Volvo Ocean Race or the Tall Ships, or the increase of top-level sports, for which Portugal offers great unique conditions, with the

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possibility of a high number of training hours in the sea, ensuring the enjoyment of sporting infrastructures and high performance centres.

Opportunities in Nautical Leisure in the near future:

- Dedicated Program in progress for:
 - Marinas Network, including private concessions;
 - Future requalification of fishing ports and communities for nautical leisure and maritime tourism;
 - High level sport and Nautical events experience and potential;
 - High qualified ship maintenance and repair, logistics and other services;
 - National nautical education.
- See information on:
 - Portuguese Association for Leisure Ports (www.apprecreio.com)
 - European Blue Flag Association (www.abae.pt)

B. Emergent activities

BLUE BIOTECHNOLOGY

Marine biotechnology is an activity without expression in Portugal but in an emergent stage. It is in an initial phase of survey and exploration. The natural conditions of the continental shelf, namely in the deep-sea hydrothermal springs, near the mid-Atlantic ridge, are one of the most important natural assets that the country can dispose. It will enable the extraction and synthesis of biomolecules for industrial, pharmacological, medical and cosmetic applications. Portugal has already strong capabilities in niche investigation markets related to the Health Cluster Portugal, where synergies with blue biotechnology could prove very useful.

Priorities in this area are the implementation of a Reference Laboratory for the repository of collected biological samples and seabed mapping of biodiversity, as well as the reinforcement and consolidation of the research capacity of genetic resources, particularly in the deep sea. The promotion of a solid business sector in this field is also very important, namely for the development of new patents, the marketing of applications and products and the valorization of the biotechnological sea products. Governance will promote a fair and equal distribution of the benefits arising from its use, safeguarding environmental preservation and marine biodiversity.

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Opportunities in Blue Biotechnology in the near future:

- Future creation of a marine biotechnology repository database
- Availability of Atlantic deep-sea biological samples
- Existence of SME's in the market and international enterprise networking opportunities
- Enterprise incubating infrastructures available
- High skilled HR availability

BLUE ENERGY

Ocean Renewable Energies, or Blue Energy, are technologies with potential interest for Portugal. Several pilot projects are being developed that are in a testing and demonstration phase. Those are the cases of the Waveroller, a pilot project for the wave energy being implemented in S. Pedro de Moel. Until 2020 the expectations will rely on a possible initial starting of commercial exploitation for some technologies. Knowledge and engineering skills have been developed in connection with those projects.

There is already a designated Pilot Zone for ocean renewable energies, since 2008, the so called Ocean Plug – Portuguese Pilot Zone, currently managed by REN-ENONDAS. During 2013 the preparation of the Ocean Plug access regulations was initiated as well as the activities to be performed regarding the environmental baseline studies. The Ocean Plug infrastructure is planned to accommodate a grid connected test site for concept demonstration and prototype testing. Plans for the test site development (Phase 1 of the facility development) have been prepared and the infrastructure is planned to inject 12 MW (4 x 3 MW) into the grid. Targets of 80 MW and 250 MW have been estimated for the pre-commercial and commercial phases, respectively, corresponding to Phases 2 and 3 of the facility development to be implemented as the offshore renewable energy sector evolves [OES, 2013].

OCEAN SYSTEM KNOWLEDGE

The knowledge of the ocean can be considered an emergent area. Although the Portuguese land territory is confined to the western edge of Europe and the insular Atlantic area, with the ultra peripheral islands of the Archipelagos of Madeira and Azores, its maritime dimension is immense, being one of the great maritime countries of the world. It is a national concern and a priority, to know the ocean system, in order to enhance the geo-strategic, geo-political and

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economic potential, and at the same time to preserve the marine environment and its biodiversity. The proposal for the extension of the continental shelf, was presented close to the United Nations (UN), in May 2009, and later on to the Commission on the Limits of the Continental Shelf (CLCS), in 2010. In this process, Portugal has developed the technical and scientific work that led to the proposed extension of its continental shelf beyond 200 nautical miles, to an area of 2,100,000 km², which may extend national jurisdiction to very close to 4,000,000 km², this being, circa 40 times de land size of Portugal. This knowledge depended, in part, on the acquisition, in 2008, of the Remote Operated Vehicle (ROV) "LUSO", a remotely operated underwater vehicle capable of operating up to 6,000 m deep, allowing for the collection of geological samples and improving knowledge of this biodiversity of the deep national seas and its respective oceanographic features. Several oceanographic campaigns have been performed to fill gaps in knowledge of marine biodiversity from multiple locations. In this context, it is relevant to mention the national obligations under the European Marine Strategy Framework Directive (MSFD), the environmental pillar of the IMP.

Several opportunities are open in this area, regarding the study of ecosystems, the definition of the Good Environmental Status (GES), prevention and fight against marine litter, monitoring the marine waters, protecting marine areas and extension of Natura 2000 to the marine environment, its species and habitats. Portuguese academia is involved in many projects and high level skilled young human resources are being trained every year, in several areas regarding the ocean.

ATMOSPHERE SYSTEM KNOWLEDGE

The knowledge of the atmosphere in general is a consolidated activity, although climate change issues require research in many areas, thus being considered an emergent area. Priority areas of investment regards the risk prevention and climate change adaptation in the ocean and atmosphere domains, for instance through the observation and meteorological and climatic modeling, now cast of extreme meteorological phenomena, early alert systems and a network of weather radars.

INTEGRATED OCEAN-ATMOSPHERE SYSTEM KNOWLEDGE

This is also an emergent area. As said before, the proposal for the extension of the continental shelf opened a huge potential of knowledge, first of all, to proceed the seabed mapping, earth observation and risk assessments and, afterword, to know the investment possibilities that

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promote a sustainable development. Robotics and surveillance and monitoring systems are crucial to this fields of action. Portugal has developed strong capacities in Electronics, Information and Communication Technologies (EICT), being a top country in the field. High level skilled young human resources are being trained every year, on aerospace engineering and robotic engineering. Connections between EICT, satellites and aerospace industries and robotics, to know the ocean, through its remote surveillance and monitoring and to further explore its potential in a sustainable way, are priority areas to invest in Portugal. The reinforcement of the capacity to assess geological, geophysical and meteorological risks, and integrating them in the impact mitigation systems of the coastal marine environment are also priorities.

Opportunities in Maritime IT and Robotics in the near future:

- Quality deliverables in the fields of IT development and services for marine and maritime applications
- Highly qualified research and innovation on data modeling, business intelligence and decision support systems, Earth observation services and maritime robotics, including provision of prototypes
- Existence of SME's in the market and international enterprise networking opportunities
- Enterprise incubating infrastructures available
- High skilled HR availability
- Skill reinforcement through future Smart Specialization and Mar-Portugal Campus network

Ocean Economy activities with medium opportunity in Portugal

A. Established activities

FISHING INDUSTRIES

Portuguese fishing conservation and processing industry are traditional activities that have been modernized in the last decade, being highly innovative, contributing to national exports and having a positive trade balance. In the short and medium term, there are no expectations of fish catching increases, so the valorization of the fishing and aquaculture products, through its processing, are a good way to improve the economic performance of the whole fisheries value chain, adding significant value to commercial fisheries and aquaculture products. New

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gourmet products are appearing, associated with new concepts, certification of origin, and rebranding of can products, that will certainly contribute to the competitiveness and internationalization of the sector.

Another area of concern is related with fish stocks management, selective of capture processes and gradual elimination of discards. Within the new European Common Fisheries Policy (CFP), article 15, *"all catches of species which are subject to catch limits (...) shall be brought and retained on board the fishing vessels, recorded, landed and counted against the quotas where applicable, except when used as live bait (...) from 1 January 2015 at the latest"*, so it will be a priority to value the by-catch products through new processing products, namely for animal food.

SHIPBUILDING & FLOATING PLATFORMS

Shipbuilding of metal vessels is an old and established activity in Portugal. In the near past, the reduction in the number of new orders for construction and low freight rates in the international market, as well as severe economic pressures, has negatively affected the domestic shipbuilding industry. Nevertheless, the reopen of the former Estaleiros Navais do Mondego under the name of Atlanticeagle Shipbuilding and the Estaleiros Navais de Viana do Castelo with the name of West Sea Shipyard the situation offers an opportunity to reshape the shipbuilding industry and regain competitiveness. [FEEM, 2014]

Another concern and opportunity is ship recycling. The LeaderSHIP 2020 Strategy, released by the EC, in February 2013, gives a set of recommendations for 2014-2020, regarding the sustainability of the European naval industry. The aim is to promote the "greening" of the specialized naval industry, adopting a life cycle approach that concerns the products from design, through production and operation up to dismantling and recycling. Two shipyards are in the ship recycling business, nowadays, Batistas and Navalria, this being a new business opportunity given the new European Regulation on ship recycling, published on the 10th December 2013 [DGMP, 2014].

Construction of recreational boats segment can be considered an emergent activity in Portugal. Some new manufacturers of marine equipment have emerged lately, especially for the canoes and surfboards (such as companies like Sea Rib's, Setamar, Rivernaut, Tagus Yacht Center or OBE & Carmen) [ECORYS, 2014]. The expected increase in nautical tourism can be an opportunity for this business area in the near future.

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SHIP MAINTENANCE & REPAIR

The Portuguese ship maintenance & repair industry is competitive worldwide. The decreasing activity registered between 2008 and 2012 was identical to the European industry and the results already known to 2013 confirm that already start growing [FEEM, 2014]. Lisnave is the biggest shipyard, but there is two smaller ones, Estaleiros Navais de Peniche and Navalria.

Although a traditional activity, in the near past important and innovative projects were developed within this sector, such as the Windfloat platform, the first floating offshore wind device in Portugal that has been assembled, installed and pre-commissioned in Lisnave shipyard, Setubal.

PORTS & LOGISTICS

Ports infrastructure in Portugal encompasses a set of commercial ports, fishing ports and marinas in the Continental territory and in the archipelagos of Azores and Madeira. In the continent the commercial port system includes the ports of Viana do Castelo, Douro e Leixões, Aveiro, Figueira da Foz, Lisboa, Setúbal e Sesimbra, Sines, Portimão and Faro. The sector is highly modernized and efficient. The implementation of a single access point for port operators, the "Unique Port Window" has highly contributed for that, being connected to the SafeSeaNet managed by European Maritime Safety Agency (EMSA), located in Lisbon. Its extension to a "Unique Logistics Window" is on the way.

The report on High Value Added Infrastructures (IEVA) released in January 2014, includes several recommendations regarding the priority investment projects in the maritime port sector, in order to promote the competitiveness through several strategic corridors. Those recommendations were included in the Strategic Plan for Transports and infrastructures Horizon 2014-2020, released by the Ministry of Economy in April 2014. It proposes the consolidation of the multimodal Atlantic seaboard corridor, with investment reinforcements in the ports of Leixões, Lisboa and Sines, and the inland waterways of the Douro river, as well as investments in the ports of Aveiro, Figueira da Foz and Setúbal. It is also foreseen the emergency of a new horizontal corridor in Algarve, with the development of the ports of Portimão and Faro, in an intermodal perspective to articulate ports, rail and airport infrastructures. The Strategic Plan also envisages a port's axis Lisboa, Setúbal and Sines with a new rail connection to allow the cargo circulation between those ports and Spain, through Poceirão/Caia.

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SHIPPING

Shipping is a traditional and mature activity in Portugal although from the eighties decade the merchant marine sector has gradually decline. In a context of an international shipping trend, concentrated in mega transporters and cargo shipping lines, using large size vessels with increasing cargo capacities, it is important to consolidate national operators.

COASTAL TOURISM

Coastal tourism is an established and mature activity since the sixties, relying mainly in the seaside sun and beaches. Portuguese diversity and richness in natural, cultural and social resources are strong assets for touristic development. The National Strategic Plan for Tourism 2013-2015 also proposes for the touristic product "sun and sea", the improvement of the resource conditions, equipments, services, and landscape, ensuring the integration with other touristic products that can add value. This includes a very reach cultural heritage, namely related to the Portuguese discoveries and sea adventures. It also relates with the richness and variety of the national gastronomy, namely the one related with the quality of seafood, fish and shellfish and the existing brand of "o melhor peixe do mundo" (the best fish in the world), associated with an increasing qualifications and skills of Portuguese "Chefs".

Health tourism is also increasing and among the new emerging products, the extensive national coastline, joined by the waters of the Atlantic ocean, are very rich for the practice of thalassotherapy.

Another area promoted by the National Strategic Plan for Tourism 2013-2015, is the development of scientific tourism, since Portugal is endowed by a set of recognized entities, with international prestige in the scientific area, as well as places and elements with relevant scientific knowledge interest. Scientific research in the ocean are among those interest areas.

The sea Coastal tourism is strongly dependent on the quality of the marine ecosystem services that must be balanced with all the coastal activities as well as with the increasing cruising and nautical activities.

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MARITIME WORKS

Maritime works have been important in Portugal, due to the operationalization of the “Integrated Coastal Zone Management” (GIZC) and the “Spatial Planning of the Coastal Zone” (POOC).

It is now a priority to implement the Action Plan for Valorization and Protection of the Coastline, released by the government in June 2012. At the same time there is a need to reinforce research in coastal engineering, namely to face adaptations to climate change, as well as to invest in controlling practices to ensure environmental sustainability of actions.

MARITIME SERVICES

Maritime services includes a series of activities, within the governmental sphere, to deal with the ocean preservation, as well as private activities on consulting areas, financing and insurance. This last area is expected to grow with the increase in nautical tourism, cruise tourism and ports and logistics, among others. Environmental consulting and other consulting areas related with the ocean monitoring and surveillance and protection as well as all the service sectors involved in the ocean economy are expected to grow.

B. Emergent activities

MARINE MINERAL RESOURCES

This is an emergent sector with high potential in the longer term, in Portugal, considering the exploitation studies undertaken until now. In the horizon 2020 there is a reduced economic potential due to the existing difficulties related with the deep offshore operations, which is a world level challenge.

Nevertheless, a National Strategy for the Geological and Mineral Resources is in course. Priorities in the short and medium term include the evaluation of marine metallic resources, the inventory of inert resources in the continental maritime space and in the insular regions and the implementation of a Reference Laboratory for marine geology.

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OIL & GAS

Commercial Oil & Gas production has not yet been achieved in Portugal, although some exploration work has been carried out in the Portuguese sedimentary basins, since the early years of the twenty century. Well results were often encouraging, and there is no question about the presence - at least in some of the basins - of all the necessary ingredients (mature source rocks, sealed reservoirs and traps) for potential economic accumulations.

Prospecting and exploration in the offshore begun in the seventy's, with a clear increase in the deep offshore in the last years. In 2007 there was a significant increase in oil exploration in Portugal, with the signature of 12 new concession contracts: 3 concessions contracts were signed for areas in the deep-offshore of the Alentejo basin; 4 concessions contracts were signed for areas in the deep-offshore of the Peniche basin; and 5 concessions contracts were signed for the areas Cabo Mondego-2, S. Pedro de Muel-2, Aljubarrota-3, Rio Maior-2 and Torres Vedras-3, in the onshore and offshore of the Lusitanian basin. In 2008, 3.307 km of 2D seismic in the Alentejo basin were acquired, as well as 8.615 km of 2D seismic in the Peniche basin [DGEG,2014].

In the next five years the evolution will depend upon various factors. In an optimistic perspective, it is envisaged the 3D geophysical data acquisition and surveys of prospecting, one of them in 2014, that may result in oil and gas field's discoveries, with the consequent increase of the activity.

There is scope for new plays to provide for commercial discoveries, as attested by the companies which continue to find worthwhile to invest in Portugal. In addition, the frontier areas - the outer, deep offshore basins to the West and South of the continental platform - present new opportunities, particularly in view of the very favorable contractual terms and fiscal regimen [DGEG, 2014].

Other Ocean Economy activities in Portugal

A. Established activities

FISHERIES

Fisheries is a traditional activity in Portugal, therefore in a mature economic activity stage. The fishing fleet in the last two decades has clearly decline, both in terms of the vessels number

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and catching capacity. This decline sought the adequacy of the fleet to the availability of resources. In the future there may be one off capacity adjustments, directed to specific segments where over-capacity may be identified. This fleet capacity adaptation didn't have significant consequences in the fish catch volume in national waters, that maintains stable or with a small increase. It is a priority to promote a modern and efficient sector, with good environmental practices, and to diversify and integrate this activity within the local communities.

Concerning management instruments, it is in course a National Plan for Biological Sampling and the implementation of fisheries systems of monitoring and inspection (MONICAP – Continuous Fishing Monitoring System and SIFICAP – Fisheries Activity Inspection Integrated System). These systems will rely on networks and communication and information systems for emergency environments (catastrophes) and response mechanisms.

EDUCATION and R&D

Marine and maritime education and R&D have developed significantly in Portugal, in the last decades. In June 2009 the Sea Knowledge and Economy Cluster (OCEANO XXI), an Association for the Knowledge and Economy of the Sea was created. The cluster comprises a set of diversified activities and partners from the business area, academia, and associations, with the priority of developing the research, technological development and innovation to support the development of emergent activities in the ocean economy.

Several education and awareness actions regarding the ocean were developed for schools, since the earlier schooling years, namely with the project "Kit do mar" (Ocean Kit), promoted by the Task Group for the Extension of the Continental Shelf, the activities of "Ciência Viva", including the its project "Conhecer o Oceano" (Knowing the Ocean), an organization of the Ministry of Science and Technology, and the activities of Oceanário de Lisboa (Oceanarium of Lisbon).

At the higher education level many learning areas and skills related to the ocean are being developed. There is a long list of universities and research centers related to the sea. Among them, some relevant areas are mentioned in Table 2.

Also professional training courses are in place under the responsibility of specialized centers for the ocean training, namely FOR-MA

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Table 2 - Universities with R&D on the Ocean

University	Faculty/ Department/ Centre	Thematic
UNIVERSITY OF PORTO	UPTEC - Science and Technology Park of the University of Porto	Start-ups: underwater robotics, communications, thermal protection equipment for practitioners of water and waves sports, tourism related to the ocean.
	DEEC - Department of Electrical and Computer Engineering	Marine Robotics
	CIIMAR – Interdisciplinary Centre of Marine and Environmental Research	Support to public policies in Marine and Environmental Sciences with multidisciplinary teams
	FEUP - Faculty of Engineering of the University of Porto/ LSTS – Laboratory of Underwater systems and technologies of DEEC	Pioneer in the development and integration of autonomous vehicles, Operator Assisted vehicles, and sensor networks. Since 1997 LSTS has developed: <ul style="list-style-type: none"> • A Remote Operated Vehicle for the inspection of underwater infrastructures • An Autonomous Underwater Vehicle for oceanographic observation at low costs • Low cost Sensor’s Modules for Remote collection of environmental data • Acoustic navigation technology for multiple vehicles • Operational Concepts for coordinated operation of multiple autonomous vehicles
	INEGI – Institute of Mechanical Engineering and Industrial Management	Interface between the Academia and the Industry. Focused on Innovation and Technology Transfer to the industrial businesses.
	INESCTec – Technology and Science Associate Laboratory	Robotics focused in 3 axes: <ul style="list-style-type: none"> • Technology exports in robotics and automating for growing markets • Technology development to implement in the Ocean Economy value chain • Applied R&D for industrial equipments market
UNIVERSITY OF ALGARVE	CCMAR– Centre of Marine Sciences	Aquaculture technologies, biotechnologies and environment for the study and management of marine resources and ecosystems.
	CIMAR – Associated Laboratory (partnership between CIIMAR and CCMAR)	R&TD for the understanding of biological, physical and chemical processes that occur in the ocean and coastal areas, for the sustainable exploitation of aquatic resources and for the impact evaluation of the anthropogenic activities on the environment. Research activities in 5 domains: <ul style="list-style-type: none"> • Ecology, biodiversity and management of aquatic ecosystems • Environmental chemistry and toxicology • Marine biology and biotechnology • Oceanic and coastal dynamics • Aquaculture

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University	Faculty/ Department/ Centre	Thematic
UNIVERSITY OF ALGARVE	CIMA – Centro de Investigação Marinha e Ambiental (Research Centre for Marine and Environment)	<p>Marine processes</p> <ul style="list-style-type: none"> • Modelling and measurement of water transfer phenomena in the ocean • Ocean dynamic chemistry <p>Marine microbial dynamic and food chains</p> <ul style="list-style-type: none"> • Marine morfo sedimentary processes • Platform sedimentary dynamic • Coastal dynamic • Science and integration policies for the GIZIC - Integrated Coastal Zone Management <p>Large scale geological processes and its local registration</p> <ul style="list-style-type: none"> • Sea level and climate change • Numerical modulation of the lithosphere processes • Biogeochemical processes between the water and sediments and organic material destination <p>Climate change impacts</p> <ul style="list-style-type: none"> • On human health • Eutrophication and rehabilitation methods • Emergent contaminant's impact • Development of new markers and risk management indexes • Proliferation of toxic algae • Environmental biotechnology and process' engineering
CATHOLIC UNIVERSITY OF PORTUGAL	LIAM - Research Line in Maritime Affairs - Maria Scientia	<p>Pioneering project to study the sea and its potential through the prism of Social Sciences and Humanities. There are currently 4 research areas open within LIAM:</p> <ul style="list-style-type: none"> • Interface between the Sea Economy and Maritime Power, in the context of the Project on European Integration • The legal protection of marine biodiversity and the new challenge of the sea for Portugal: Is the Law of the Sea being redefined? • Geopolitics and Ocean Forecasting – the relevance of Portugal in the context of redefining the balances of the international system • Economic Policy and Maritime Culture: relationship and impact
UNIVERSITIES OF LISBON, COIMBRA, AZORES, ÉVORA AND NOVA DE LISBOA-ISPA	MARE – Marine and Environmental Sciences Centre	<p>Research centre in marine sciences, gathering skills from river basis to the deep-sea. Its main objectives are:</p> <ul style="list-style-type: none"> • To contribute to the knowledge of marine ecosystems and related environments • Development of tools for the sustainable use of freshwater ecosystems • Promote the good ecological status and the health of seas, estuaries and river basins.

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University	Faculty/ Department/ Centre	Thematic
UNIVERSITY OF AVEIRO	CESAM – Centre for Environmental and Marine Studies	Associated Laboratory. Its main mission is the research of coastal and marine environment, as an integrated system that involves atmosphere, biosphere, hydrosphere, lithosphere and anthroposphere.
NAVAL SCHOOL	CINAV – Naval Research Centre	<ul style="list-style-type: none"> To promote R&D&I in areas of interest for the Portuguese Navy To promote and support the R&D&I of the Naval School To coordinate and supervise the R&D&D activities developed by the Navy, that are not competence of the Hydrographic Institute laboratory (IH), fostering interdisciplinary
UNIVERSITY OF COIMBRA	IMAR Coimbra – Institute of Marine Research	<p>Research lines:</p> <ul style="list-style-type: none"> Wetlands, Transitional Waters and Coastal Marine Ecosystems Freshwater Ecosystems and Catchment Areas Sedimentary Systems, Hydrodynamics and Global changes Ecotoxicology and Environmental Risk Assessment Hydraulics Water Resources and Environment Ecological Modelling
UNIVERSITY OF LISBON	IDL – Instituto D. Luiz	Meteorology, climate, geophysics, tectonophysics and geographical engineering. It has laboratories in Lisbon and in the University of Beira Interior, where it is included a numeric atmospheric modulation cluster, an experimental tectonic laboratory, a magnetism of rocks laboratory, mobile networks of seismic sensors (for marine research and terrestrial operations).
	IST - Instituto Superior Técnico (school of Engineering, Science and Technology and Architecture)/ CENTEC - Centre for Marine Technology and Engineering	<p>Research, development and demonstration and its use to sustainable exploitation and better use of marine resources in several domains such as shipping and ports, the use of the oceanic space including coastal zones, the exploitation and use of marine resources, leisure boating, as well as marine and marine resources environmental protection. This activities are possible due to vessels, floating structures and submersibles designed, constructed and maintained by CENTEC. Research lines:</p> <ul style="list-style-type: none"> Marine environment Naval dynamic and hydrodynamic Naval structures Safety, reliability and maintenance
	IST - Instituto Superior Técnico (school of Engineering, Science and Technology and Architecture)/ MARETEC – Marine Environment & Technology Centre	Research Centre on Marine Environment and Technology where modelling of marine and land systems is a major research area. Activities are centered on numerical modelling applied to water environmental problems, monitoring and data management. Different monitoring programs for coastal areas concerning water quality and primary production.

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University	Faculty/ Department/ Centre	Thematic
UNIVERSITY OF EVORA	CIEMAR - Marine Laboratory	Its main activities are: teaching, scientific research, dissemination and services. Most of these activities have been developed in the scope of Marine Biology
UNIVERSITY OF MINHO	Campus do Mar – international project	Doctoral and research program resulting from the consortium among 3 Universities in Galicia (Vigo, the coordinator, Corunha and Santiago de Compostela), 4 universities from the North of Portugal (Minho, UTAD – University of Trás-os-Montes e Alto Douro, Aveiro and Porto) and public research institutes. It covers all the subjects related with the ocean, from biology to naval shipbuilding, and from technological development to sociology.
UNIVERSITY OF AZORES	Department of Oceanography and Fisheries	Scientific knowledge, marine life conservation and sustainable use of the Atlantic Ocean from the Azores Region. It includes: <ul style="list-style-type: none"> • Multidisciplinary studies of the ocean system and fisheries research, namely the evaluation and management of fisheries resources considering an ecosystems approach • Studies of the deep-sea ecosystems, namely in chemosynthetic environments from the hydrothermal vents and seamounts, with their recife gardens and deep water corals. • Response to public policies and the concrete management features of the ocean biotic resources.
UNIVERSITY OF MADEIRA	Marine Biology Station of Funchal	Research in marine science and technology in the Autonomous Region of Madeira, specially biology, coastal ecology, deep-water's ecology, and phytoplankton zooplankton harvesting.
	LBMO - Marine Biology and Oceanography Laboratory	Research domains: <ul style="list-style-type: none"> • Pelagic environment (sea turtles in a pelagic stage) • Marine parasitology (fish parasites) • Biologic and physical oceanography • Remote satellite sensing • Phytoplankton diversity • Seamount ecosystems • Rocky coasts ecology
WavEC	WavEC-Offshore Renewables	Focus mainly on wave energy and wind offshore, but competences in other areas such as currents, tidal and algae. Research domains: <ul style="list-style-type: none"> • Marine environment • Monitoring and technology • Numerical modeling

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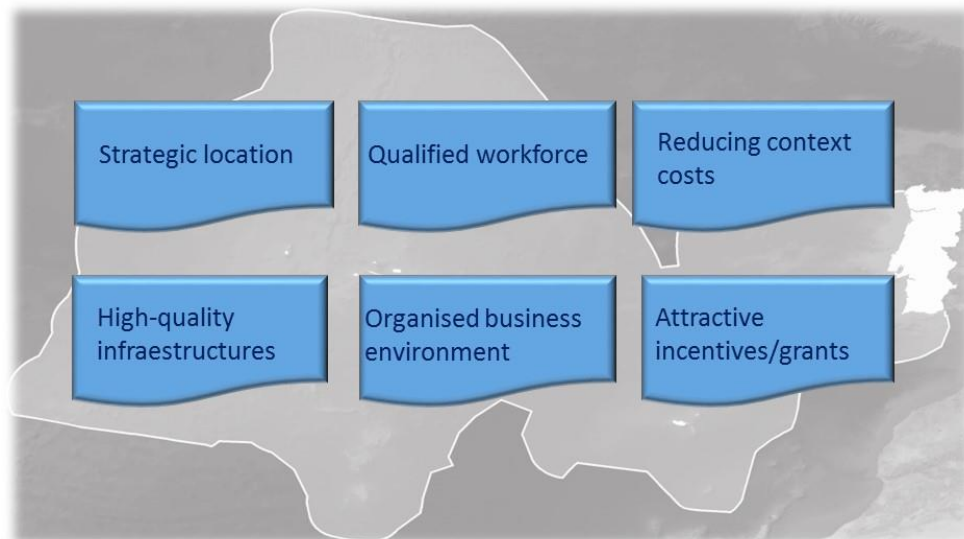
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2. BUSINESS CONTEXT

The context in brief

The priorities mentioned are supported by several factors that contribute to the investment opportunities in the Ocean Economy, in Portugal: its strategic location, the qualified workforce, reducing context costs, high-quality infrastructures, an organized business environment and an attractive incentives/ grants system (Figure 9).

Figure 9 - Factors that contribute to investment opportunities in the Ocean Economy in Portugal



Strategic location – Portugal is a reference territory in the world. It is a huge maritime country, with an ultra-deep ocean with vast natural resources, a unique natural and cultural heritage and an important geostrategic centrality.

Qualified workforce - Portugal has high science and technology capacities. According to the Analysis of the Portuguese Innovation and Research System [FCT, 2013], fisheries are within the group of scientific areas with higher average annual growth, in number of publications and fisheries, marine biology, engineering of oceans and oceanography encompasses the areas with higher index of scientific expertise.

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Regarding maritime training, it has a modern organization with a long experience - FOR-MAR - dedicated to the training for marine jobs, in areas such as fisheries, safety in the ocean, environment, shipbuilding and repair, and other areas of ocean economy.

Reducing context costs – Several on-going projects are contributing to minimize red-tape:

- Legal act for spatial planning and management of the national maritime space was approved by the Government and by the Parliament giving raise to the national basis for Maritime Spatial Planning and Management (LBOEM), launched last April, through Law nº17/2014, of 10th April. According to the law:
 - a) The spatial planning of the national maritime space will be implemented through detailed plans for areas assigned to different uses and activities;
 - b) Investors may submit proposals for the elaboration of above mentioned plans;
 - c) The approval of the plans provides the conditions for the issuance of the titles for the private use of the national maritime space.
- Simplicity and swiftness for investors: a One Stop Shop for permits or authorizations will be coordinated under one single administrative entity.
- Integration and make available marine and maritime data and information, though projects such as NIPIM@R, (National Information Sharing Environment) and a Satellite Account for the Ocean, to identify and characterize the ocean economy within the National Accounts.

High-quality infrastructures – Portugal is endowed by modern Maritime Ports. The Port of Sines is a deep water port with unique natural conditions to accommodate all types of vessels. Equipped with modern specialized terminals, it can move different types of cargo.

The Port of Sines has the direct hinterland throughout southern and central Portugal, being 150 km from Lisbon. It is also in a very competitive location, in what concerns the Spanish Extremadura and on across the hallway to Madrid. Several other ports along the coastline are competitive for transshipment, motorways of the sea and cruises, having adopted the Unique Port Window (JUP), a unique contact point to all port entities.

The country is equipped with modern marinas. There are more than 700 access points to the water ward and more than 8.600 berthing places. Fluvial cruises have been developed, with a beautiful scenery and history (e.g. Douro and Guadiana Rivers).

It also possesses a Pilot Zone for the development of ocean energies, located in S. Pedro de Moel, called Ocean Plug – Portuguese Pilot Zone.

Organized business environment – The private sector has given attentive to the ocean potential, throughout the organization in clusters and representative associations, namely: Oceano

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XXI - cluster that aims to promote the development of cooperation between scientific institutions, the business sector and associative entities in different sectors and activities, whose final functionality is the Sea; and FEEM - Business Forum for the Economy of the Sea - an association of companies that aims to promote a common and integrated strategy for the economic activities related to the sea, as well as to create the conditions and to encourage good business practices and the strategic cooperation between actors.

Atractive incentives/grants – There are several financial incentives to firms that want to invest in the Ocean Economy: PROMAR is the Operational Program that operationalizes the European Fisheries Fund (EFF) in Portugal and it seeks, amongst other objectives, the promotion of aquaculture by providing financial support to investments.

This program is being replaced by the new financial program for the period 2014-2020, the European Maritime and Fisheries Fund (EMFF).

In the European Structural and Investment Funds 2014 2020 (ESI Funds), the Ocean Economy is a cross cutting issue and will be considered in other Programs besides EMFF, namely in areas such as research, innovation, internationalization and training.

National Ocean Strategy will be a reference regarding the results to be achieved and the coordination of financial resources.

Environmental Impact Assessment

A revision of the existing Environmental Impact Assessment (EIA) legislation was released in October 2013. It encompasses several relevant innovations: the creation of a web based “one-stop-shop” facility for the environmental licensing projects, which will allow the digital delivery of documents during the EIA process; the clarification of the typology of projects for the EIA requirement; the reinforcement of the application of a case by case approach during the screening process, to smooth the application of the rigid project dimensions’ thresholds and improve the efficiency of the process; the clarification of the timeline of the licensing procedures [OES, 2013].

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3. GOVERNMENTAL SUPPORT AND AVAILABLE FUNDING

Available funding 2014-2020

EU funds

The Multiannual Financial Framework for 2014-2020 encompasses 5 **European Structural and Investment Funds (ESI Funds)**, among them 4 will finance the Ocean Economy projects:

- The **Cohesion Fund (CF)** will among other support the shift towards a low-carbon economy in all sectors, climate change adaptation and risk prevention and management, and may pursue climate action in relation to transport and environmental investments, including in the Ocean.
- There are two Structural Funds: The **European Social Fund (ESF)** will support education and training systems, adaptation of skills and qualifications, up-skilling of the labour force, and the creation of new jobs, including in the Ocean Economy; The **European Regional Development Fund (ERDF)** will promote, among others, productive investment in companies, including investment in technology and research in business environment, Furthermore, the ERDF will support **European Territorial Cooperation (ETC)**, for example cross-border co-operation between Member States, including on IMP.
- Competitive and sustainable fisheries and aquaculture and IMP are further mainstreamed into Maritime and Fisheries policy, by the **European Maritime and Fisheries Fund (EMFF)**, that will among other promote climate action in relation to the energy efficiency of fishing vessels as well as energy audits and schemes, insurance of aquaculture stock with regard to extreme weather events, and the implementation of local development strategies including operations to mitigate climate change.

Horizon 2020 is the European financial program for research and development, including on marine and maritime issues, being part of the drive to create new growth and jobs in Europe. Over a third of its budget will be allocated to address major concerns shared by all Europeans such as climate change, developing sustainable transport and mobility, making renewable energy more affordable, ensuring food safety and security, or coping with the challenge of an ageing population. There is in place a Blue Growth Focus Area dedicated to oceans with an allocation of 145 M€ in 2014 and 2015.

LIFE Program, another EU directly managed financial program, contributes to improving the implementation of EU environment and climate policy and legislation. The proposal for a new LIFE instrument, covers the period 2014-2020. A major change will be "integrated projects" aiming to

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improve the implementation of climate policy on a larger territorial scale and to ensure coordinated mobilization of other EU, national and private funds.

Other funds

EEA Grants. The European Economic Area (EEA), consists of the European Union Member States and three countries of the European Free Trade Association (EFTA), Iceland, Liechtenstein and Norway, which share the same Internal Market.

Through the Financial Mechanism of the European Economic Area 2009-2014, under the European Economic Area Grants (EEA Grants), Norway, Iceland and Liechtenstein, as Donor states, finance in 16 European Union Member States (Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, and Spain) initiatives and projects in various program areas, including the area of Integrated Marine and Coastal Waters Management.

Funding	Program in Portugal	Site
ESI Funds	ADC - Agência para o Desenvolvimento e Coesão, I.P.	www.ifdr.pt/content.aspx?menuid=389
Horizon 2020	FCT - Fundação para a Ciência e Tecnologia/ GPPG - Gabinete de Promoção do Programa-Quadro de I&DT	www.gppq.fct.pt/h2020/calls_calendario.php
Life	Agência Portuguesa do Ambiente and Instituto da Conservação da Natureza e das Florestas	www.apambiente.pt/ www.icnf.pt/portal
EEA grants	DGPM - Directorate General for Maritime Policy was designated as "PT02 - Integrated Marine and Coastal Waters Management", Program Operator	www.dgpm.mam.gov.pt/Pages/eea_grants.aspx

ESI Funds will be operationalized through 4 Thematic Operational Programs, 7 Regional Programs and a Maritime and Fisheries Program.

Private funds

The Portuguese Government has signed a protocol with the 8 major banks operating in Portugal, in December 2012 (CGD, BES, BCP, Banco Popular, BPI, Santander Totta, Crédito Agrícola e

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Montepio), for the creation of credit lines to support national agriculture, fisheries and other marine and maritime activities.

Bank	Site
Montepio	www.montepio.pt/SitePublico/pt_PT/empresas.page
CGD - Caixa Geral de Depósitos	www.cgd.pt/english/Pages/English.aspx
BES – Banco Espírito Santo	www.bes.pt/sitebes/cms.aspx?plg=7730899B-684D-4AAE-BF06-2211157384B4
BCP – Millennium BCP	www.ind.millenniumbcp.pt/pt/negocios/financiamento/Pages/Linha-PME-Crescimento-2014.aspx
Banco Popular	www.bancopopular.pt/portugal/empresas/pme-power/programa-internacionalizacao/programa-internacionalizacao.htm
BPI - Banco Português de Investimento	www.bancobpi.pt/pagina.asp?s=2&opt=s
Santander Totta	www.santandertotta.pt

4. NATIONAL POTENTIAL PARTNERS

There is a set of public entities involved in marine and maritime affairs. On the top level the Minister's Office for Agriculture and Sea and the State Secretary for Sea are the responsible for the maritime policy. Directorate-General for Maritime Policy (DGPM) is the Public Administration office in charge of maritime policy integration among the several ministries, throughout the Inter-ministerial Commission for Maritime Affairs (ICMA). AICEP Portugal Global - Trade & Investment Agency is the government business entity focused in encouraging the best foreign companies to invest in Portugal and contribute to its success.

Regarding EU funding, ADC – Agência para o Desenvolvimento e a Coesão is the entity responsible for the European Structural and Investment Funds and FCT – Fundação para a Ciência e Tecnologia is responsible for the Horizon 2020 funding.

In the private sector the Ocean Economy business is well represented by FEEM and Oceano XXI and financial institutions were already mentioned.

A list of the main contacts/ partners in general and by sector, are presented in Tables 3 and 4. Tables 5 to 6 that follows, mention the general reference international and national reports, as well as the main specific reports and legislation by sector.

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General contacts/ partners

Table 3 - List of general contacts/ partners

Entity	Type	Address	Phone Number	Email	Site
Minister's Office for Agriculture and Sea	Government of Portugal	Praça do Comércio, 1149-010 Lisboa	+351 213234647	gabinete.ministro@mam.gov.pt	www.portugal.gov.pt/en
State Secretary for Sea	Government of Portugal	Praça do Comércio - 1149-010 Lisboa	+351 213234992	gabinete.sem@mam.gov.pt	www.portugal.gov.pt/en
DGMP – Directorate-General for Maritime Policy	Public Administration	Av. Brasília Nº6 1449-006 Lisboa	+351 218291000	geral@dgpm.mam.gov.pt	www.dgpm.mam.gov.pt
AICEP Portugal Global - Trade & Investment Agency	Government Business Entity	Avenida 5 de Outubro, 101 1050- 051 Lisboa	+351 217909500 808 214 214	aicep@portugalglobal.pt	www.portugalglobal.pt
FEEM - Business Forum for the Economy of the Sea	Private General Advice Forum	Rua das Portas de Sto Antão, 89 1169-022 Lisboa	+351 213224050 +351 917219197	geral@fem.pt	www.feemar.weebly.com
OCEANO XXI – Association for the Knowledge and Economy of the Sea (Sea Knowledge and Economy Cluster)	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
COTEC Portugal - Associação Empresarial para a Inovação	Business Association	Rua de Salazares, 842 4149-002 Porto	+351 226192910	secretariado@cotec.pt	www.cotecportugal.pt
AEP - Associação Empresarial de Portugal	Business Association	Av. Dr. António Macedo 4450-617 Leça da Palmeira	+351 229981500 +351 229981530	aep@aeportugal.com	www.aeportugal.pt
ADC – Agência para o Desenvolvimento e Coesão, I.P.	Financial Agency for the ESI Funds	Av. 5 de Outubro, 153 1050-053 LISBOA	+351 218814000		www.ifdr.pt/content.aspx?menuid=404
FCT – Fundação para a Ciência e Tecnologia	Financial Agency for Horizon 2020 Funds	Av. D. Carlos I, nº126, 4º andar 1249-074 LISBOA	+351 213917640	eduardo.maldonado@fct.pt (coordinator)	www.gppq.fct.pt/h2020/h2020.php

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Specific contacts/ partners by sector

Table 4 -List of specific contacts/ partners by sector



Entity	Type	Address	Phone Number	Email	Site
DGRM - Directorate-General for Natural Resources, Safety and Maritime Services	Public Administration	Av. Brasília 1449-030 Lisboa	+351 213035700 +351 213035703	dgrm@dgrm.mamaot.pt	www.dgrm.min-agricultura.pt
DOCAPESCA, Portos e Lotas, S.A.	State-owned Enterprise	Av. Brasília - Pedrouços 1400-038 LISBOA	+351 213936100	docapesca@docapesca.pt	www.docapesca.pt
PSAI (IPMA) - Portuguese Sea and Atmosphere Institute	State Laboratory	Av. Brasília Nº6 1449-006 Lisboa	+351 218447000	info@ipma.pt comercial@ipma.pt	www.ipma.pt/en/pescas/bivalves/



Entity	Type	Address	Phone Number	Email	Site
DGMP – Directorate-General for Maritime Policy	Public Administration	Av. Brasília Nº6 1449-006 Lisboa	+351 218291000	geral@dgpm.mam.gov.pt	www.dgpm.mam.gov.pt
ICNF - Institute for Nature Conservation and Forests	Public Administration	Avenida da República, 16 1050-191 Lisboa	+351 213507900	secretariado.cd@icnf.pt	www.icnf.pt/portal/icnf

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ALT PRODUCTION

Entity	Type	Address	Phone Number	Email	Site
DGRM - Directorate-General for Natural Resources, Safety and Maritime Services	Public Administration	Av. Brasília 1449-030 Lisboa	+351 213035700 +351 213035703	dgrm@dgrm.mamaot.pt	www.dgrm.min-agricultura.pt

MARINE MINERAL RESOURCES

Entity	Type	Address	Phone Number	Email	Site
DGEG – Directorate General for Energy and Geology	Public Administration	Divisão para a Pesquisa e Exploração de Petróleo Av. da República, nº 45 - 5º Esq., 1050-187 Lisboa	+351 217954871	energia@dgeg.pt recursos.geologicos@dgeg.pt	www.dgeg.pt
Agência Portuguesa do Ambiente	Public Administration	Rua da Murgueira, 9/9A - Zambujal Ap. 7585 2611-865 Amadora	+351 214728200	geral@apambiente.pt	www.apambiente.pt/

OIL & GAS

Entity	Type	Address	Phone Number	Email	Site
DGEG – Directorate General for Energy and Geology	Public Administration	Av. 5 de Outubro, nº 87, 1069-039 Lisboa	+351 217922110	energia@dgeg.pt dpep@dgeg.pt	www.dgeg.pt
LNEG – National Laboratory of Energy and Geology	State Laboratory R&D institution	Est. da Portela, Bairro do Zambujal Alfragide, Apartado 7586 2611-901 Amadora	+351 210924600 +351 214705400	info@lneg.pt	www.lneg.pt

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BLUE ENERGY

Entity	Type	Address	Phone Number	Email	Site
WavEC – Offshore Renewables	Private, Non-Profit Body	Rua Jerónimo Osório, 11, 1º andar, 1400-119, Lisboa	+351 218482655	mail@wavec.org	www.ocean-energy-systems.org
DGEG – Directorate-General for Energy and Geology	Public Administration	Av. 5 de Outubro, nº 87 1069-039 Lisboa	+351 217922700 +351 217922800	energia@dgeg.pt racionalizacao.energia@dgeg.pt	www.dgeg.pt
LNEG – National Laboratory of Energy and Geology	State Laboratory R&D institution	Estrada da Portela Bairro do Zambujal - Alfragide Apartado 7586 2611-901 Amadora	+351 210924600 +351 214705400	info@lneg.pt	www.lneg.pt

OCEAN SYSTEM KNOWLEDGE ATMOSPHERE SYSTEM KNOWLEDGE INTEGRATED OCEAN-ATMOSPHERE SYSTEM KNOWLEDGE

Entity	Type	Address	Phone Number	Email	Site
PSAI (IPMA) - Portuguese Sea and Atmosphere Institute	State Laboratory	Av. Brasília Nº6 1449-006 Lisboa	+351 218447000	info@ipma.pt comercial@ipma.pt	www.ipma.pt/en/pecas/bivalves/
TGECS (EMEPC) - Task Group for the Extension of the Continental Shelf	Task Group	Rua Costa Pinto, 165 2770-047 Paço de Arcos	+351 213004165	info@emepc.mam.gov.pt	www.emepc.pt/index.php?option=com_content&task=view&id=585&Itemid=289

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SHIPBUILDING & FLOATING PLATFORMS

SHIP MAINTENANCE & REPAIR

Entity	Type	Address	Phone Number	Email	Site
FEEM - Business Forum for the Economy of the Sea	Private General Advice Forum	Rua das Portas de Sto Antão, 89 1169-022 Lisboa	+351 213224050 +351 917219197	geral@fem.pt	http://feemar.weebly.com
OCEANO XXI – Association for the Knowledge and Economy of the Sea (Sea Knowledge and Economy Cluster)	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
COTEC Portugal - Associação Empresarial para a Inovação	Business Association	Rua de Salazares, 842 4149-002 Porto	+351 226192910	secretariado@cotec.pt	www.cotecportugal.pt
AIN - Associação das Indústrias Navais	Business Association	Rua Jorge Afonso, nº 31, 6º 1600 - 126 Lisboa	+351 217818770	ain@ain.pt	www.ain.pt

PORTS & LOGISTICS

SHIPPING

Entity	Type	Address	Phone Number	Email	Site
FEEM - Business Forum for the Economy of the Sea	Private General Advice Forum	Rua das Portas de Sto Antão, 89 1169-022 Lisboa	+351 213224050 +351 917219197	geral@fem.pt	http://feemar.weebly.com
OCEANO XXI – Association for the Knowledge and Economy of the Sea (Sea Knowledge and Economy Cluster)	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
COTEC Portugal - Associação Empresarial para a Inovação	Business Association	Rua de Salazares, 842 4149-002 Porto	+351 226192910	secretariado@cotec.pt	www.cotecportugal.pt

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CRUISE TOURISM

Entity	Type	Address	Phone Number	Email	Site
Turismo de Portugal, IP	Public Administration	Rua Ivone Silva, Lote 6 1050-124 Lisbon	+351 211140200	info@turismodeportugal.pt	www.visitportugal.com/en/norde/162186
FEEM - Business Forum for the Economy of the Sea	Private General Advice Forum	Rua das Portas de Sto Antão, 89 1169-022 Lisboa	+351 213224050 +351 917219197	geral@fem.pt	http://feemar.weebly.com
OCEANO XXI – Association for the Knowledge and Economy of the Sea	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
COTEC Portugal - Associação Empresarial para a Inovação	Business Association	Rua de Salazares, 842 4149-002 Porto	+351 226192910	secretariado@cotec.pt	www.cotecportugal.pt
Tourism Tech R&D Network	Dialogue Facilitator between Firms and Research Centers			idturismo@turismodeportugal.pt	http://idturismo.blogspot.com

COASTAL TOURISM

Entity	Type	Address	Phone Number	Email	Site
Turismo de Portugal, IP	Public Administration	Rua Ivone Silva, Lote 6 1050-124 Lisbon	+351 211140200	info@turismodeportugal.pt	www.visitportugal.com/en/sun-and-sea

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NAUTICAL TOURISM

Entity	Type	Address	Phone Number	Email	Site
Turismo de Portugal, IP	Public Administration	Rua Ivone Silva, Lote 6 1050-124 Lisbon	+351 211140200	info@turismodeportugal.pt	www.visitportugal.com/en/node/73856
FEEM - Business Forum for the Economy of the Sea	Private General Advice Forum	Rua das Portas de Sto Antão, 89 1169-022 Lisboa	+351 213224050 +351 917219197	geral@fem.pt	http://feemar.weebly.com
OCEANO XXI – Association for the Knowledge and Economy of the Sea (Sea Knowledge and Economy Cluster)	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
COTEC Portugal - Associação Empresarial para a Inovação	Business Association	Rua de Salazares, 842 4149-002 Porto	+351 226192910	secretariado@cotec.pt	www.cotecportugal.pt

MARITIME WORKS

Entity	Type	Address	Phone Number	Email	Site
Agência Portuguesa do Ambiente	Public Administration	Rua da Murgueira, 9/9A - Zambujal Ap. 7585 2611-865 Amadora	+351 214728200	geral@apambiente.pt	www.apambiente.pt/index.php?ref=16 &subref=7&sub2ref=10&sub3ref=94

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MARITIME SERVICES

Entity	Type	Address	Phone Number	Email	Site
FEEM - Business Forum for the Economy of the Sea	Private General Advice Forum	Rua das Portas de Sto Antão, 89 1169-022 Lisboa	+351 213224050 +351 917219197	geral@fem.pt	http://feemar.weebly.com
OCEANO XXI – Association for the Knowledge and Economy of the Sea (Sea Knowledge and Economy Cluster)	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
COTEC Portugal - Associação Empresarial para a Inovação	Business Association	Rua de Salazares, 842 4149-002 Porto	+351 226192910	secretariado@cotec.pt	www.cotecportugal.pt

EDUCATION and R&D

Entity	Type	Address	Phone Number	Email	Site
OCEANO XXI – Association for the Knowledge and Economy of the Sea (Sea Knowledge and Economy Cluster)	Private Non-profit Corporate Body	UPTEC – Polo do Mar, Av. da Liberdade s/n 4450 – 718 Leça da Palmeira	+351 220120764	geral@oceano21.org	www.oceano21.org
Task Group for the Extension of the Continental Shelf	Public Administration	Rua Costa pinto nº 165 2770-047 Paço de Arcos	+351 213004165	kitdomar@gmail.com	www.emepc.pt/
Ciência Viva	Public Administration	Parque das Nações, Alameda dos Oceanos Lote 2.10.01, 1990-223 Lisboa	+351 218985020		www.cienciaviva.pt/home/
Oceanarium of Lisbon	Public company	Esplanada D. Carlos I 1990-005 Lisboa	+351 218891700	info@oceanario.pt	www.oceanario.pt/cms/30/

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General reference international reports

Table 5 - General reference international reports

Report:	Release date:
European Commission, Developing a Maritime Strategy for the Atlantic Ocean Area, COM(2011) 782 final, Brussels	21.11.2011
European Commission, Communication Action Plan for a Maritime Strategy in the Atlantic area Delivering smart, sustainable and inclusive growth, COM(2013) 279 final, Brussels	13.05.2013
European Union, Draft Declaration of the European Ministers responsible for the Integrated Maritime Policy and the European Commission, on a Marine and Maritime Agenda for growth and jobs "The Limassol Declaration"	17.11.2012
European Commission, Communication Blue Growth Opportunities for marine and maritime sustainable growth COM(2012) 494 final, Brussels	13.9.2012
ECORYS <i>et al</i> , Blue Growth Study - Scenarios and drivers for Sustainable Growth from the Oceans, Seas and Coasts (Client: DG MARE)	August 2012
OECD, Proposal for a project on THE FUTURE OF THE OCEAN ECONOMY. Exploring the prospects for emerging ocean industries to 2030	September 2013
United Nations, The Future we want. Our common vision, Rio+20 United Nations Conference on Sustainable Development, Rio de Janeiro, Brasil	20-22 June 2012
European Commission, Communication A European Strategy for Marine and Maritime Research. A coherent European Research Area framework in support of a sustainable use of oceans and seas	03.09.2008

General reference reports on Portugal

Table 6 - General reference reports on Portugal

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
DGMP, A Economia do Mar em Portugal (document to support NOS 2013-2020)	December 2012	
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20_NI_15_09MAI13_DocumentoDesafiosMar2020.pdf

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SaeR/ACL, O Hypercluster da Economia do Mar	17 February 2009	www.saer.pt/up/UPLOAD-bin2_imagem_0955656001242642284-657.pdf
ECORYS, Blue Growth. Country Paper-Final Version PORTUGAL	March 2014	http://ec.europa.eu/dgs/maritimeaffairs_fiseries/consultations/blue_growth/index_en.htm
MAMAOT, Marine Strategy for the Subdivision of the Continent	October 2012	www.dgrm.min-agricultura.pt/xportal/xmain?xid=dgrm
MAMAOT, Strategy for the Marine Corps Extended Continental Shelf	October 2012	www.dgrm.min-agricultura.pt/xportal/xmain?xid=dgrm

Specific reports and legislation by sector

Table 7 - Specific reports and legislation by sector

 FISHING INDUSTRIES	 AQUACULTURE	 FISHING
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Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20_NI_15_09MAI13_DocumentoDesafiosMar2020.pdf
REGULATION (EU) N° 1380/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, of 11 December 2013, on the Common Fisheries Policy	28.12.2013	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:354:0022:0061:EN:PDF
REGULATION (EU) N° 508/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, of 15 May 2014 on the European Maritime and Fisheries Fund	20.05.2014	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0508&from=EN
European Commission, Communication Strategic Guidelines for the sustainable development of EU aquaculture	29.4.2013	http://ec.europa.eu/fisheries/cfp/aquaculture/official_documents/com_2013_229_en.pdf

 BLUE BIOTECHNOLOGY
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Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420

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SALT PRODUCTION

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420

MARINE MINERAL RESOURCES

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420

BLUE ENERGY

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
Ocean Energy Systems (OES) , Annual Report 2013, Implementing Agreement on Ocean Energy Systems	May 2014	www.ocean-energy-systems.org/
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20NI_15_09MAI13_DocumentoDesafiosMar2020.pdf

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OIL & GAS

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
DGEG, Petroleum Exploration in Portugal	Site, May 2014	www.dgeg.pt/dpep/en/history.htm
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20NI_15_09MAI13_DocumentoDesafiosMar2020.pdf

OCEAN SYSTEM KNOWLEDGE

ATMOSPHERE SYSTEM KNOWLEDGE

INTEGRATED OCEAN-ATMOSPHERE SYSTEM

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
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SHIPBUILDING & FLOATING PLATFORMS

SHIP MAINTENANCE & REPAIR

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420

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Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20_NI_15_09MAI13_DocumentoDesafiosMar2020.pdf
European Parliament, Financing the environmentally sound recycling and treatment of ships. Impact assessment of a substantive amendment to the Proposal for a Regulation on ship recycling.	February 2013	http://bookshop.europa.eu/en/financing-the-environmentally-sound-recycling-and-treatment-of-ships-pbBA3113532/
REGULATION (EU) N° 1257/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, of 20 November, on ship recycling	10th December 2013	http://eur-lex.europa.eu/LexUriServ
Decree Law n.º 169/2012, 1st August – Responsible Industry System (Ship Recycling)	1st August 2012	http://dre.pt/pdf1sdip/2012/08/14800/0396904007.pdf
European Commission, LeaderSHIP 2020 – The Sea, New Opportunities for the Future	20th February 2013	http://ec.europa.eu/enterprise/sectors/maritime/files/shipbuilding/leadership2020-final-report_en.pdf

SHIPPING

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20_NI_15_09MAI13_DocumentoDesafiosMar2020.pdf

PORTS & LOGISTICS

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420

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Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20_NI_15_09MAI13_DocumentoDesafiosMar2020.pdf
Government of Portugal/ Ministry of Economy, Strategic Plan for Transports and Infrastructures Horizon 2014-2020 (PETI 3+)	April 2014	www.portugal.gov.pt/media/1385664/PETI3.pdf
GT IEVA, Infraestruturas de elevado Valor Acrescentado – Relatório Final	January 2014	www.ieva.pt/media/docs/estudo.pdf

CRUISE TOURISM NAUTICAL

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20_NI_15_09MAI13_DocumentoDesafiosMar2020.pdf
Government of Portugal/ Ministry of Economy, National Strategic Plan for Tourism 2013-2015- PENT	2013	www.turismodeportugal.pt/Português/ProTurismo/políticaseestratégias/Documents/PENT_04Out_WEB.pdf
Council of Ministers Resolution nº. 24/2013, National Strategic Plan for Tourism 2013-2015	16 th April 2013	www.turismodeportugal.pt/Português/ProTurismo/políticaseestratégias/Documents/PENT_RCM%2024_2013_16%20abril.pdf

COASTAL TOURISM

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
Government of Portugal/ Ministry of Economy, National Strategic Plan for Tourism 2013-2015- PENT	2013	www.turismodeportugal.pt/Português/ProTurismo/políticaseestratégias/Documents/PENT_04Out_WEB.pdf

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Council of Ministers Resolution nº. 24/2013, National Strategic Plan for Tourism 2013-2015	16 th April 2013	www.turismodeportugal.pt/Português/ProTurismo/políticaseestratégias/Documents/PENT_RCM%2024_2013_16%20abril.pdf
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MARITIME WORKS

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420
Council of Ministers Resolution nº. 82/2009 - Integrated Coastal Zone Management (GIZC)	8 September 2009	http://dre.pt/pdf1sdip/2009/09/17400/0605606088.pdf
Spatial Planning of the Coastal Zone (POOC)	1998 until 2005	http://portaldaagua.inag.pt/PT/InfoTecnica/PGA/PROrdenamento/POOC/Pages/POOC.aspx
Action Plan for Valorization and Protection of the Coastline 2012-2015 (PAPVL)	June 2012	www.apambiente.pt/_zdata/DESTAQUES/2012/PAPVL_2012-2015-JUNHO.pdf

MARITIME SERVICES

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
COTEC, Blue Growth for Portugal. Uma visão empresarial da Economia do Mar	November 2012	www.cotecportugal.pt/index.php?option=com_content&task=view&id=2165&Itemid=420

EDUCATION and R&D

Report:	Release date:	Available from:
Government of Portugal, National Ocean Strategy 2013-2020, Lisbon	February 2014	www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx
Oceano XXI/PwC, "Sea Challenges 2020", Desafios do Mar 2020. Estratégias de Eficiência Coletiva	6 May 2013	http://oceano21.inegi.up.pt/userfiles/file/Notas%20de%20Imprensa/OceanoXXI%20NI_15_09MAI13_DocumentoDesafiosMar2020.pdf

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International Legislation

- Regulation (EU) n°. 1303/2013 of the European Parliament and the Council, of 17 December 2013 - common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund.
- Regulation (EU) n°. 508/2014 of the European Parliament and the Council, of 15 May 2014 on the European Maritime and Fisheries Fund.

National Legislation

- Law n°. 17/2014, of 10 April – Establishes the basis for the National Maritime Spatial Planning and Management (LOBOEM)
- Council of Ministers Resolution n°. 12/2014, of 12 February – National Ocean Strategy 2013-2020 (NOS 2013-2020)
- Decree-Law n°. 151-B/2013, of 31 October – Environmental Impact Assessment
- Council of Ministers Resolution n°. 39/2013, of 14 June – Governance model for the ESI Funds implementation (ESI Funds)
- Council of Ministers Resolution n°. 33/2013, of 20 May – Strategic priorities and guiding principles for the ESI Funds implementation (ESI Funds)
- Council of Ministers Resolution n°. 144/2012, of 13 December – Guidelines for the negotiations of the Multi-annual financial framework 2014-2020 to be followed by Portugal (ESI Funds)

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ACRONYMS

ADC – Agência para o Desenvolvimento e Coesão, I.P. (Portugal)

AEP – Portuguese Entrepreneurial Association

AICEP - Portuguese Business Promotion Agency

CF – Cohesion Fund

CLCS - Commission on the Limits of the Continental Shelf

CSF – Common Strategic Framework

CSP – European Common Fisheries Policy

DG MARE - Directorate-General for Maritime Affairs and Fisheries from the European Commission

DGEG – Directorate-General for Energy and Geology (Portugal)

DGMP - Directorate-General for Maritime Policy (Portugal)

DGMR – Directorate-General for Natural Resources, Safety and Maritime Services (Portugal)

EC – European Commission

EEA – European Economic Area

EEA – European Environmental Agency

EEA Grants – European Economic Area Financial Mechanism

EFF – European Fisheries Fund

EFTA – European Free Trade Association

EIA – Environmental Impact Assessment

EIB – European Investment Bank

EICT - Electronics, Information and Communication Technologies

EMFF – European Maritime and Fisheries Fund

EMSA - European Maritime Safety Agency

EP – European Parliament

ERDF – European Regional Development Fund

ESF - European Social Fund

ESI Funds - European Structural and Investment Funds

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ETC – European Territorial Cooperation

EU – European Union

FCT – Fundação para a Ciência e a Tecnologia (Portugal)

FEEM – Business Forum for the Economy of the Sea (Portugal)

FOR-MAR – Professional Training Centre for Fisheries and Sea (Portugal)

GDP – Gross Domestic Product

GES - Good Environmental Status

GIZIC - Integrated Coastal Zone Management

GPPG - Gabinete de Promoção do Programa-Quadro de I&DT da FCT (Portugal)

GVA – Gross Value Added

Horizon 2020 - EU Framework Programme for Research and Innovation

ICMA – Inter-ministerial Commission for Maritime Affairs (Portugal)

ICNF - Institute for Nature Conservation and Forests (Portugal)

IEVA – High Value Added Infrastructures

IH – Hydrographic Institute laboratory (Portugal)

IMP - European Integrated Maritime Policy

LNEG – National Laboratory of Energy and Geology (Portugal)

LOBOEM – Law that establishes the basis for Maritime Spatial Planning and Management

MAMAOT – Ministry of Agriculture, Sea, Environment and Spatial Planning (Portugal)

MAS – Ministry of Agriculture and Sea (Portugal)

MSFD – Marine Strategy Framework Directive

MSP - Maritime Spatial Planning

NOS 2013-2020 - National Ocean Strategy 2013-2020

OECD – Organisation for Economic Co-operation and Development

PETI 3+ - Strategic Plan for Transports and Infrastructures Horizon 2014-2020

POOC - Spatial Planning of the Coastal Zone

PSAI - Portuguese Sea and Atmosphere Institute (Portugal)

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R&D – Research and Development

R&D&I – Research, Development and Innovation

R&TD – Research and Technological Development

ROV – Remote Operated Vehicle

TGECS - Task Group for the Extension of the Continental Shelf (Portugal)

TPEA - Transboundary Planning in the European Atlantic

UN - United Nations

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