NATIONAL OCEAN STRATEGY 2013-2020
The **Mar-Portugal** is a national designation whose potential will be implemented by the economic, social and environmental appreciation of the ocean and coastal areas, to the benefit of all the Portuguese.
INDEX

EXECUTIVE SUMMARY 7

CHAPTER I - INTRODUCTION 9
1. The Ocean as a strategic development vector 11
2. Portugal’s return to the sea: path travelled (1997-2012) 15
3. The review of the NOS 2006-2016: The Ocean as a national designium 21

CHAPTER II - THE SEA OF PORTUGAL 25
1. Territory of reference 27
2. The geography 30
3. The dimension 33
4. The maritime identity 36

CHAPTER III - THE DEVELOPMENT MODEL 39
1. “Blue Growth” 41
2. Challenges of the development model 43
2.1. Administration (intelligible and simplified regime) 43
2.2. Culture and Communication 45
2.3. Education, science and technology 45
2.4. Assertion and international cooperation 46
2.4.1. Community of Portuguese Speaking Countries (CPSC) 47
2.4.2. Protecting the marine environment 47
2.4.3. Protection and safeguarding 48
3. Intervention domains 50
3.1. Living resources 51
3.2. Non-living resources 52
3.3. Infrastructure, Uses and Activities 53
3.3.1. Ports, transport and logistics 53
3.3.2. Recreation, sport and tourism 54
3.3.3. Shipbuilding, Maintenance and Ship Repair 55
3.3.4. Marine works 56
The NOS 2013-2020 presents a new development model of ocean and coastal areas that will allow Portugal to meet the challenges for the promotion, growth and competitiveness of the maritime economy, in particular, the important changes to the political and strategic framework at both European and Worldwide levels.

Portugal’s return to the sea depends on the implementation of a strategy based on knowledge and technological progress and on the size and geography of the emerged and submerged national territory, including the new extended dimension resulting from the submitted proposal to extend the continental shelf beyond 200 nautical miles.

The NOS 2013-2020 identifies the areas of intervention and presents the action plan, which includes the programs to be run and developed, in order to achieve specific objectives and produce the desired effects, being subject to proper monitoring, evaluation, review and update mechanisms.

The Mar-Portugal Plan, an action plan mainly aimed at the economic, social and environmental valorisation of the national maritime space through the implementation of sectorial and cross-sectorial projects, as well as the already existent national strategic plans or those in preparation.

The maritime spatial planning system and the compatibility of the different existing and potential activities that may take place therein, along with the proper administrative procedural simplification are key operations to the implementation of NOS 2013-2020 and for creating the conditions necessary for the growth of maritime economy and environmental and social improvement.

The NOS 2013-2020 was subjected to extensive public debate. A large number of meeting have been carried out both in mainland Portugal and in the Autonomous Regions of the Azores and Madeira, having received over one hundred contributions from civil society, in the Academy, but also from public and private entities, which have helped to improve and enrich the document that is now being presented. Only with everyone’s commitment can we make the sea a national goal and thus renew Portugal’s maritime identity.
CHAPTER I

INTRODUCTION
Over the last decades, we have seen an increased interest in the Ocean by the States, as a strategic development vector.

The overall mobilisation of States to the Ocean mainly began following World War II, was largely motivated by the need for States to ensure access to natural marine resources and their utilization.

As a result, several States came to safeguard this access by celebrating agreements for the delimitation of maritime spaces or through the use of conflict resolution mechanisms, or moreover, by adopting alternative means, such as temporary adjustments of a practical nature.

The need to ensure access to natural marine resources, in particular of non-living resources located at great depths, also boosted technological development, which allowed the use of such resources. With effects, without prejudice to prospection and exploitation activities in maritime zones under the jurisdiction or sovereign rights of coastal States, the coming into force of the UN Convention on the Law of the Sea (UNCLOS) has significantly contributed to the technological development and growth of ocean knowledge and its resources and has revived the valued and consistent prospects of economic success, some of which have since been achieved.
At the end of the last quarter of the twentieth century, the excitement of discovering new natural resources died down with the slowing of the economic activity, which was worsened in the first decade of this century, with a subsequent reduction in the demand for resources. This trend began to reverse itself after the second decade of the twenty-first century, where we have seen a recently increase in demand for natural resources by a broad set of States, whose population is large or very large and which has reactivated the mobilisation towards the source of the Ocean’s deep and ultra-deep natural resources.

The ocean is also a development vector, through the numerous and diverse uses and activities it supports, such as maritime shipping, tourism, shipbuilding and repair, or recreational boating, among other traditional or emerging activities.

The historical and cultural side of the Ocean, is equally layered by extreme relevance, constituting an essential component of the identity of populations and of the States, in particular in the coastal areas, which are in their majority associated to the development and productivity of industries and cultural services, both local and national.

Of equal relevance is the role of climate regulator that the Ocean has on a global scale, a function that is evermore valued when faced with the effects of climate changes advancement, be it from an anthropic nature or those associated to the planet’s geodynamic cycles.

On the other hand, the Ocean has incumbent risks and threats, the social and economic impact of which are estimated to be high and negative. The Ocean is more and more subject...
to pressures that arise out of Human action, and in particular due to the fast growing population in some regions of the planet. Subsequently, we see in those regions an extraordinary increase of occupation and land use, namely, through urbanisation of the coastal areas, thus increasing impacts, such as that of pollution. Another important effect of demographic pressure is the unsustainable fast consumption of living marine resources, which is preventing them from being renewed, whereby many species are already at serious risk of over-exploitation, in particular, that resulting from illegal, unregulated or unreported fishing, or, at best, by poorly selected and inefficient practices. On the other hand, the exploitation of non-living marine resources, including the exploitation of mineral resources has been increasing, which must be duly considered in a scenario of sustainable Ocean exploitation.

Moreover, the increase in world population will be accompanied by an increase in global trade, which is currently done in its majority by sea, thus significantly extending the risk of accidents and environmental catastrophe, especially when considering that certain maritime routes crossover very sensitive marine ecosystems, either by their vulnerability, or by their importance towards the renewal of living marine resources.

OVER THE LAST DECADES AWARENESS WAS RAISED THROUGHOUT THE WORLD THAT THE MANAGEMENT OF THE OCEAN AND COASTAL AREAS SHOULD BE ADDRESSED IN AN EXTENSIVE AND INTEGRATING MANNER

Thus, over the last decades awareness has raised throughout the world that the management of the Ocean and coastal areas, including the human activities carried out therein, should be addressed in an extensive and integrating manner, in search of a sustainable development and adopting a risk prevention attitude, in accordance with an ecosystemic perspective.

Nevertheless, the relationship with the Ocean goes both ways, insofar as from it also emerge threats towards Mankind. The rise of the average sea level, the biodiversity and vulnerability fluctuations of marine food chain foundations, the extreme meteo-oceanographic events and saline intrusions that destroy agricultural soils and contaminate land aquifers, are examples of such threats and out of which result, in some cases catastrophic consequences.

The Ocean is still a platform being used for illicit and criminal activities that give rise to extended security reactions to counterforce on piracy and armed robbery, unregulated or unreported illegal fishing, illegal immigration, trafficking of human beings and weaponry, drug trafficking, biological and chemical proliferation and terrorism. To these reactions one will most certainly need to join cross-nature measures to support development, also aimed at preventing and responding to profound social problems and environmental degradation.

The Ocean is thus promoter, receiver and vehicle for threats that have a significant negative repercussion on a planetary scale. These threats require new forms of cooperation and implementation of adaptive measures and dedicated and effective management principles, which are already conditioning the sustainable development of societies and, consequently, the population's quality of life.
Portugal has accompanied the global mobilisation to the Ocean, having created conditions and carried out initiatives targeted towards its use as a strategic development vector. In addition, from the last decade of the twentieth century, Portugal has mainly increased its capacity for action and influence in the international fora, where the concepts and principles for the rules and regulations on Ocean use, preservation and exploitation are built.

**PORTUGAL HAS ACCOMPANIED THE GLOBAL MOBILISATION TO THE OCEAN AND TOWARDS ITS USE AS STRATEGIC DEVELOPMENT VECTOR**

In the recent past, Portugal played a very important role in producing a strategic thinking and conceptualisation of governing policies, management and giving value to the Ocean on a worldwide and European scale, in particular through developing efforts towards enhancing the relevance of the Ocean component in the framework of European Union (EU) political priorities contained in the “Europe 2020” Strategy. Likewise, Portugal has taken a very active role in the development of an EU Integrated Maritime Policy (IMP), a central point for sea development and exploitation, as well as the new EU Maritime Strategy for the Atlantic area.

In this strategy is now expressed the will and priority of protecting the Ocean and in exploiting, in a sustainable manner, its long-term potential favouring a development model based on the promotion of a Smart, Sustainable and Inclusive Growth. This requires a broad commitment to promote, on the one hand, economic development based on knowledge and innovation, allowing for a more efficient use of resources and, on the other hand, a more competitive and sustainable economy, generating growth and employment; capable of ensuring social and territorial cohesion.

Likewise, Portugal has been building its ability to research the Ocean and create knowledge, mobilising a growing number of Portuguese. The nature of the extensive, diverse and ultra-deep Sea of Portugal encouraged the creation of a national capacity for exploring extreme environments, a capacity that today distinguishes Portugal, opening new door to international cooperation opportunities and that will determine the success of exploration, exploitation and preservation of natural marine resources.

**PORTUGAL HAS BEEN BUILDING ITS ABILITY TO RESEARCH THE OCEAN AND CREATE KNOWLEDGE, MOBILISING A GROWING NUMBER OF PORTUGUESE**
The analysis and evaluation of the Portuguese sea’s potential, its promotion while national purpose, the strategic sea planning and the implementation of the respective actions resulted in the adoption of a successive and incremental series of activities and measures, mostly following the ratification of Portugal in 1997, by the UNCLOS.

From the outset, in 1998, the report entitled “The Ocean: our future” was approved by the Independent World Commission on Oceans, under the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (UNESCO). In that same year was held the Lisbon World Exhibition, under the theme “The Ocean, a heritage for the future” and was also established the Intersectorial Oceanographic Commission (IOC), of the Inter-ministerial Commission for the Delimitation of the Continental Shelf (ICDCS) and the Program for the Promotion of Ocean Sciences and Technology (PPOST).

With the new Millennium, in 2003, the Strategic Ocean Commission (SOC) was established, the report of which, entitled “The Ocean, a national goal for the XXI Century” was published the following year.

In 2005, ICDCS gave rise to the Task-Group for the Extension of the Continental Shelf (TGECS) and in the same year the Task-Group for Maritime Affairs (TGMA) in order to elaborate the National Ocean Strategy (NOS 2006-2016), for the period 2006-2016, which was approved in 2006, thus consolidating the vision contained in the SOC report with regards to the sea’s potential as one of the major factors in the development of the Country, if duly exploited and safeguarded.

**THE IMPLEMENTATION**

**OF THE NOS 2006-2016**

**ALLOWED FOR THE CARRYING OUT OF A SERIES OF MEASURES IN THE FIELD OF MARITIME IDENTITY AND INTERNATIONAL ASSERTION, CAPACITATION AND KNOWLEDGE, AS WELL AS MARITIME GOVERNANCE**
With effect, the NOS 2006-2016 comes in response to the need to give value to the Ocean through a national project, focusing on an integrated approach to governance, enhancing the efforts of different guardianships, operators, the scientific community, non-governmental organisations (NGO) and society in general, making everyone jointly responsible for exploiting the Ocean as a differentiator factor for economic and social development. The implementation of the NOS 2006-2016 allowed for the carrying out of a series of measures in the field of maritime identity and international assertion, capacitation and knowledge, as well as maritime governance.

Within the framework of the NOS 2006-2016, we will also highlight the dynamic awareness and mobilisation of the Portuguese society to the Ocean’s importance, on a national, regional and local level, in particular through the development of the “Sea Kit” project, an educational resource tailored to different cycles of basic education (pre-school, 1st cycle and 2nd to 3rd cycles) and framed within the respective curriculum guidelines. This project’s objective is to sensitize children and youths in getting to know the seas and oceans, helping to promote more informed, responsible and active citizens with increased awareness of the strategic importance of the sea. In 2013, the “Sea Kit” involved over 70,000 students.

There was also development of the first stance for national maritime spatial planning, which enabled getting to know its existing and potential activities and uses in response to one of the strategic pillars of the NOS 2006-2016.

Ten years after the ratification of UNCLOS by Portugal, in 2007, the Inter-ministerial Commission for Ocean Affairs (ICOA) was founded, which established a Standing Forum on Maritime Affairs (SFMA). In that same year, Portugal was a pioneer in establishing a good practice paradigm for a sustained and sustainable governance of the Ocean with the creation of the first high seas marine protected area (MPA), called “Rainbow”. In 2010, this was followed under the framework of the Convention for the Protection of the Northeast Atlantic Marine Environment (OSPAR), by the “Josephine”, “Altair”, “Antialtair” and “Mid-Atlantic Ridge” MPAs located in the water column overlying the continental shelf beyond 200 nautical miles, with a total area of approximately 120,000 km², such areas currently integrated in the Azores Marine Park. Also Madeira, from the Seventies, have been implementing important landmarks in this field.
In 2008, during the 9th Conference of the Parties to the Convention on Biological Diversity (CBD), Portugal led the EU in the negotiations for adopting the scientific guidelines and criteria (Azores Criteria) for identifying ecologically or biologically significant marine areas and for assigning representative networks of MPA in open ocean and deep sea, and also worth noting is the development of management measures to be applied in areas established beyond the national jurisdiction (ABNJ) of States (Madeira Process). The Azores Criteria are used to identify such areas and in MPA classification by the United Nations General
Assembly (UNGA), as well as area networks beyond national jurisdiction, and moreover in complying with the Implementation Plan of the World Summit on Sustainable Development, hosted in Johannesburg in 2002, and more recently, of §177 of the document arising out of the Rio+20 conference.

Another decisive landmark was the presentation on the 11th May, 2009, of the Portuguese proposal for extension of the continental shelf, close to the UN and its later presentation, in 2010, to the Commission on the Limits of the Continental Shelf (CLCS). 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 the land size of Portugal. This area is approximate equivalent, by comparison, to the EU land size, corresponding to around 1% of the water surface on Earth and to 4% of the Atlantic Ocean area.

The compilation of this Portuguese proposal 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 6,000m deep, allowing for the collection of geological samples and improving knowledge of this biodiversity of the deep national seas and its respective oceanographic features. For the first time in its history, this equipment gave Portugal the possibility to access their entire maritime areas, reinforcing the established national capacity to investigate, understand and protect the Ocean and a corresponding strengthening of human resources skills, turning Portugal into a world level, capable partner in the field of advanced deep-water research.

Over the years Portugal has sought to ensure its presence in the international decision fora. A good example of this is the integration of a Portuguese member in the CLCS, whose term ended in 2012, and the prior year election of a Portuguese representative for the “Legal and Technical Commission” of the International Seabed Authority. Portugal also played a key role in drafting the EU Maritime Strategy for the Atlantic Area, presented in 2011, in Lisbon.

It is also worth stating, within this framework, Portugal’s active participation in the “BluemassMed” project, a European pilot-project for integrating maritime surveillance in the Mediterranean and its Atlantic approaches, which also counted on the support from Spain, France, Greece, Italy and Malta.

The “BluemassMed” contributed to strengthening the ties between the different agencies involved in maritime surveillance, safety and security, through the development of common methodologies and procedures to all entities, constituting a first step in defining the architecture of the future European network for extended maritime surveillance, which will allow for interoperability between all maritime surveillance systems, current or future, based on an agreed reference model, and with a view to optimising efficiency in using patrolling and surveillance assets.

Within the framework of European cooperation, it is yet to mention the European border surveillance system (EUROSUR), which allows the EU and Member-States have increasingly suitable instruments to ensure an effective prevention against illegal immigration, namely, in order to avoid the loss of human life, as well as combating illegal and criminal activities in the maritime borders of the European Union.
Other international cooperation projects promoted by Portugal over the years include, for example, the project “M@RBis - Information System for Marine Biodiversity”, which aims to store and manage geo-referenced data on existing species and habitats in waters under national jurisdiction, which were initially dispersed through various institutions and in different formats.

Within this project, several oceanographic campaigns have been performed to fill gaps in knowledge of marine biodiversity from multiple locations, and counting with the participation of hundreds of scientists and students from national and international institutions. The action of Portugal in this project allows to gain knowledge and to effectively protect and conserve the national marine biodiversity richness, and, thus, achieve a sustainable exploitation of national marine resources, keeping the commitments made within the framework of the process of extension of Natura 2000 to the marine environment.

Likewise, at an EU level, it should be mentioned the transposing of the Marine Strategy Framework Directive (MSFD), which resulted in the development of marine strategies for the subdivisions of the continent and the continental shelf beyond 200 nautical miles, and work in course under the jurisdiction of the autonomous regions, essential base documents gathering the environmental and socio-economic information relating to areas considered, conducting the respective initial evaluation and characterisation of good environmental status. Being a process currently undertaken at EU level, the MSFD constitutes an “umbrella directive”, in environmental terms, as regards the European marine waters.
It also should be noted the fundamental contribution of the private sector for the analysis and evaluation of the Ocean's potential in Portugal, namely the Report of the SOC, of 2004, which carried out a comprehensive assessment of the economic representativeness and of the main constraints and opportunities associated to the traditional and emerging maritime activity sectors in Portugal, as well as the "Hypercluster of Ocean Economy - A field of strategic potential for the development of the Portuguese economy" (SAER/ACL: 2009) study which resulted in the creation of the Entrepreneurship Forum on Ocean Economy. Both documents comprise extremely valid contributions for boosting the Portuguese Ocean potential.
3.


Having arrived halfway through the estimated period for implementing the NOS 2006-2016, the discussions have started regarding the opportunity to proceed to their review and update, mainly taking into account the changes made to the EU context, in particular, with regard to the strategic planning cycles, the development of common policies and multi-year frameworks. Moreover, notwithstanding the progress made and results achieved by NOS 2006-2016, the evaluation of these results is not an easy task due to the non-existence of an action plan for the implementation of NOS 2006-2016, despite the monitoring, evaluation and review being common management instruments in the execution of a strategy and which were specified therein. Under these terms, the lack of an action plan or a matrix of indicators prevents the objective assessment of how the situation is progressing and of the effectiveness of the plans and programs implemented under the NOS 2006-2016.

Taking this difficulty into account, the National Ocean Strategy for 2013-2020 contains an Action Plan, in order for the envisaged programs and projects to refer to the respective objectives, calendar and affected resources. Only this way, will it be possible to check on progress made, the kindness of proposals made in light of strategic objectives; the respect for principles moulded on action; the compliance with set targets; the effectiveness and efficiency reached, as well as, to conclude about the need on effecting changes, reviews and amendments to the respective Action Plan.

In addition to the need in ensuring a continuous update of the Action Plan, through the application of the monitoring, evaluation and review tools, the contribution to the ocean development given by all Portuguese, through its open participation, will be added. In this context it is appropriate to bring, now, a new national will wave oriented towards the sea investment, and allowing for the discussion of NOS 2013-2020.
As mentioned, the need to review the NOS 2006-2016 arises mainly from the changes made to the EU context, namely, in what concerns preparing important common political reforms and the respective financing mechanisms. In effect, since preparing the NOS 2006-2016, several occurrences have taken place, which if considered as a whole, justify its review.

From the outset, even without itself creating the need for review, in the year following approval of the NOS 2006-2016 the IMP was agreed, the vision of which falls in line with the national strategic thinking of that period, having Portugal joined Spain and France, the group of countries that introduced the first document for strategic thinking within the process of creating the IMP.

More recently, in 2010, the EU presented the Europe 2020 strategy with the objective of triggering the transformation of the “EU into an intelligent, sustainable and inclusive economy” that would provide plenty of employment opportunities, productivity and social cohesion.

In 2011, also under strong impulse from Portugal, the EU Maritime Strategy for the Atlantic area was launched in Lisbon, integrating the guidelines of Europe 2020 and presenting a new vision on Maritime Europe, turned towards the protection and potential long term exploitation of its Ocean, classed as a development platform for important intercontinental relations.

Already in 2012, the EU presented a communication dedicated to “Blue Growth” that defines and characterises the “Blue Economy” and establishes the fundamental areas for growth, which integrate the blue energy, the aquaculture, the maritime coastal tourism and cruises, the marine mineral resources, and the blue biotechnology.

In parallel, the reform of the Common Fisheries Policy (CFP) and of its supporting financial mechanism, the new European Maritime Affairs and Fisheries Fund (EMFF) is currently being undertaken, in addition to the reform of the multiannual framework on EU funding for the period 2014-2020. Important reports and
IN ADDITION, THESE TRANSFORMATIONS WERE ACCOMPANIED BY NEW DEVELOPMENTS OF THE ACTION OF THE STATES AT SEA, ON A WORLDWIDE LEVEL

documents of strategic thinking were also published, the majority of which overlooking an action timeframe up to the year 2020.

In addition, these transformations were accompanied by new developments of the action of States at sea on a worldwide level. Indeed, the use, exploitation and preservation of the Ocean gained a new momentum and created new opportunities for development, including maritime shipping, underwater mining, renewable and fossil energies, and in establishing new marine protected areas, among others.

Therefore, given this framework, it is considered necessary, first, to align the period of duration of the Portuguese ocean strategy with the specified timeframe of the EU action and, secondly, to take due account of the changes verified globally in the maritime sector; safeguarding, however, that the review of the NOS 2006-2016 now presented in the form of a new strategy, the NOS 2013-2020, may happen naturally and that it is indeed an essential tool for achieving the sea of Portugal as a national purpose.
CHAPTER II
THE SEA OF PORTUGAL
The Portuguese land territory is confined to the western edge of Europe, covering an area of approximately 89,000 km², and the insular Atlantic area, ultra peripheral and not very large, corresponding to the Archipelagos of Madeira and Azores, of circa 3,000 km².

Taking into account only its size and land characteristics, Portugal is a country of relatively small dimension, with scarce natural resources and away from the centre of Europe. However, if taking into account its maritime dimension, Portugal is an immense country and one of the great maritime countries of the world, with an enhanced geo-strategic, geo-political and economic potential.

Adding to this maritime dimension are the corresponding great challenges, but above all, unprecedented opportunities for Portugal. Indeed, this new extended territory promises a wide diverse set of natural resources with a value not yet estimated, but whose potential is admittedly high, and above that which is known and available on the onshore portion, so their economic exploitation and environmental preservation stand out as strategic areas for action, which together with the prospect of social and territorial cohesion, will be essential for the promotion of a sustainable and sustained development of the country.
However, in addition to the rights inherent to its maritime dimension, Portugal is equally bound to comply with the respective international obligations, as well as its responsibilities in the area of Ocean and seabed spatial management, in the surveillance and monitoring of activities that take place therein, and the monitoring of its environment and ecosystems, in a framework of international governance of the Oceans.

The maritime dimension of the Portuguese territory also allows for a new focus point of the European space, forming up an unparalleled axis in connecting the three continents, in the directions east-west and north-south, and conferring to Portugal an incomparable geo-strategic positioning and, consequently, strengthening, on a large scale, its international capacity for assertion and intervention.

IN ADDITION TO THE RIGHTS INHERENT TO ITS MARITIME DIMENSION, PORTUGAL IS EQUALLY BOUND TO COMPLY WITH THE RESPECTIVE INTERNATIONAL OBLIGATIONS, AS WELL AS ITS RESPONSIBILITIES IN THE AREA OF OCEAN AND SEABED SPATIAL MANAGEMENT, IN THE SURVEILLANCE AND MONITORING OF ACTIVITIES THAT TAKE PLACE THEREIN, AND THE MONITORING OF ITS ENVIRONMENT AND ECOSYSTEMS, IN A FRAMEWORK OF INTERNATIONAL GOVERNANCE OF THE OCEANS.
Portugal has a predominantly littoral geography spatial planning, with all of its decision making centres turned towards the Ocean. Moreover, Lisbon is the only Atlantic capital of the European while and the archipelagos of the Azores and Madeira extend the EU into the Atlantic space. As a result, Portugal, as a whole, defines a hinge on intercontinental links and with non-coastal European States.

In the Portuguese sea, geography and dimension are joined by the maritime identity of a people, that again, has the ambition of seeing Portugal in the Ocean. These features are enough to turn Portugal into a unique territory and make the North Atlantic space, that is Portuguese, the Mar-Portugal, a territory of reference.

IN THE PORTUGUESE SEA, GEOGRAPHY AND DIMENSION ARE BONDED BY THE MARITIME IDENTITY OF A PEOPLE THAT AGAIN, HAS THE AMBITION OF MOVING PORTUGAL TO THE OCEAN
2. THE GEOGRAPHY
The Atlantic basin has an overall area of approximately 106,000,000 km², corresponding to around 20% of Earth’s surface and around 26% of its water surface, dimensions that make this Ocean, the second largest on Earth.

The Atlantic extends in latitude, from the North Pole to the South Pole, from the Arctic Sea to the Continent of Antarctica and in longitude, from the European and African Continents to North, Central and South America.

The Atlantic seabed presents an extremely varied physiography. In it, the Mar-Portugal comprises the coastal border of the emerse mainland Portuguese territory, with its rich estuary and lake regions and its rocky and sandy coastlines.

Unlike the Atlantic region of northern Europe, corresponding to the North Sea, where depths are generally low and the geological continental shelves are broad; the geological continental shelf adjacent to mainland Portugal is generally narrow and the continental slopes are crossed by prominent submarine canyons that empty into vast abyssal plains.

The central space of Portugal is the intersection zone of three tectonic plates: the Eurasian and Nubia to the East, and North-American, to the West.

The nine islands of the Archipelago of the Azores are spread throughout these geological structures. The Western group, comprising the Islands of Corvo and Flores, lies in the North-American plate, geologically isolated from the others by a line chain of seamounts, the Mid-Atlantic Ridge, which extends from the Norwegian islands of Svalbard and Jan Mayen to the Bouvet islands, at the southern intersection, between the Indian and Atlantic oceans. The other islands of the archipelago are distributed along the boundary between the Eurasian and Nubian plates, extending east to Portugal, through a major underwater geological structure, the Gloria Fault.

The complex geological evolution of the Atlantic, also contributed to the development of numerous seamounts which punctuate all the extent of the North Atlantic.

In this vast maritime space, the tops of the seamounts, the long sections of coastline, the vast ultra-deep areas, the mud volcano areas south of Continental Portugal and the many hydrothermal systems present in the Mid-Atlantic Ridge, in the Azores, enclose, in its entirety, unique oceanic ecosystems to the world and which contain a vast marine biodiversity, not yet fully known.

Besides the marvel of the hydrothermal systems of the Azores region, elsewhere on the borders of the Madeira Archipelago, emerge living and non-living systems of the same or otherwise larger potential. These are only now being subject to a more systematic appraisal, resulting from scientific expeditions carried out on the geological structures of first magnitude that contains them, such as the Madeira-Tore Rise, a chain of seamounts that extend from the Island of Madeira to the latitude of Peniche.

The ocean circulation of the Atlantic North is instrumental in regulating the weather and justifying the moderate climate of a great part of the European territory. The movement of water masses induced by the wind, occurs north of the Azores, in general from west to east. The gulf stream dominates the circulation pattern and defines the northern edge of the North Atlantic subtropical gyre.

When reaching the European continent, the Gulf stream turns south in the direction of Madeira on the southeast border of Mainland Portugal and, continuing West towards the Gulf of Mexico and then North, where it closes the Great gyre. Mediterranean waters flow out through the Strait of Gibraltar moving along the south coast of mainland Portugal and turning North at the Cape of St. Vincent, bordering the surface waters of the entire west coast of mainland Portugal and going also, in depth, towards Madeira.

On the west coast of Portugal there are frequent episodes of upwelling which bring deep cold waters, rich in nutrients to the surface driven by dominant northerly winds which blow along the coast.

The interaction of ocean currents along with the seabeds and the atmosphere, affects the daily life of the Portuguese, even of those who live away from the sea, promoting the concentration of biodiversity on the submarine seamount tops, affecting the dynamics and distribution patterns of marine species and their habitats, having implications on fishing and in the distribution of algae, on coastal tourism; in the existence of periods of drought and in many other aspects of our daily lives.
3. THE DIMENSION

THE MAR-PORTUGAL IS A WIDE AND COMPLEX AREA GIVEN THE NATURE AND EXTENT OF THE SYSTEMS IT ENCLOSES

The Mar-Portugal is a wide and complex area given the nature and extent of the systems it encloses. In addition to the naturally imposed borders of the Atlantic Basin, many are the borders and legal limits that cross its space, imposed by international agreements and conventions.

The UNCLOS is the international reference in defining maritime zones, being considered “the Constitution of the Oceans”. In the framework of this Convention, the Mar-Portugal comprises, at the sea bottom, the seabed and subsoil that from the national coastline extend throughout the territorial sea to the outer limit of the extended continental shelf, deemed by legal concept as being under the exclusive jurisdiction of Portugal for the exploitation of natural resources contained therein.

If considering the water column, it is further deemed, under the UNCLOS framework, the Exclusive Economic Zone (EEZ), defined by the line that ranges 200 maritime miles away from the baseline, the straight line or the closing line. Within this framework Portugal holds one of the largest EEZ’s in the North Atlantic and in the world. These maritime spaces are equally contained in the Mar-Portugal.

Beyond the EEZ or, where it doesn’t exists, the territorial sea, the UNCLOS determines the application of the high seas regime for the water column, and consecrates the freedom of use for peaceful purposes. Juxtaposed to the EEZ and, partially, to the high seas, other relevant areas are further defined and guided towards the marine environment management and conservation, such as the establishment of MPA under the OSPAR, for example.

To promote regulation and mitigate impacts the regulatory and mitigation impacts of fishing, the North-East Atlantic Fisheries Commission (NEAFC) defined interdiction polygons or fisheries limitations that have direct influence on some of the OSPAR areas classified by Portugal.
Of equal importance, one must highlight the recorded developments in the framework of CDB, namely with regards to the process of characterization and repository of MPA’s that comply with biological and ecological criteria and repository of the MPA, which comply with criteria insofar as its ecological and biological importance.

Finally, it is also worth noting the different areas of regulation and environmental protection mechanisms that define the Natura 2000 Network within the marine environment in the framework of the European Habitats and Birds Directives.

Likewise, within the framework of international responsibilities assumed by the country; of the answers to the main environmental issues, including that of climate changes, and of the necessary international articulation and cooperation these bring, while a marine environment preservation space, the Mar-Portugal assumes a dimension that contemplates the Atlantic as a whole.

**Legend**
- Marine Protected Areas (MPA)
- North East Atlantic Fisheries Commission Areas (NEAFC)
- OSPAR Area
- Exclusive Economic Zone
- Outer Limit of the Continental Shelf

**WHILE A MARINE ENVIRONMENT PRESERVATION SPACE, MAR-PORTUGAL ASSUMES A DIMENSION THAT CONTEMPLATES THE ATLANTIC AS A WHOLE**
4. THE MARITIME IDENTITY

The sea has been a mark in the history of Portugal. The link between Portugal and the sea gained a larger relevance during the Discoveries Era and marked, in a decisive manner, the start of the globalization process.

Trade, as well as cultural, scientific and technological exchanges resulting thereof, promoted a great development of our country and marked the processes of sharing knowledge and of interaction among the populations. It was in the course of this historical context that a country with a strong maritime character has been developed, expressed in historical and cultural values, which as a whole, define us emphasizing a strong affective relationship between the Portuguese and the sea. Hence Portugal is one of the subscribing States to the Convention on Underwater Cultural Heritage of UNESCO, 2001, acknowledging its important role in the worldwide maritime dimension.
WITH THE EXECUTION OF THE NOS 2013-2020, PORTUGAL WANTS TO ASSUME ITSELF AS A MARITIME COUNTRY BY EXCELLENCE THAT LIVES WITH THE SEA; THAT BRINGS THE SEA TO EUROPE, AND TURNS EUROPE FOR THE SEA

The political and social evolution, in particular during the last quarter of the twentieth century, along with the EU integration, determined the guidelines of the country towards the European space and a gradual move away from its Atlantic ability.

With the execution of the NOS 2013-2020, Portugal wants to resume itself as a maritime country by excellence that lives with the sea; that brings the sea to Europe, and turns Europe for the sea.

THE GENETIC CODE OF THE NEW MARITIME PORTUGAL: A GREAT COUNTRY OF ULTRA-DEEP SEA NATURE, WITH VAST POTENTIAL IN NATURAL RESOURCES; AN UNPAIRED NATURAL HERITAGE AND AN GEOSTRATEGIC CENTRAL OUTSTANDING POSITION

Portugal is the Atlantic face of Europe and the European link to deep seas. Should therefore take the initiative, leading European and international processes relating to maritime governance, aiming at fostering the economy, and enhance and preserve that which is its biggest natural heritage.

In this sense, it is necessary to recreate a modern maritime identity, which does not relgate the traditional values, but that is forward-looking and empower a new spirit of discoveries, creativity-oriented in design, entrepreneurship in preparation and pro-activity in action, realizing the opportunities that the Mar-Portugal offers.

These are the multiple dimensions of the Mar-Portugal territory of reference. As a whole, they define the genetic code of the new maritime dimension: a great country of ultra-deep sea nature, with vast potential in natural resources; an unpaired natural heritage and a great geostrategic centrality that is, after all, the engine to international pronoucement.

This genetic code is the context and substrate of the NOS 2013-2020 and affirms the sea as a national purpose, favouring the implementation of a new paradigm for sustainable development for the present and future of Portugal.
CHAPTER III

THE DEVELOPMENT MODEL
The NOS 2013-2020 fits the new paradigm for sustained 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. To this effect, one must consider the sectoral strategies already assumed by the government and study the interaction among the various activities, its impact on marine environment, marine habitats and biodiversity.

The intention is to define a route towards development under an essentially inter-sectorial perspective founded on knowledge and innovation of all maritime uses and activities, promoting a broader effectiveness in using resources, within a framework of sustained and sustainable exploitation.

The “Blue Growth” seeks to identify and support the activities with a high potential for long-term growth, removing administrative obstacles that make growth difficult, promoting investment in research, as well as the development of skills through education and professional training. The aim is thus to increase the competitiveness of the economy and generate an increase in employing qualified staff, while strengthening social cohesion.

A ROUTE TOWARDS DEVELOPMENT UNDER AN ESSENTIALLY INTER-SECTORIAL PERSPECTIVE FOUNDED ON KNOWLEDGE AND INNOVATION OF ALL MARITIME USES AND ACTIVITIES, PROMOTING A BROADER EFFECTIVENESS IN USING RESOURCES, WITHIN A FRAMEWORK OF SUSTAINED AND SUSTAINABLE EXPLOITATION

The NOS 2013-2020 is the integrating tool, concerted and consistent that will result in the development advocated by the "Blue Growth", promoting and putting in place an action plan to materialise the objectives of the sea economy, and that will enable the central, regional and local administration to facilitate the creation and maintenance of an environment in favour of public and private investment for the development of various activities related to the Ocean. To this extent, the regional specificities are reflected in the programs and projects to be implemented under the Strategy. Therefore, for a successful development model, the harmonised exercise of own competencies is essential, in the framework of a shared decision and management process among the Central Government, the Regional Governments of Azores and Madeira and the municipalities.
2. CHALLENGES OF THE DEVELOPMENT MODEL

2.1. Administration (intelligible and simplified regime)

The inefficiency of public policies should be reduced and the traditional governance model properly transformed in order to minimise the obstacles in pursuit of the objectives proposed by “Blue Growth”.

To increase the competitiveness and development of the maritime sector, one must eliminate overlapping responsibilities and reduce bureaucracy, thereby capturing private investment and avoiding its bottleneck. It is the State, through its governing mechanisms, that must adopt the necessary measures to ensure administrative simplification, speed up of procedures, transparency of decisions, the essential accountability of those involved and the monitoring and control of the execution of investment projects.

The development of the national maritime sector essentially depends on objective and adequate regulatory framework, which among other things, contributes towards the competencies simplified administration previously mentioned.

The NOS 2013-2020 identifies the broad outlines of the national Ocean development model. It is up to the Central Government to, within the framework of its powers and given the shared management legally provided of marine areas adjacent to the Azores and Madeira, define a national strategy that includes the entire national territory.

Current legislation is often poorly suited to meet the challenges posed by new activities. To this extent, the coming into force of the Base Law for the National Maritime Spatial Planning and Management will be crucial to the growth of the sea economy.

THE DEVELOPMENT OF THE NATIONAL MARITIME SECTOR ESSENTIALLY DEPENDS ON OBJECTIVE AND ADEQUATE REGULATORY FRAMEWORK, THAT CONTRIBUTES TOWARDS THE CLARIFICATION OF COMPETENCES AND ADMINISTRATIVE SIMPLIFICATION
The above mentioned Base Law aims to create an effective legal framework for reconciling compatibilities between uses or competing activities, contributing towards a better and more economic use of the marine environment, allowing for the coordination of public authorities actions and private initiative, minimising the impacts of human activities in the marine environment, en-route towards sustainability.

The spatial planning and management enshrined in the Base Law embody a new vision and a new practice, which aims to simplify the use of all national maritime space, bearing in mind, at the outset, that full enrichment of the maritime space in a framework of sustainability, requires the processing of three action vectors: the use, the preservation and the exercise of economic activities. The Base Law thus envisages the establishing of a new and widened framework for the vector of use, without prejudice to the necessary articulation with the remaining vectors.

Simplification shall be achieved through centralising access to licensing the use of the sea with the help of electronic means for providing titles of spatial usage, and promoting administrative procedures in the framework of the remaining action vectors, with a view to speeding up the process.

The effectiveness of the national maritime spatial planning also depends on the creation of a legal framework, that regulates the concession, licensing and authorisation of the use of maritime zones under national sovereignty or jurisdiction.

Given the increased use and activities and in order to mitigate the economic, social and environmental impacts, it will be necessary to promote systems that ensure the surveillance, monitoring and control of the entire national maritime space, as well as evaluate those existing, in particular, with regards to its operational effectiveness that allow for a quick and judicious analysis of the risk phenomena, as well as support the response to threats of a human or natural nature, including cases of natural calamity or catastrophe.

Promoting the competitiveness of the sea economy and training policies framed by the needs of the labour market, should be a priority in the proposed development model.

Particular emphasis is given to the dynamics of private takeholders who, taking advantage of favourable conditions, develop competitive business models in a global market.

BUILDING AWARENESS ABOUT THE OCEAN’S ROLE AND THE ACTIVITIES THAT TAKE PLACE THEREIN, TAKING INTO ACCOUNT ITS MULTIPLE ASPECTS, AS WELL AS ITS POTENTIAL LINKED TO NEW OPPORTUNITIES, ENTREPRENEURSHIP, RESEARCH AND DEVELOPMENT, AND INNOVATION
2.2. Communication and culture

The “Blue Growth” implies a higher degree of perception of the Ocean’s value as a strategic asset and of the increasingly important role it will play in improving the quality of life of the Portuguese. It is therefore important to raise awareness, in a more effective manner, about the Ocean’s role and the activities that take place therein, taking into account its multiple aspects, in particular, its cultural, social, educational, environmental and economic ones, as well as its potential linked to new opportunities, entrepreneurship, research and development (R&D), and innovation. The perception of this role and its potential will also allow to contribute in a more decisive manner towards renewing the collective maritime identity, which, to date, has been essentially affective, based on historical and cultural values.

2.3. Education, science and technology

The new sea economy presents complex problems based on technology in the majority of its development vectors, which require the involvement of a highly qualified workforce. The recognition, maintenance and enhancement of professional qualifications of current and future generations are fundamental to sustaining and securing a skilled workforce across the range of sea-related activities. Conditions are not yet provided for the education and training of such work force, in particular, those that allow for a growing number of technicians to become qualified in the subjects related to the sea, in all its aspects. To this effect, it will also be necessary to assess the opportunities created by the NOS 2013-2020 for the future professionals, attracting youth to this labour market.

Knowledge is transverse to all activity areas of the NOS 2013-2020 and involves a prevalence of R&D components.

The recognition, maintenance and enhancement of professional qualifications of current and future generations are fundamental to sustaining and securing a skilled workforce across the range of sea-related activities.

Knowledge is transverse to all activity areas of the NOS 2013-2020 and involves a prevalence of R&D components. The agenda of the R&D programs must involve the investment in qualified human resources and science and technology infrastructure linked to the seas and oceans, as well as the optimisation of existing resources, fostering and strengthening cooperation, sharing of resources among national institutions and active participation, duly framed within international networks. The R&D should be funded in a stable manner and with programmatic consistency, guided towards the functional needs and knowledge arising out of the implementation of the NOS 2013-2020.
2.4. International assertion and cooperation

The scale of the geostrategic issues associated to the seas and oceans is, by nature, international and intercontinental. As previously mentioned, Portugal, because of its dimension and the location of its maritime space, plays an important role in the IMP and in the EU’s Maritime Strategy for the Atlantic area, as well as in the framework of international organisations of which it is a Member-State.

In particular, the IMP constitutes an indispensable element for a sustainable energy and climate policy. It mainly aims at transectorial and transnational integration of maritime surveillance and the international dimension of the community maritime policy. The IMP is an important action tool for promoting the economic potential of the European maritime and costal space, seeking simultaneously its protection through a new governance dynamics and synergies exploitation of the various policies which have the sea as an element.

However, the important geostrategic positioning of Portugal carries serious challenges and imposes great responsibilities in the international governance of the seas and oceans.

In the international governance of the seas and oceans, in particular in the areas of spatialisation of the seabed, in the surveillance and control of activities that take place therein and monitoring of its environment and ecosystems.

Although Portugal’s participation in different international fora may have associated costs, it is essential for the contribution that the country can provide for the creation and development of measures adopted under the
Portugal will have to ensure the participation in different international fora and ensure effective and full coordination between the different guardianships on the representation and positioning of Portugal in these fora, in order to not compromise the possibility of continuing to be part of the international decision processes. Hence it should be a national priority, and in particular in the NOS 2013-2020, the active participation of Portugal in international fora and effective coordination of its representation, so it can assume a greater role within the governance of the seas and oceans.

2.4.1. | Community of Portuguese Speaking Countries (CPSC)

PORTUGAL SHOULD CONTRIBUTE IN THE FRAMEWORK OF THE CPSC FOR THE PRODUCTION OF STRATEGIC THINKING IN RESPECT TO CONCILIATING POSITIONS OVER THE GLOBAL OCEAN POLICIES

Portugal can and should contribute in the framework of the CPSC for the production of strategic thinking in respect to conciliating positions over the global Ocean policies. One should highlight in this context, the participation in biennial meetings of Ministers of the Sea as well as the presentation of a joint statement of this ministerial group to the Rio+20 Conference. Furthermore, Portugal, over the past years has been strengthening its operational and multidisciplinary capacity in project preparation for extending the continental shelf and access to the seabed, in particular within the framework of international cooperation developed as part of the CPSC.

PORTUGAL THUS CONSTITUTES A BRIDGE BETWEEN THE EAST AND WEST AND AN INTERFACE BETWEEN THE NORTH AND SOUTH HEMISPHERES, VALUED FOR ITS MARITIME CULTURE, LANGUAGE AND TRADE

Portugal thus constitutes a bridge between the east and west and an interface between the north and south hemispheres, valued for its maritime culture, language and trade, whose current expression is the CPSC. Also highly relevant are the cooperation activities under development with CPSC countries, such as areas of navigation safety, threat assessment information sharing, internal security, and safety and assistance on beaches.

2.4.2. | Protecting the marine environment

Portugal assumes itself as one of the great maritime countries of the world, and therefore has a particular responsibility to defining a sustainable development model and contribute to solving the major environmental problems, within the necessary international cooperation that this entails.
The size of the national territory is accompanied by a huge potential that the asset comprised of a diversified variety of natural resources represents. However, economic exploitation and environmental preservation present themselves as strategic action domains, which together with the prospect of social and territorial cohesion, are essential to promoting the sustained and sustainable development of the country.

This makes it essential to establish an approach that enhances its recognition, its environmental sustainability and its social and economic valorisation.

### 2.4.3. Protection and safeguarding

The immensity of the maritime space and the absence of physical boundaries make the prevention and control of illegal acts practice or illegal activities at sea and on board vessels particularly difficult.

Likewise, the political boundaries between different coastal States are irrelevant to the preservation and protection of the marine environment and the measures to be taken in this context should take into account the interlinking of the different marine ecosystems.
In this regard, the States should cooperate in the safety and security of the right to exercise freedom of navigation, namely, through the adoption of measures to protect and prevent the practice of unlawful acts against ships and the implementation of measures to ensure the preservation and protection of the marine environment in the exercise of such freedom. To this end, the States should effectively exercise their jurisdiction and control over vessels that fly their flags; likewise Port

PORTUGAL SHOULD PROMOTE THE USE OF ITS AVAILABLE RESOURCES, ACCORDING TO THE LOGICS OF EFFICIENCY AND SUBSIDIARITY, DEVELOPING A COOPERATIVE CIVILIAN AND MILITARY EFFORT THAT WILL CONTRIBUTE TOWARDS ENSURING AN EFFECTIVE RESPONSE

States should monitor and control vessels therein, without prejudice to the rights of the coastal States to adopt the necessary and legally provided measures to prevent, reduce and control pollution coming from vessels in the exercise of their right to passage and/or freedom of navigation. In this sense, it is important to develop the studying and implementation of safe havens, as an effective way to responding to accidental pollution at sea, with the aim of mitigating its effects on the marine environment.

With this in mind, Portugal should promote the use of its available resources, according to the logics of efficiency and subsidiarity, developing a cooperative civilian and military effort that will contribute towards ensuring an effective response. To this effect, it is first necessary to promote sharing of information between the surveillance, monitoring and control systems.

Also within this framework and without prejudice to other international cooperation efforts, namely in external action, including combating piracy, Portugal actively participates in European projects aimed at the integration of maritime surveillance, including through the exchange of information between agencies of the different Member-States participating in the project, in particular with regard to the monitoring of borders and customs, fisheries and marine pollution from ships and ports, to the prevention and suppression of illegal activities and navigational safety and safeguarding of human life and goods.
3. INTERVENTION DOMAINS

The “Blue Growth” identifies five strategic domains of preferential intervention, namely blue energy, aquaculture, tourism, marine mineral resources and the blue biotechnology. Currently, in the European economy, the business sectors relating to living and non-living resources, as well as the infrastructures, uses and activities, although in different stages of development, have a significant weight, whereby the annual contribution towards gross added value is estimated at 500,000,000,000 Euros, and maintenance of at least 5,600,000 work posts.

In Portugal, monitoring of the combined weight of maritime activities is still very poorly consolidated in the national accounts. However, the “Hypercluster of Ocean economy” study (SAER/ACL: 2009) refers to a contribution of the activities of around 2% of the GNP with the creation of around 75,000 direct employment. On the one hand, the work “Blue Growth for Portugal: a business vision of the ocean economy” (COTEC: 2012) presents slightly less conservative economic perspectives, pointing to values close to 2.2% of the GDP, although it also refers to the lack of consolidation of national accounts that allows for a more contextualised sampling. Likewise, according to the document: “Ocean economy in Portugal”, coordinated in 2012 by the Directorate-General for Maritime Policy (DGMP), which involved a broad set of institutional representatives of the sectors, in 2010 Ocean economy represented in direct terms around 2.5% of the gross added value and 2.3% of national employment.

The “Report for a sustainable growth - a post-troika vision” presented in December 2012 by the Sustainable Growth Platform, defends five strategic guidelines for the Ocean to be seen as an engine for the development and assertion of Portugal in the world: reorganise, restructure and regulate the Sea economy; create a distinct mark held onto the proximity of the Portuguese people to the sea; strengthen knowledge, science and technology and skills in that domain; establish a new funding and governance model; and the coastal areas to the consequences of climate change the consequences of climate changes.
The development model adopted in the framework of the NOS 2013-2020 aims to be sufficiently wide so as to be applied to all fields of intervention, without prejudice to its capacity to respond to challenges within the short and medium time scales or more confined spatial scales. The challenges and opportunities of the maritime sector assume the valorisation of its potential and the equitable division of the benefits obtained from the different activities which it encompasses.


The NOS 2013-2020 refers that is primarily a responsibility of the Portuguese to potentiate and take advantage of the exploitation and development of the national maritime space.

3.1. Living resources

Fishing and its subsidiary activities, such as the transformation and valorisation of fish, constitute a sector with huge tradition in Portugal and has a significant social and economic weight. Over recent years, fishing has maintained almost constant catching levels, mainly due to increased efficiency and effectiveness of the fleet resulting from its progressive renewal accompanied by a decrease in the number of fishermen and vessels registered.

The pressure of demand has implicated a consistent negative record on the Portuguese trade balances in this sector. The insufficiency in catches can be progressively reduced with the development of onshore and offshore aquaculture. This activity continues to be poorly exploited in our country, partly due to the adverse physical conditions of the Portuguese coast. The improvement of production techniques and technologies may contribute towards a significant development of aquaculture in Portugal and, within this, shellfish farming.
Another sector with growth potential, in the near future, is that of marine biotechnology in the framework of genetic resources exploration and through the use of marine organism compounds on bio products with industrial, pharmaceutical, medical, cosmetic and industrial application, among others. Until now, this is a universe that has been, in an almost exclusive manner, supported by a strong R&D component.

In Portugal, the existence of a vast and largely unexplored, ultra-deep geographic area and the presence of extremophiles, among others associated with the hydrothermal occurrences in the Azores, as well as structures, originated from methane gas emissions, are good prospects for the development of marine biotechnology products in the near future. It is also worth mentioning the growing expectation in respect of the potential associated to development of the algae culture for the manufacturing of bio fuels.

3.2. | Non-living resources

In the international scene, the activities relating to the exploitation of non-living resources have an enormous economic growth potential and in creating employment, thus being classed as strategic.

The potential for metallic mineral resources in the Portuguese marine environment includes zinc, copper, cobalt, gold, silver, manganese, high tech metals and rare earths, as well as non-metallic aggregates. Subject to confirmation through research studies and exploration, the geological context of the national maritime space is favourable to the occurrence of mineral deposits with substantial economic value, particularly in geological structures of Middle-Atlantic ridge, near the Azores, in the Madeira-Tore Crest and along the adjacent platform that extends from Madeira to the west coast of Portugal.

Additionally there is a growing interest in the exploration of conventional energy resources offshore Portugal.

There is also a strong potential for economic exploitation of methane hydrates, with occurrences having been confirmed throughout all of the offshore area, to the south and southwest of Portugal mainland. However, the development of these resources would mean an increase in the existing technology and may bring about environmental issues that must be considered.

Confirming the existence of non-living resources may on its own, contribute towards the development of a wide range of activities and sectors, from port infrastructures and maritime shipping, to environmental monitoring and technological development.

Portugal has shown, through studies of the national continental shelf, carried out by various national research institutions, the existence of huge potential and ideal conditions for the development of renewable energy in the maritime space. In particular, harnessing the potential of wave powered energy, as well as the use of wind in offshore areas, which
is characterised by a greater availability and more stability in view of the absence of natural barriers. Both uses have, besides the projects in operation, applications to the financial instrument of the European Commission NER300, were already approved in 2012, to install a 27 MW offshore wind project called windfloat.

The growth of this sector will, in the medium and long term, be important for the decarbonisation of the national economy, helping to ensure compliance with the goals of penetration of renewable energy in gross final consumption and goals for reducing greenhouse gas emissions (GGE), international objectives assumed by Portugal. In addition, it will have a further significant impact on reducing fossil fuel imports and increase security of energy supply. In this scenario, it is expected that one will attend the lookout for a wider range of products and services promoting to an industrial boosting, with significant economic impact.

The physical conditions of the Portuguese coast, particularly given its bathymetry, involve the optimisation of existing technology, including the use of floating wind generators, a solution that has been adopted in existing projects, which appeals largely to the incorporation of national industries in the manufacturing of components and infrastructures.

Other forms of energy production can be addressed in the near future, as the production of energy from waves, tides and currents, a sector that has been developed in Portugal, and for which are being designed and developed a series of engineering projects.

Also manufacturing of sea salt, the history of which has been lost over a distant past, represents an activity that has nowadays been monitoring consumer trends allowing streamlining and modernisation of this industry in a particularly demanding market.

3.3. | Infrastructure, use and activities

3.3.1. | Ports, shipping and logistics

The commercial ports sector has had a significant economic development, accompanied by a diversification of infrastructure and port services, associated to an increase in the availability of skills and capabilities to meet with significant traffic requirements, such as import/export and transhipment of containerised cargo or petroleum products, natural gas and coal.

The widening of the Panama Canal, fully operational from 2014, will allow passage to even larger vessels with greater cargo capacity.

Portugal holds a strategic position in the Atlantic front of the Iberian Peninsula and in the crossroads of the main equatorial and meridian maritime shipping routes. The full use of this potential should be based on an integrated offer, with ports capable of receiving the largest intercontinental cargo carriers, in particular container-carriers. The integration of national ports in the international freight transport networks will, undoubtedly, be a factor of distinction and competitiveness of our Ocean economy.

The Port of Sines is one of the few deep water ports of Europe, currently being one of the few harbours along the Atlantic side of the Iberian coast, able to respond to those requirements, with the ability to constitute itself as a port or relevance for the entry and exit of goods in Europe.
PORTUGAL HOLDS A STRATEGIC POSITION IN THE ATLANTIC FRONT OF THE IBERIAN PENINSULA AND IN THE CROSSROADS OF THE MAIN ZONAL AND MERIDIONAL MARITIME-SHIPPING ROUTES

It should also be noted that the Strategic Transport Plan, published in November 2011, provides feasibility studies related to the increasing capacity for receiving intercontinental maritime traffic.

The commitment, within the framework of the Europe 2020 Strategy, towards the development of a transport network infrastructure in Europe, based on innovation and addressing the environmental, climate and energy challenges, through non-polluting and low-carbon emission transportation systems, encourages the transfer of intra-European goods traffic for distances greater than 300 km to the rail, maritime and fluvial modes, thus promoting short-sea shipping and boosting the motorways of the sea, enhancing the development of the ports and shipping sector.

The activity of national merchant navy lost dimension as a productive activity, having failed to keep up with competition created by the liberalisation of the sector. And within this framework, the time is of opportunity; to take advantage of a series of previously mentioned factors; to create a new momentum for development in line with a new paradigm for maritime shipping.

The current framework is thus favourable to a continued growth in this sector.

The fishing ports and shipyards require restructuring and reorganization on a national level. This task entails a detailed social and economic study of coastal communities that are associated with them, the value chains generated by them, the adequacy of infrastructure support, maintenance and natural conditions existing therein, in a cost-benefit perspective. Re-planning of this sector should be linked to the sector of ports and recreation harbours, in order to create to creating synergies and simultaneously mitigate potential conflicts in the use of the national maritime space.

3.3.2. | Recreation, sport and tourism

Recreational boating and touristic cruises are industry sectors that have, in short period of time, had a significant growth in Portugal.

IT IS EXPECTED THAT TOURISM ASSOCIATED TO NAUTICAL ACTIVITIES WILL HAVE A VERY STRONG INCREASE OVER THE COMING YEARS

The activity with the most impact in this set is coastline tourism (Sun and Sea), where it is expected that the tourism activity associated to nautical activities will have a very strong increase over the coming. The necessary infrastructures, such as marinas and boating and ship repair centres will have to be created in an structured framework. These may be the catalysts to the increase of sporting activities, which in itself contribute to boost the sector
and, in parallel, enhance a communication and education policy in order to consolidate the image of Portugal as a country with a strong maritime identity.

The internationalisation of sporting activities, of which surf is a good example, with Peniche being rated as the "Capital City of the Wave"; Ericeira, as "World Surfing Reserve"; the "Wave of Nazaré" and the acknowledgement of The Azores as a new world destination, actively contribute towards strengthening this identity, in particular among the younger generation. Moreover, in this area, the projections of water sports in Portugal turn our country into a world reference in other sports, such as sailing and canoeing.

Similarly, the creation of underwater archaeological parks may potentiate the development of a local level added value sector of tourism, similar to what is already happening with the Archaeological Parks of Angra Bay, created in 2005, and Dori in 2012, both located in the Autonomous Region of the Azores. The activities linked to observing cetaceans and other marine species is also of particular importance in the Archipelago of the Azores, Madeira and mainland. Also, the so-called leisure tourism may take on a leading role, mainly on islands, promoted, for example, by the acknowledged medicinal and therapeutic qualities of the sands and clays of the island of Porto Santo, as well as the thermal waters that are exploited on the shorelines of some coastal islands of the Azores archipelago and that have led to a rejuvenation of thermal infrastructures and a commitment to the quality of this tourism sector.

3.3.3. Shipbuilding, Maintenance and Ship Repair

A re-planning of national shipyards, with a concentration of skills and expertise in innovative market segments, can reverse the current situation of shipbuilding in Portugal.

In ship repair and maintenance, the situation is more favourable, insofar as Portugal continues to be a country of international relevance in this sector, mainly through shipyards, holders of relevant shares; that hold one of the major ship repair yards of Europe and the third largest in the world, in some market segments.

However creating a innovating incentives scheme may be important to the modernisation and restructuring of shipyards.
Finally, according to a sustained risk analysis, the dynamics and processes inherent to the ocean-atmosphere integrated system require the implementation of maritime coastal defence works and the availability of early warning requiring specific technical and scientific approaches.
### Past and Future Trends Dynamics

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<td>Marine research, survey and educational activities</td>
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↑ increase  
→ stabilisation  
↓ reduction (of activities and impacts in marine waters)

CHAPTER IV

THE NATIONAL OCEAN STRATEGY FOR 2013-2020
1. VISION

THE MAR-PORTUGAL IS A NATIONAL DESIGNNIUM WHOSE POTENTIAL WILL BE IMPLEMENTED BY THE ECONOMIC, SOCIAL AND ENVIRONMENTAL APPRECIATION OF THE OCEAN AND COASTAL AREAS, TO THE BENEFIT OF ALL THE PORTUGUESE
This vision is embodied in an action plan, the Mar-Portugal Plan (MPP), the time horizon of which is fixed for the 2013-2020 period. In its whole, the MPP sums up all projects, programs and sectorial, trans-sectorial and private measures that are carried out under the NOS 2013-2020.

The MPP frames and enhances synergies and scaled economies among all players and development sectors, reaffirming the value of the geostrategic position, competing for in a first stage and in the short term, establish the conditions essential to the achievement of Portugal’s strategic maritime potential and the assertion of a plural national maritime identity and, in a second phase, corresponding to a broadened time limit, enable the full embodiment of this potential.

The MPP shall, as shall all of the NOS 2013-2020, be a dynamic document, open to changes that, by renewal of the strategic national thinking or by addition, substitution or termination of programs and projects, are being recommended by all interested parties and approved by the ICMA.
The pursuit of the NOS 2013-2020, through the action plan, considers the following objectives:

• To reaffirm the national maritime identity in a modern, proactive and entrepreneurial framework.

• To bring to realization the economic, geostrategic and geopolitical potential of the national maritime territory, turning the Mar-Portugal into an asset with permanent economical, social and environmental benefits.

• To create conditions for attracting investment, both national and international, in all Sea economy sectors, promoting growth, employment, social cohesion and territorial integrity, and, until 2020, promoting an increase of the sea economy contribution for the GDP of about 50%.

• To strengthen national scientific and technological capacity, stimulating development of new areas of action that promote the knowledge of the Ocean and effectively, efficiently and sustainably enhance its resources, uses and activities as well as the ecosystem’s services.

• To make Portugal, on a worldwide level, a leading maritime nation and an undisputed partner of the IMP and of the EU maritime strategy, in particular for the Atlantic area.
3. GUIDING PRINCIPLES

The full, effective and efficient implementation and management of the NOS 2013-2020 requires, in the context of the adopted “Blue Growth” development model, observance of the following set of guiding principles:

• **Integrated Management**: intersectorial, multidisciplinary and cross-cutting, ensuring the extended coordination of planning and action, promoting complementarity on acquisition and use of resources, ensuring subsidiarity and strengthening agility and adaptability.

• **Precaution**: anticipating, whenever possible, potential risks or damage to health of humans, animals or plants, or to overall to the marine environment protection, without postponing effective measures in the pursuit of knowledge and sustainable use of the Ocean.

• **Effective participation**: of everyone - from a central, regional and local level - involving public and private entities and civil society as key partners for the identification and evaluation of threats and pursuing opportunities, ensuring reflection and production of strategic thinking.
THE MAR-PORTUGAL PLAN (MPP) ARCHITECTURE

The MPP is a dynamic document, constantly being updated in line with the production of strategic thinking and is based on a matrix structure indexed to:

- Action Axes (AA) - Research (AA1), Exploitation (AA2) and Preservation (AA3);
- Strategic Development Domains (SDD) - Natural Resources (SDD1) and Infrastructure, Use and Activities (SDD2).

The Action Matrix (AM) elements, created by the AA and by the SDD, define the Program Areas (PA) that group, under the aforementioned themed topics of the preceding chapter, different Action Programs (AP), developed through Projects (p).

Sustainability, facilitation and promotion in carrying out the MPP is guaranteed by a Support Axis (SA1) - Governance.

The AA are characterised by:

**AA1 - Research (knowing the Ocean)** - Actions intrinsically linked to research and knowledge of the Ocean, its interfaces and processes that occur therein, including decodification of the main functions and services. It also comprises technologically based initiatives for monitoring of the marine environment or that lead to an improvement of the conditions of the different productivity sectors within a framework of sustainable economic exploitation.

**AA2 - Exploitation (living from the Ocean)** - Measures dedicated to the sustained valorisation of the Ocean, of the natural resources contained therein and as an environment where different uses and activities are developed, with a view to achieving the main objectives of social and economic development and the production of wealth.

**AA3 - Preservation (living with the Ocean)** - A set of initiatives and measures focused on safeguarding the marine environment, ensuring its sustainability and promoting a good environmental status, mitigation of environmental damage and reducing pressures that subsequently arise out of the desired economic development within the framework of blue growth.
On the other hand, the SDD are characterised by:

**SDD1 - Natural Resources** - Covering the ocean-atmosphere's integrated system, comprising the seabed and marine subsoil, and the living and non-living resources therein. The economic value of this SDD includes, besides a classic portion inherent to quantification of physical goods susceptible of exploitation, a portion related to natural services and functions that the integrated ocean-atmosphere system provides as benefit to society.

**SDD2 - Infrastructure, Uses and Activities** - Combination of anthropic actions that occur in the maritime space and for the execution of which the Ocean is the means for achieving economic, social and environmental valorisation of the activity, including the intervention on the coastline's natural resources.

The ES1 - Governance (to facilitate, promote and maintain the action) horizontal and structuring, provides support and coherence, gives support and provides coherence to all evolution stages of the action, focusing on the development of execution measures by AP, crosscutting in general allow facilitation and regulation of the economic activity.

The MPP agents comprise public and private entities and NGO’s, directly or indirectly involved in Ocean action. The involvement and role they assume in each AA is differentiated, necessarily varying according to the scope of work. It is expected that the State takes on a leading role on the sides of research and preservation; the NGOs on the side of preservation and the private entities on the side of exploitation. The ES1-Governance is, mainly, a Government initiative for which it is liable for.

Inherent to the Ocean’s action are a series of threats and opportunities that require the continued identification and evaluation with the participation of all players. Only this way can the MPP be effective, up to date, and integrate the various wills and initiatives. Assessment will assist analysis of the positive (synergies) and negative (impacts) implications, associated to the actions being implemented, in a framework strongly linked to interdependency of all action axes.

Analysis of the opportunities and threats shall equally contribute towards establishing a prospective vision of investment on different time scales in the course of MPP implementation, mainly for those activities identified as having a major growth potential. The prospective need deriving thereof is the responsibility of all players and must be carried out, in an inclusive and cooperative framework,
by a forum dedicated to the production of strategic thinking. This should ensure the building of scenarios that mould, rationalise and allow prioritisation, or correction, of actions to be developed in the AM framework. Producing strategic thinking will also allow the framing of different trans-sectorial implementation measures, essentially being the responsibility of the public sector, which merge into the support axis, i.e., Governance. With this framework, the MPP will be rolled out through the ICOA, a coordination structure that will define the key players and their attributions, the human, financial, material and information resources to mobilise its origin and, finally, the assessment indicators to be used during the period of implementation of the NOS 2013-2020 and the respective action plan.

In brief, the implementation of the NOS 2013-2020 through the MPP gives priority to the development of knowledge, skills and shared management tools, involving all players, in order to allow for the discussion of the causes and possible solutions to the problems, and not only, its symptoms. It therefore resorts to a management model that promotes the articulation of policies and the settlement of strategic measures and respective areas of intervention, thus adding value and making the overall result more than just the sum of the sectorial fractions.
5. THE ACTION PLAN

The MPP is a dynamic document, constantly being updated in line with the production of strategic thinking. The definition of AP and ES1 in the AM presented in Annex A is an integral part of the AM and the SA1 presented in Annex A and forming integral part of the NOS 2013-2020, can be subject to amendments, whenever necessary.

*and other bodies/entities

Figure 1 | Integrating the Blue Growth model in the Mar Portugal Action Plan
In Annex B, the description of the content of the AP is carried out taking into account each of the SDD’s that define the AM, that is the SDD1 - Natural Resources and the SDD2 - Infrastructure, Uses and Activities, followed by the SA1 - Governance. SDD1 - Natural Resources closes the three sub-domains: SD1 - System; SD2 - Living Resources; SD3 - Non-living Resources.

The details for executing the MPP are included in the Appendixes to Annex B up to projects (p) level in the framework of each of the PA.

Appendix 1 includes the MPP Action Plan, while Appendixes 2 and 3 are included in the MPP Action Programs for the Autonomous Regions of the Azores and Madeira, respectively. The projects relate to practical actions addressing, either its implementation requirements regarding the financial, human and material resources already identified, together with a calendar for execution and delivering of expected outputs, or the ones for which the detailing process still ongoing.
CHAPTER V
RESOURCES
THE IMPLEMENTATION OF THE NOS 2013-2020 RELIES ON A SET OF CAPABILITIES AND SIGNIFICANT RESOURCES WHICH REQUIRES THAT HUMAN, FINANCIAL, MATERIAL AND INFORMATION RESOURCES ARE MADE AVAILABLE
1. HUMAN RESOURCES

The quality and diversity of the human resources skills required for the practical implementation of the MPP may, in general, be met by the existent portuguese scientific and technical community.

The strengthening of national research, development and innovation teams achieved in the last decade in the scope of marine sciences and technologies has been significant and covers almost all of the expertise board inherent to research, exploitation and preservation of the national maritime space potential. To the increased activity and involvement of human resources, in the various frameworks, will necessarily correspond, to a greater demand over security functions and the exercise of authority, the current expedients, as well as its reinforcement and qualification, which are considered essential for the remaining activities to be conducted in a safe and secure environment.

The installed capacity is expected to emerge stronger from political reform, rationalisation and upgrading of human resources in Public Administration and the promotion of greater intersectional cooperation. This combination of skills and competencies will be decisive in achieving the critical mass needed for excellence in knowledge, exploitation and preservation of the Ocean.

On the other hand, monitoring and active participation in the various national and international fora, capitalising on experience, are a means to achieving a level of excellence in the most diverse technical and scientific fields, associated to the sea affairs.
The financial resources include national and EU funds, as well as other available financial cooperation instruments, managed by different guardianships that develop relevant Ocean policies, as well as private funding including the national component in the case of EU funds.

The financial instruments will contribute towards financing the actions and measures proposed in the NOS 2013-2020, or that may be proposed or contribute for the desired effects, but will require the concerted and effective action of the respective guardianships, increasing synergies and optimising existing resources, as well as the tune of private interests with the proposed actions.

The multiannual costs to be mobilised for the NOS 2013-2020 will be determined under the various action plans defined, namely the MPP, and in conjunction with the various players. In this sense, one will need to search for a safer model, one that can be estimated and that is financially adjusted to the multiannual costs, ensuring a suitable governing mechanism of the NOS 2013-2020 and of monitoring of the MPP.

It is intended that the NOS 2013-2020 be a support to the regional development policy associated with the Ocean, as well as to the investments planned under the “Ocean Knowledge and Economy Cluster”, part of the “Collective Efficiency Strategy” program of the National Strategic Reference Framework (NSRF). Moreover, the Regional Governments of the Azores and Madeira and, to an extent, the Commissions for Regional Coordination and Development (CRCD), while peripheral Central Administration bodies for Portugal, play a double role as development agents and Management Authorities for Regional Operational Programs. The latter having in addition, the Thematic Operational Programme for Territorial Enhancement (OPTE). One should also take into account the remaining financial envelopes of the European Fisheries Fund and the NSRF, which will be made available over the course of 2013.

In addition to the recently adopted regulation, within the EU framework, establishing a program to support the development of the IMP, there are programmes currently running, namely, the 7th Framework Programme for Research and Technological Development of the EU (FP-7), the Financial Instrument for Implementation, Upgrade and Development of the Policy and Community Legislation for the Environment (LIFE), including integration of other IMP policies, in particular, with regards to nature and biodiversity, environmental politics and governance, and information and communication.

On the other hand, there forecast for the creation of a new financial support framework, and respective legal instruments, for the 2014-2020 time period. This multi-year framework, proposed by the European Commission, enhances the importance of strategies for the ocean basins and geographical synergies to be developed based on the transnational cooperation programs and respective partnerships.
Such financial prospects may benefit the Atlantic basin, being conferred a significant regional and local autonomy in relation to the applicability of the funding. These instruments are the following:

- A Strategic Common Framework for the European Structural and Investment Funds, with particular emphasis in areas such as competitiveness of small and medium sized companies, betting on innovation and on the environment. The EU Cohesion Policy will provide the main lines for common regulation of structural funds. Of these, the Cohesion Fund (CF), the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Maritime Affairs and Fisheries Fund (EMFF) were identified as being relevant to the implementation of the NOS 2013-2020 and respective harmonisation with the EU Maritime Strategy for the Atlantic area. Still, under the Cohesion Policy there are plans for specific regulations, particularly for the European Territorial Cooperation Objective and the European Grouping of Territorial Cooperation (EGTC). Regarding the EMFF, this will be structured around four pillars, namely Green and Smart Fishing, Green and Smart Aquaculture, Sustainable and Inclusive Territorial Development (shared management) and IMP4. Also envisaged is that 6% of the value of this fund be applied to programs related to the implementation of this last pillar. These funds will be applied through four Thematic Operational Programmes (OP) on the mainland, five Regional OPs on the Continent, two Regional OPs in the Autonomous Regions, the Integrated Maritime Policy and Fisheries Fund OP and the European territorial cooperation OP’s that contribute for Portugal’s commitment to the sea in 2014-2020.

- A European framework program for research and innovation, the “Horizon2020” that will replace the FP-7, strongly linked with national research programs with the aim of promoting excellence, addressing social challenges and promoting competitiveness. In this program, marine and maritime research shall be the subject of a strategic programming approach and specific mechanisms, aimed at conferring the necessary cross-cutting in its implementation.

- A financial instrument to support projects relating to environment and nature conservation, the LIFE program, which will contribute towards financing the actions inherent to the environmental pillar of the NOS 2013-2020, namely implementation of the MSFD.

- The Mechanism “Connecting Europe” in terms of financial assistance to trans-European networks, which is particularly relevant in the area of ports, shipping and logistics.

To the funds identified above, also come together, other important sources that allow for diversifying access to financial resources, including through private investment, and contributing also to the sustainability of achievement solutions. Of these, the following stand out:

- Cooperation funds such as the Financial Mechanism of the European Enlarged Area 2009-2014 and their operational programs.
• The effort to attract foreign direct investment and venture capital funds, both of which may also contribute to the co-financing of European projects by promoters.

• The European Investment Bank Group (EIB Group), which according to the Action Plan of the European Strategy for the Atlantic Area, is ready to mobilise its financial instruments and its expertise in support of suitable projects, in order to carry out the priority implementations of this action plan, with which the NOS 2013-2020 seeks to be aligned.

2 Forecasting the financial envelope of €40M until the end of 2013.
3 Proposed total value of €1,025 B: 1. Smart & Inclusive Growth - €491mM; 2. Sustainable Growth, Natural Resources - €383mM; 3. Security and Citizenship - €18.5mM; 4. Global Europe - €70.0mM; 5. Administration - €52.6mM) (Indicative values at the end of 2011).
4 Smart, Green Fisheries (shared management), Smart, Green Aquiculture (shared management), Sustainable and Inclusive Territorial Development (shared management), Integrated Maritime Policy (direct and shared management)
5 6% of the EMFF.
6 Estimated total value of €80mm.
The implementation of the NOS 2013-2020 also requires a concerted effort to take advantage of existing infrastructure and financed by leveraging and reusing the investments already made. In this scope, Portugal now has a significant number of materiel resources capable of responding to most of the needs for gathering of data and samples of the status of the integrated ocean-atmosphere system. The national capabilities on materiel resources for observing and monitoring of the ocean and the atmosphere will be greatly valued through promoting its sharing and integrated management.
The use of information resources should be directed towards promoting a federation of services and networks. This should feed the strategic management tools, situational awareness systems to supporting operational decision making and functional knowledge systems. This includes the security of the infrastructure, people and information; the dedicated and extended services; the fusion and analysis tools; and user interfaces for sharing of information, data, and networks.

One should also take into account the economic activities, as well as governance and capacity building linked to the Ocean, either directly or indirectly, involve a significant universe of citizens. It is thus imperative to provide fluent and credible mechanisms for communication, dissemination and collection of information that can ensure alignment, mobilisation and commitment of all players.
CHAPTER VI

MONITORING, EVALUATION AND REVIEW
1. OBJECTIVES

The implementation of the NOS 2013-2020 will be subject to constant monitoring and evaluation, to allow for measuring the extent to which the set objectives are pursued, on one hand, and to ensure its review and update, whenever there are significant changes to context that justify it, on the other.

2. COMPETENCIES AND PROCEDURES

In coordination with the Focal Points Group of the ICMA, DGMP shall ensure adequate monitoring at various levels of activity, according to various aspects and shall propose whatever changes are deemed necessary to the realignment/improvement of the MPP, as action plan of the NOS 2013-2020, proposing to ICMA new options or amendments to programs and projects running.

The adopted structure for the NOS 2013-2020, will objectively assess the development of the situation, from an implementation level and effectiveness of actions, evaluating objectives and identifying the respective indicators and targets, particularly at a strategic level (Strategic Objectives) and related to these, at the level of each PA.

In each of the PA’s, the NOS 2013-2020 establishes the objectives for the respective AP and the expected short and medium term effects that, during the strategy’s implementation phase, will enable working groups consisting of representatives of all involved guardianships and other relevant partners, to develop these adequately.
The AP’s establish the required accomplishments and identify the features of the projects that embody them, for a set period of time and/or for a specific geographic area, also identifying and suggesting possible sources of funding and of other nature.

The projects identified as relevant to a given PA, and that will be executed, are also characterized by a portfolio analysis, in order to assess its impact on all AP’s and respective NOS 2013-2020 PA, which allows them to be compared with each other, as well as with alternative projects. Project working groups shall also be liable to control the material and financial execution of each project.

In developing this process, it is up to the DGMP, after having gathered all necessary information regarding the current execution of the NOS 2013-2020, and according to the monitoring, evaluation and review procedures that include measures for risk analysis associated with each AP to assess the suitable implementation of measures and use of capabilities.

In this monitoring process the focal points group of ICMA, coordinated by DGMP, plays a key role and ensures the monitoring of the various action plans and projects, developing the articulation and integration between all stakeholders in its implementation. Such monitoring is reported to the DGMP through a specific cooperative environment, with meetings on a quarterly basis, or any other that may so be determined. Based on this assessment and, together with the simultaneous analysis of other MPP indicators as well as external indicators, the DGMP shall, where appropriate, draw up NOS 2013-2020 review proposals, to be submitted to the ICMA, for approval.

On the one hand, with the expected creation of a new framework for financial support at European level for 2014-2020, with the concrete objectives that Portugal has undertaken, it is essential that the projects supported under this heading be appropriately framed within the goals and outcomes established by the NOS 2013-2020. Necessarily, an approach based on achievements and their outcome, or impact, requires that the monitoring established be integrated, robust and focused towards those results. Out of this integration will also come a strengthening of commitment and cooperation, to be reflected on the governance mechanism.

Executing the NOS 2013-2020, and its implementation through the MPP, will thus be an open, living and dynamic process, continuously integrating follow-up actions and monitoring, enabling the correction of imperfections in the meantime detected; correct the course in light of circumstances not initially foreseen and incorporate new knowledge, experiences and perspectives in the meanwhile acquired.

The recommended standing evaluation and review procedure for NOS 2013-2020 will constitute a guarantee of full and correct fulfilment of the objectives of the strategy, which converge in the realization of Mar-Portugal as a national purpose, to the benefit of all the Portuguese.
EXPECTED LONG-TERM EFFECTS (Outcomes)

EXTERNAL INDICATORS

INDICATORS MPP

• Implementation of Measures
• Implementation of Capabilities
• Projects Characterization Data Sheets (Investment 20XX)

FEEDBACK

EXTERNAL ENVIRONMENT

1st level | ICMA

2nd level | Guardianship - WG's

3rd level | Monitoring - WG's

NATIONAL OCEAN STRATEGY - MAR-PORTUGAL PLAN (MPP)
ANNEX B

THE MAR-PORTUGAL PLAN
Starting from the architecture of the Mar-Portugal Plan (MPP), the Programmatic Areas (PA) of the Action Matrix (AM) are presented in Figure 1 and are presented in this Annex. The action proposed for each PA is contained in Action Programmes (AP) that group the basic action units - the Projects (p).

Figure 1 | Architecture of the MPP
The description of the PA, for all Action Axis (AA) and for the Support Axis (SA1), is carried out in figure 2, taking into account each of the Strategic Development Domains (SDD) defined in the Action Matrix (AM), that is, SDD1 - Natural Resources and SDD2 - Infrastructure, Uses and Activities.

As indicated in figure 2, SDD1 - Natural Resources includes three subdomains, SD1 - System, SD2 - Living Resources and SD3 - Non-living Resources.
2. OBJECTIVES TO ACHIEVE AND EXPECTED EFFECTS

The Action Matrix (AM) is shown in figure 3, and establishes the objectives to be achieved for each Program Area (PA), by the respective Action Programmes (AP), defined as the resulting long-term outcome. Each of these objectives allows, also, to identify the short- and medium-term effects expected from carrying out the AP, through the implementation and materialisation of the respective projects.

The following tables show the AM establishing for each PA, the objective to be achieved by the AP to be developed, defined as its long-term outcome. It also identifies the expected effects of carrying out the AP, short- and medium-term, through the implementation and materialisation of the respective projects listed in Addends B and following (which are published on the DGPM web-site), reflecting their evolution status and without prejudice of other Action Programmes and project sheets being developed at the level of the Governments of the autonomous regions, justified by the specificity of each regional reality. These will compose Appendixes 2 and 3 (which are published on the DGPM web-site), respectively, for the Autonomous Regions of the Azores and Madeira.

The Action Programmes and projects will thus be developed in the frame the national and European strategic documents, of the cross areas, but also of budget, in a dynamic management process, periodically reviewed by the decision structure decision structure for the sea - the Inter-ministerial Commission for Maritime Affairs - ICMA.
GOVERNANCE

ADMINISTRATION (PA1)
Integration of public sea policies and their respective management instruments.

STRATEGIC THINKING AND ACTION (PA2)
Strategic thinking and executive action about the sea, preparing the goals to achieve and carrying out the action plans, either internal or external.

EDUCATION, SCIENCE AND TECHNOLOGY (PA3)
1. Sea literacy, knowledge and employment, taking into account the social and territorial realities
2. Technological capacity and a support frame for R&D supporting applied research for uses and activities involved in the sea economy.

IDENTITY AND CULTURE (PA4)
National awareness about the importance of the sea in our History and for Portugal today and in the future.

PROTECTION AND SAFEGUARD (PA5)
Authority of State at sea intervention, in response to threats and emergencies that require the safeguarding of national interests.

NATURAL RESOURCES - SYSTEM

OCEAN (PA1)
Study of ecosystems, definition of GES, valorisation of functions and resource monitoring, and promotion and conservation of the marine environment and of its biodiversity.

ATMOSPHERE (PA2)
1. Alignment of IMP with the Climate Change Adaptation Plan.
2. Climate study, supplying meteorological support services in response to threats and emergencies and natural hazards.

INTEGRATED SYSTEM (PA3)
Research, availability of monitoring and risk assessment services and conservation measures activation, involving the set of interactions in the Ocean. (i.e. upper and lower interfaces, including the effects and impacts generated by anthropic activities).

NATURAL RESOURCES - LIVING RESOURCES

FISHERIES AND FISHING INDUSTRIES (PA1)
Promoting a sustainable activity and diversification of other economic activities in the communities.

AQUACULTURE (PA2)
Promoting the activity, in line with the consumption growth and according to a regional development matrix.

MARINE BIOTECHNOLOGY (PA3)
Development of new patents and promotion of the marketing of applications and products and of fair and equal distribution of the benefits arising from its use.

NATURAL RESOURCES - NON-LIVING RESOURCES

MARINE MINERAL RESOURCES (PA1)
Researching and assessing the potential of the marine mineral resources, ensuring good environmental practices and social benefits from its future exploitation.

MARINE ENERGY RESOURCES (PA2)
Researching and assessing the potential of the combined marine energy resources, ensuring good environmental practices and social benefits from its future exploitation.

INFRASTRUCTURE, USES AND ACTIVITIES

PORTS, TRANSPORT AND LOGISTICS (PA1)
1. According to the measures established for the port-sea sector of the Strategic Transport Plan – Sustainable Mobility (2011-2015)
2. Development of a common national commercial port policy, duly articulated in order to maximise its aggregate potential and integration in transport networks and logistic chains.
3. Restructuring and planning fishing and beaching ports, according to an economically sustainable perspective, socially inclusive and generating growth, profiting from the aesthetic values they are inserted in and maximising local benefits.

RECREATION, SPORTS AND TOURISM (PA2)
Developing seamanship in the fields of recreation, education, sports and tourism, and the respective economic support, integrating a network of nautical support in strategic zones of the country, with strong territorial intervention and including building and marketing platforms and assistance of services.

SHIPBUILDING, MAINTENANCE AND REPAIRS (PA3)
Promoting, rationalising and specialising shipbuilding and maintenance shipyards, adequate to present and future needs of the sea economy and contributing to promote ecological maritime activities.

MARITIME WORKS (PA4)
Carrying out maritime works according to the measures established in the Action Plan for Valorisation and Protection of the Coastline.
ACTION MATRIX (AM): OBJECTIVES OF THE ACTION PROGRAMS (AP) AND EXPECTED EFFECTS

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SUPPORT AXIS

GOVERNANCE (SA1)
- Administration (PA1)
- Strategic Thinking and Action (PA2)
- Education, Science and Technology (PA3)
- Identity and Culture (PA4)
- Protection and Safeguard (PA5)

FISHERIES AND FISHING INDUSTRIES (PA1)
- Agriculture (PA1)
- Aquaculture (PA2)
- Marine Biotechnology (PA3)

MARINE (PA1)
- Atmosphere (PA2)
- Integrated System (PA3)

FISHERIES AND FISHING INDUSTRIES (PA1)
- Agriculture (PA1)
- Aquaculture (PA2)
- Marine Biotechnology (PA3)

MARINE MINERAL RESOURCES (PA1)
- Marine Energy Resources (PA2)

PORTS, TRANSPORT AND LOGISTICS (PA1)
- Recreation, Sports and Tourism (PA2)
- Shipbuilding, Maintenance and Repairs (PA3)
- Maritime Works (PA4)

MARITIME WORKS (PA4)
- Recreation, Sports and Tourism (PA2)
- Shipbuilding, Maintenance and Repairs (PA3)
- Maritime Works (PA4)
<table>
<thead>
<tr>
<th>Objectives of the Action Programs</th>
<th>Effects</th>
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<tbody>
<tr>
<td><strong>ADMINISTRATION</strong></td>
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</tr>
<tr>
<td>1. Integration of public sea</td>
<td>#1 Legislative and regulatory action that simplifies procedures and is guided to serve citizens.</td>
</tr>
<tr>
<td>policies and their respective</td>
<td>#2 Planning the maritime space as a basis for strategic management promoting uses and activities.</td>
</tr>
<tr>
<td>management instruments.</td>
<td>#3 Coherent national sea data system, persistent and efficient, integrating the set of spatial instruments.</td>
</tr>
<tr>
<td>#4 Monitoring and promoting</td>
<td>#4 Monitoring the NOS 2013-2020, involving systematic assessment of the implemented actions, the external environment, and articulating and harmonising the different national and international initiatives, in course and in preparation.</td>
</tr>
<tr>
<td>competitiveness and</td>
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<tr>
<td>internationalising the sea</td>
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<td>economy.</td>
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<tr>
<td><strong>STRATEGIC THINKING</strong></td>
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<td>and ACTION</td>
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<tr>
<td>1. Strategic thinking and</td>
<td>#1 Monitoring the NOS 2013-2020, involving systematic assessment of the implemented actions, the external environment, and articulating and harmonising the different national and international initiatives, in course and in preparation.</td>
</tr>
<tr>
<td>executive action about the</td>
<td>#2 Updated National Law of the Sea with the limits of the national maritime zones that will arise from the recognition of the extended continental platform, by the Commission on the Limits of the Continental Shelf on the Limits, and with the corresponding attribution of competence within the exercise of authority of State at Sea.</td>
</tr>
<tr>
<td>sea, preparing the</td>
<td>#3 International cooperation given privilege to the Oceans fora.</td>
</tr>
<tr>
<td>objectives to achieve and</td>
<td>#4 Scientific cooperation promoting partnerships among the main partners, public and private.</td>
</tr>
<tr>
<td>carrying out the action</td>
<td>#5 Making the training offer adequate to the needs of the sea economy.</td>
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<tr>
<td>plans, either internal or</td>
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<tr>
<td>external.</td>
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<tr>
<td><strong>EDUCATION, SCIENCE</strong></td>
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<tr>
<td><strong>AND TECHNOLOGY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Sea literacy, knowledge</td>
<td>#1 A society that educates future generations about the values of the ocean, in all teaching stages and in the curricula and extra-curricula plans.</td>
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<tr>
<td>and employment, taking in</td>
<td>#2 A society that prepares the active population for the sea jobs, in the curricula of higher education and technical-professional training, promoting critical mass in the public and private sectors, local/regional setting of employment and its flexibility and mobility, aligned with the needs of the labour market.</td>
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<tr>
<td>to account the social and</td>
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<tr>
<td>territorial needs.</td>
<td>#3 Sustainable and effective technological capacity to support scientific research of the Ocean, persistent, directed to the deep sea and based on a decentralised and specialised network.</td>
</tr>
<tr>
<td>2. Technological capacity and</td>
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<tr>
<td>a support frame for R&amp;D</td>
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<td>supporting applied research</td>
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<td>for uses and activities</td>
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<td>involved in the sea</td>
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<td>economy.</td>
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<td>Objectives of the Action Programs</td>
<td>Effects</td>
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<tr>
<td><strong>IDENTITY AND CULTURE</strong></td>
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<tr>
<td>1. National awareness about the</td>
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<tr>
<td>importance of the sea in our</td>
<td>A society that aware of the importance of the sea</td>
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<tr>
<td>History and for Portugal today</td>
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<tr>
<td>and in the future.</td>
<td>A society aware of the potential value of the sea</td>
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<td>Disclosure of portuguese maritime cultural heritage,</td>
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<td>internally and overseas, as a way of valuing and</td>
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<td></td>
<td>promoting national tourism.</td>
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<tr>
<td><strong>PROTECTION AND SAFEGUARD</strong></td>
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<tr>
<td>1. Authority of State at sea</td>
<td>#1</td>
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<tr>
<td>intervention, in response to</td>
<td>Strengthened coordination of the authority of State</td>
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<tr>
<td>threats and emergencies that</td>
<td>#2</td>
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<tr>
<td>require the safeguarding of</td>
<td>Effective response capacity to threats and</td>
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<tr>
<td>national interests.</td>
<td>emergencies, based on partners subsidiarity and</td>
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<td></td>
<td>complementarity in the application of assets.</td>
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<tr>
<td>Objectives of the Action Programs</td>
<td>Effects</td>
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<tr>
<td><strong>OCEAN</strong></td>
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<tr>
<td>1. Study of ecosystems, definition of GES, valorisation of functions and resource monitoring, and promotion and conservation of the marine environment and of its biodiversity.</td>
<td>#1 Scientific research capacity for the fundamental study of maritime ecosystems and their respective processes, functions and biodiversity.</td>
</tr>
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<td>#2 Scientific and technological research capacity to assess and adapt to the national maritime waters the descriptors and indicators of environmental status monitoring.</td>
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<td>#3 Coherent national system of classified areas that preserves relevant ecosystems representative areas.</td>
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<td>#4 Integrated system to control the GES.</td>
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<tr>
<td><strong>ATMOSPHERE</strong></td>
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<tr>
<td>1. Alignment of IMP with the Climate Change Adaptation Plan.</td>
<td>#1 Scientific research capacity and technological support to study the climate change evolution.</td>
</tr>
<tr>
<td>2. Climate study, supplying meteorological support services in response to threats and emergencies and natural hazards.</td>
<td>#2 Capacity of the national system of aeronautical, maritime and land meteorological services, including modelling of the atmosphere-ocean-soil-vegetation interactions.</td>
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<td>#3 Scientific research capacity and technological support integrating early alert systems of extreme phenomena and impact mitigation.</td>
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<td><strong>INTEGRATED SYSTEM</strong></td>
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<tr>
<td>1. Research, availability of services of monitoring and risk assessment and conservation measures activation, involving the set of interactions in the Ocean. (i.e. superior and inferior interfaces, including effects and impacts generated by anthropic activities).</td>
<td>#1 Technological capacity to support scientific research directed to the deep sea.</td>
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<td>#2 Capacity to assess geologic, geophysical and meteorological risks, and integrating them in the impact mitigation systems of the litoral marine environment.</td>
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<td></td>
<td>#3 Scientific and technological research capacity to support maritime uses and activities, in the domains of exploitation and preservation, involving in situ resources and remote detection associated with the space segment for Earth observation.</td>
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<tr>
<td>Objectives of the Action Programs</td>
<td>Effects</td>
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<tr>
<td><strong>FISHERIES AND FISHING INDUSTRY</strong></td>
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</table>
1. Promoting a sustainable activity and diversification of other economic activities in the communities. | #1 Modern and efficient sector, with good environmental practices and an innovating range of products, capture, transformation and preservation processes.  
#2 Connecting traditional fishing activity with other activities related to the sea and cultural values.  
#3 Fairer distribution of income and improved professional qualification.  
#4 Managing fishing stocks, selectivity of capture processes and rejections reduction.  
#5 Effective and efficient management of the sector, within CFP and IMP. |
| **AQUACULTURE** |  
1. Promoting the activity, in line with the consumption growth and according to a regional development matrix. | #1 Balancing and aligning production with consumption needs, by reducing imports and stimulating exports and internationalisation of regional products.  
#2 Zoning the identified potential, profitability of platforms and infrastructures and leveraging the value of the production chain.  
#3 Local employment promoted and set though regionalised aquaculture.  
#4 Integrated governance of the exploitation area network, according to an ecosystem approach that promotes the activity. |
| **MARINE BIOTECHNOLOGY** |  
1. Development of new patents and promotion of the marketing of applications and products and of fair and equal distribution of the benefits arising from its use. | #1 Industrial, pharmacological, medical and cosmetic applications, and valuing fishing and aquaculture products, developed and internationalised in partnership and ensuring the good environmental practices.  
#2 Scientific and technological research capacity of genetic resources, particularly in the deep sea, including mapping biodiversity of the seabed and the repository of collected biological samples.  
#3 Governance that promotes research and exploitation, including establishing access conditions to genetic resources and sharing benefits, safeguarding environmental preservation and marine biodiversity. |
### Objectives of the Action Programs

<table>
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<tr>
<th>Natural Resources - Non-Living Resources</th>
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| **MARINE MINERAL RESOURCES**<br>1. Researching and assessing the potential of the marine mineral resources, ensuring good environmental practices and social benefits from its future exploitation. | **Effects**
| **#1** | Zoning the potential and prospection of continental coasts and deep sea, aimed at economic valuing and safety of access to raw materials, ensuring good environmental practices. |
| **#2** | Scientific and technological research capacity of the mineral resources of the sea bed and marine subsoil and assessing its long-term economic potential and environmental impact. |
| **#3** | Governance that promotes research and exploitation of marine mineral resources, including establishing access and safeguard conditions or preservation, of the environment and marine biodiversity. |

| **MARINE ENERGY RESOURCES**<br>1. Researching and assessing the potential of the combined marine energy resources, ensuring good environmental practices and social benefits from its future exploitation. | **Effects**
| **#1** | Zoning the potential and prospection of the combination of marine energies, renewable and non-renewable, conventional and non-conventional, aimed at economic valuing, energy safety and reducing the carbon footprint, ensuring good practices. |
| **#2** | Scientific and technological research capacity of marine energies, including mapping and assessing the long-term economic potential and environmental impact. |
| **#3** | Promoting specialised employment in the marine energy sector, associated to a renewable energy park. |
| **#4** | Governance that promotes research and exploitation of marine energy resources, including establishing access and safeguard conditions or preservation, of the environment and marine biodiversity, and measures to reduce the carbon footprint. |
PORTS, TRANSPORT AND LOGISTICS


2. Development of a common national commercial port policy, duly articulated in order to maximise its aggregate potential and integration in transport networks and logistic chains.

3. Restructuring and planning fishing and beaching ports, according to an economically sustainable perspective, socially inclusive and generating growth, profiting from the aesthetical values they are inserted in and maximising local benefits.

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<tr>
<th>Objectives of the Action Programs</th>
<th>Effects</th>
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<tr>
<td>#1 Optimising the available capacity and rationalising port costs, allowing a reduction of the port expense.</td>
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<tr>
<td>#2 Competitive ports with greater potential to attract investors, sustainable, spatially planned, safe and efficient, integrated in the transport network and chains, as a support to the economy.</td>
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<tr>
<td>#3 More competitive national merchant marine, creating a strategic asset for the national economy.</td>
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<tr>
<td>#4 Safety of navigation supported on a maritime traffic control system, integrated with the other spatial instruments and effectively covering the whole national maritime space.</td>
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<tr>
<td>#5 Rationalising and rehabilitating the port infrastructures to support traditional fishing, to promote diversification of local economic activities, their sustainability and generating and consolidating employment.</td>
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RECREATION, SPORTS AND TOURISM

1. Developing seamanship in the fields of recreation, education, sports and tourism, and the respective economic support, integrating a network of nautical support in strategic zones of the country, with strong territorial intervention and including building and marketing platforms and assistance services.

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<th>Objectives of the Action Programs</th>
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<tbody>
<tr>
<td>#1 Strengthening seamanship, internationalised and rooted in the whole territory, generating sustainable and specialised employment.</td>
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<tr>
<td>#2 A society keen on promoting access to the sea and its use through seamanship, in a context of leisure and sports, including high competition sports.</td>
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<tr>
<td>#3 Developing Luso-Atlantic seamanship as a destiny.</td>
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<tr>
<td>#4 Developing a strong image of the sea in Portugal and Europe.</td>
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</tr>
</tbody>
</table>
## Objectives of the Action Programs

### SHIPBUILDING, MAINTENANCE AND REPAIRS

1. Promoting, rationalising and specialising shipbuilding and maintenance shipyards, adequate to present and future needs of the sea economy and contributing to promote ecological maritime activities.

| #1 | Capacity to build, repair and dismantle ships, internationalised and contributing to promote ecological maritime activities, by reducing the CO₂ emissions and recycling materials. |
| #2 | Capacity to build and repair ships, internationalised and innovative, including building platforms and marketing assets and equipment, to support the needs of modern maritime activities, in inland, coastal, and offshore waters. |

### MARITIME WORKS

1. Carrying out maritime works according to the measures established in the Action Plan for Valorisarion and Protection of the Coastline.

| #1 | Promoting the safety of people and goods and protecting cultural and natural heritage, aimed at eliminating, reducing or controlling risks in the litoral, through maintenance/rehabilitation interventions of coastal defence/protection works. |
| #2 | Requalification of deteriorated urban areas in hydric domain associated to the use of beaches or productive activities. |
| #3 | Requalification of deteriorated natural areas. |
SUMMARY OF THE ACTIONS TO DEVELOP IN THE PROGRAMMATIC AREAS

3.

**SA1: Governance**

**PA1: Administration**
- Creating a fluid, streamlined and effective governance structure, ensuring favourable conditions for investment in the Mar-Portugal.
- Reviewing and creating legislation adapted to the new activities, such as bioprospection and applications of marine biotechnology, among others.
- Identifying and characterising the pending situations associated to requests for activity in the maritime space.
- Developing actions contributing for an effective maritime spatial planning, streamlining the licensing of activities in the maritime space.
- Simplification of the procedural and administrative components of licensing for the present and emerging economic activities, adopting the single desk principle, for all stages of the licensing procedure, as well as the monitoring and control component in the exploitation stage.
- Developing a National Sea Data Policy.
- Monitoring and promoting competitiveness and internationalisation of the sea economy, promoting the best use of European funding for the 2014-2020 period, in a multi-funding complementarity logic and mobilising the interest of the private financing institutions in the sea economy.

**PA2: Strategic Thinking and Action**
- Identifying and assessing the opportunities and threats within the implementation and development of the Mar-Portugal, an action that will form the production of strategic thought involving all sea economy stakeholders through a dedicated organisation.
- Identifying the real present and future needs concerning sea jobs and analysing the fitness of training and education action for the sea.
- Promoting an effective articulation of the national and regional actions with EU initiatives within the PMI, aligning them with the European initiatives and financing instruments.
- Concluding the process of the Portuguese continental platform extension within the UNCLOS.
- Developing relevant bilateral or multilateral cooperation concerning sea affairs, including perfecting the «green diplomacy for the sea» aspect, promoting the transfer of technology and share of scientific knowledge, namely within the CPSC, as well as the EU atlantic countries, the African Union and the transatlantic cooperation with the United States of America and Canada.
• Adequate Portuguese participation in the international fora dedicated to oceans, especially in the EU and UN, and the respective specialised agencies, as well as the further relevant intergovernmental organisations, promoting the articulation of national representatives.

• Deepening the external action concerning scientific activities linked to the Ocean (e.g. IOC of the UNESCO, in the United Nations Environment Programme, the International Council for the Exploration of the Sea and the ISA, involving the national scientific community.

• Contribute to the national implementation of the Nagoya protocol concerning access to genetic resources and sharing the benefits arising from its use.

PA3: Education, Science and Technology
• Promoting national sea literacy through action in the school context and in non-formal contexts, promoting, for the former, the inclusion in the educational contents of all educative stages, of the adequate maritime matters and facts, and, for the latter, availability of materials and the implementation of awareness and education programs.

• Increment of the specialisation components of the higher education curricula and within technical-professional education, ensuring the meeting of qualifications and competences with the labour market and job offers.

• Creating and maintaining the conditions for a continuous research in sea sciences and technologies, with permanent occupation, namely through in situ observatories and remote Earth observation, and with temporary occupation, through ships or robotic platforms.

• Strengthening the internationalisation component of science and technology, through participation in international consortiums and networks of excellence.

PA4: Identity and Culture
• Recovering the maritime identity of Portugal promoting the association of the valuable and historic past to a modern and advanced present, in a context of global maritime leadership.

• Promoting the maritime cultural heritage of Portugal and stimulating the participation of the local communities assuming a relevant role in promoting diversity and regional and local specialisation, as well as affirming integrated territorial strategies.

• Executing the inventory, preservation, valorisation and disclosure of maritime cultural heritage, at a world scale.

PA5: Protection and Safeguard
• Integration of surveillance, monitoring and control systems that promote situational knowledge and integrated and persistent spatialisation of all human activities developing in the maritime space, their economic, social and environmental impact, thus contributing to refine the maritime spatial planning.

• Strengthen coordination within the maritime functions, involving the National Maritime Administration (NMA) the National Maritime Authority, and civil protection entities in exploring the early alert systems for extreme events.
## SDD1 - Natural Resources | Sd1 - System

### PA1: Ocean

**AA1 - Research**

- Fundamental study of marine ecosystems, their processes, functions and diversity, involving the acquisition of knowledge to improve the modelling capability over the ecosystem functions and physical and chemical processes acting in it, as well as understating the importance of energy fluxes within food chains, namely concerning the interactions between pelagic and benthic ecosystems.

- Defining the GES within the EU MSFD, which, taking into account the present and future uses of the marine environment, will demand carrying out research that allows to customise and adapt the application to Portuguese waters of a significant set of indicators associated to the 11 descriptors included in the directive, as well as the standardisation, in the European space, of the set of methods and parameters of monitoring and describing the GES.

### AA2 - Exploitation

- Implementing the value of the functions and services of the integrated ocean-atmosphere system taking into account the dimension and features of the Portuguese maritime territory.

### AA3 - Preservation

- Establishing a network of marine protected areas, effectively managed, coherent and adapted to the national territory within the international commitments undertaken and the adopted national strategy for nature conservation, in order to recover deteriorated ecosystems and promoting their potential as a recruiting zone, contributing to a future improvement of the effectiveness and efficiency of the activities, namely fisheries. The delimitation of new marine protected areas, as well as the execution of management plans and their respective measures, imply scientific acknowledgement concerning natural values, impacts and pressures contained in it, fundamentally contributing to consolidate the process of extending the Natura 2000 network to the marine environment.

- Implementation of the MSFD, congregating a system to support decision-making and activate the necessary measures for the GES in 2020, which will require defining an environmental monitoring plan, starting in 2014, to assess the evolution of the system’s state, which will correspond to a considerable increase of the monitoring effort, either with in situ observations or with the use of remote detection.

### PA2: Atmosphere

**AA1 - Research**

- Improving the modelling tools for the detail of the interactions within the atmosphere-ocean-soil-vegetation system, also implying, as all actions included in this PA, the strengthen of observation systems in the Atlantic.

- Promoting research allowing protecting economic activities in the marine and terrestrial environment, improving the very short term forecast (now cast), and mainly associated to extreme phenomena with the corresponding relevance for the early alert systems and the mitigation of mainly coastal impacts thereof.
AA2 - Exploitation
• Providing services within the support to civilian nautical and aeronautical activities, as well as others developed outdoors.

PA3: Integrated System
AA1 - Research
• Comprehensive approach to the interactions of the Ocean in the superior and inferior interfaces, including effects and impacts arising from anthropic activity.
• Research of the deep sea, dominant in the Mar-Portugal territory, namely through the assessment of processes occurring in the lithosphere-ocean interaction, leading to the formation of mineral, genetic and energetic resources and the development of tools and methodologies allowing to research, explore and assess the impacts of the extraction of mineral and genetic resources in the deep ecosystems, as well as their influence in the food chain.
• Studying climate change in every time scale and building climate evolution scenarios.
• Studying processes occurring in the lithosphere-ocean interface and the influence of climate change on the production de phyto- and zooplankton, as well as assessing losses/changes in biodiversity, deterioration of habitats and presence and relevance of exotic or endemic species, of the prevalence of acidification phenomena and the occurrence of abnormal low-oxygen zones, among others.
• Development of tools to assess geologic, geophysical and meteorological risks leading to the implementation of early warning systems and mitigation of impacts in the coastal and marine environment.
• Research and Development supporting to the uses and activities at sea, especially those leading to an effective occupation of the marine environment.

AA2 - Exploitation
• Enhanced development of new sensors, multi-use monitoring and control infrastructure and new services and products generated within the spatial segment associated to the Earth observation systems, particularly for the Ocean, and creating new opportunities for economic activity.

AA3 - Preservation
• Capacity building for risk assessment and early warning systems that support the preservation efforts of coastal and marine environment, as well as the safeguard and safeguard of persons and property.
### SDD1 - Natural Resources | Sd2 - Living Resources

**PA1: Fisheries and Fishing Industries**

**AA1 - Research**
- Strengthen research to assess the dynamics of the populations, allowing to stimulate better management of the fishing stocks, develop adequate methods to determine the Maximum Sustainable Yield per species, to determine Total Allowable Catches, and to assess unwanted catches and rejections in quantity and quality, in a frame of optimisation of the sustainable exploitation of fishing stocks.
- Promoting applied research for the development of new arts, acoustic methods and fishing techniques promoting technological efficiency, selectivity in the catching process and rejections reduction.
- Implementation of actions to modernise the fishing fleet, complying with the principles and objectives of the CFP reform, in line with the pillar "Green and Intelligent Fishing", prescribed therein, as well as with European support funding.

**AA2 - Exploitation**
- Implementation of measures to promote fishing as a more effective and efficient activity, aiming to make the fishing sector economically stronger and resilient in face of external disturbance and the competition of third-party countries.
- Intervention in the fishing value chain, promoting equality in income distribution.
- Promoting diversification and complementarity of the fishing communities’ economic activities, including increasing the range of products and their respective transformation and conservation processes.
- Promoting the exploitation of new species to develop alternative products with market acceptance, mainly using species whose stocks are at adequate levels for exploitation in large amounts.
- Valorisation of existing products, namely through certification of sustainable fishing, of controlled origin and quality.
- Exploitation and valorisation of rejected organic matter in fish processing, namely to exploit fish oils, including Omega 3.

**AA3 - Preservation**
- Ensuring control of practices associated to the fishing activity in the maritime space, ensuring environmental sustainability of the actions, particularly concerning the effects and impacts arising from anthropic activity, in line with the international commitments undertaken by Portugal, namely within UNCLOS, CFP, OSPAR, CBD and relevant Environmental and Framework Directives of the EU.

**PA2: Aquaculture**

**AA1 - Research**
- Promoting aquaculture as a balance and alignment factor of production with the consumption needs, reducing import needs.
- Scientific and technological development to support the activity, mainly offshore, aiming to develop applied research for the production of new production infrastructures technologies.
- Establishing synergies between offshore aquaculture and the development and installation of multiuse floating platforms.
• Research and development addressing genetic selection of reproducers, parasitology and feeding and treating waste, aimed to improve the activity in terms of economic profitability, and environmental sustainability.
• Develop maritime spatial planning guided to aquaculture.

AA2 - Exploitation
• Creating aquaculture exploitation areas promoting their complementarity.

AA3 - Preservation
• Controlling practices associated to aquaculture activity in the maritime space, ensuring environmental sustainability of the actions, particularly concerning the effects and impacts arising from the anthropic activity, in line with the international commitments undertaken by Portugal, namely within UNCLOS, CFP, OSPAR, CBD and relevant Environmental and Framework Directives of the EU.

PA3: Marine Biotechnology
AA1 - Research
• Research and bioprospection of marine genetic resources promoting the development of industrial, pharmacological, medical and cosmetic applications, or those to enrich fishing products, promoting synergies between the national laboratorial infrastructure.
• Promoting research and development of energy applications, in articulation with PA2 - Energy Resources, together with industrial, pharmacological, medical and cosmetic applications of algae.
• R&D within companies dedicated to blue biotechnology, of the algae cultures, in articulation with PA2 - Energetic Resources for the production of oil aimed at its use in the biofuel industry.
• Creating a repository of biologic samples.

AA2 - Exploitation
• Strengthen the national business park dedicated to blue biotechnology stimulating the creation thereof and reinforcing activity.
• Encouraging the installation of international businesses, mainly in partnership with national companies.

AA3 - Preservation
• National implementation of the Nagoya protocol addressing the access to genetic resources and sharing benefits arising from their use, contributing to the research and exploitation aimed at a more sustainable management, namely directing resources for preservation.
• Controlling practices associated to marine biotechnology, ensuring the environmental sustainability of the actions, particularly concerning the effects and impacts arising from anthropic activity, in line with the international commitments undertaken by Portugal, namely within UNCLOS and CBD.

1 Enshrined in Base Regulation nº 2371/2002, of September 20th.
2 The Green and Intelligent Aquaculture pillar, prescribed in the CFP reform and the future EU support funding, aims to promote a green aquaculture, economically viable and competitive, able to face the global challenges and supply EU consumers with products of high nutritional value.
### PA1: Marine Mineral Resources

**AA1 - Research**
- Implementation of the process of acknowledgement of the potential for the mineralisation of basic metals associated to submarine hydrothermal fields, polymetallic nodules and iron-manganese crusts.
- Research, in the geological continental platforms, of the occurrence of heavy mineral placers and aggregates.
- Assessment of the potential for sustainable exploitation of aggregates and gravel in the geological continental platform, in the atlantic front.
- Implementation of the set of applicable measures, contained in the National Strategy for Geological Resources - Mineral resources, which is the strategy document for the sector, with NOS 2013-2020 contributing to the purpose of creating conditions for its implementation.

**AA2 - Exploitation**
- Preparation of economic studies, based on assessments provided by prospective studies, to attract the interest of the private sector at the international level, leading to the implementation of exploitation of non-living marine resources.
- Studying partnership solutions to mitigate risks and implementing pilot-projects in line with ongoing European initiatives for raw materials.
- Promoting offshore extraction of aggregates, in the face of the land production needs and the measures to adapt to climate change and fighting coastal erosion.

**AA3 - Preservation**
- Controlling practices associated to the activity of exploiting mineral resources in the maritime space, ensuring the environmental sustainability of the actions, particularly concerning the effects and impacts arising from the anthropic activity, in line with the international commitments undertaken by Portugal, namely within UNCLOS, CFP, OSPAR, CBD and relevant Environmental and Framework Directives of the EU, implying the implementation of adequate procedures to accompany exploitation and assessment of the environmental impact.

### PA2: Energy Resources

**AA1 - Research**
- Creating processes of automatic management, data and information treatment and development arising from the oil prospection, research, and exploitation activities and carrying out specialised studies.
- Promoting the existing knowledge about the oil potential with oil-sector companies.
- Streamlining the granting of rights and increasing negotiation competence.
- Carrying out programs to assess the occurrence of non-conventional energy resources, such as methane hydrates, mainly in the South of continental Portugal, where numerous favourable geologic occurrences are known.
- Creating initiatives of fundamental research to allow acknowledging ways of formation and occurrence of non-conventional energy resources.
- Encouraging the development of engineering capacity in the offshore renewable energies sector and the installation of new national and international projects in pilot-zones.
- Promoting R&D in the area of "clean energy", or low greenhouse-gas emission, namely wind, waves, marine biomass, osmotic, tides and ocean currents.
AA2 - Exploitation

- Implementation of the set of applicable measures, contained in the National Action Plan for Energy Efficiency (PNAEE) and the National Action Plan for Renewable Energies, which is the strategic document for the sector, with the contribution of NOS 2013-2020 to the purpose of creating conditions for its implementation.

- Assessing and approving work programs and technical projects, and supervising the activities inherent to the execution of oil prospection, research and development and exploitation contracts.

- Promoting the installation of energy production parks of a renewable base in the national offshore, ensuring compatibility with other uses, electric grid infrastructures plug-in to offshore parks, and placement of supporting logistics.

- Establishing financial and industrial investment models, that are productive, viable and integrated in the sea economy, for the area of clean energies or low greenhouse-gas emission, namely wind, waves, marine biomass, osmotic, tides and ocean currents.

AA3 - Preservation

- Controlling practices associated to the activity of exploiting the energy resources in the maritime space, particularly concerning the effects and impacts arising from anthropic activity, ensuring the environmental sustainability of the actions, in line with the international commitments undertaken by Portugal, namely within UNCLOS, CFP, OSPAR, CBD and relevant Environmental and Framework Directives of the EU, implying the implementation of adequate procedures to accompany the exploitation and assessment of the environmental impact.
### SDD2 - Infrastructure, Uses and Activities

#### PA1: Ports, Transport and Logistics

**AA1 - Research**

- Developing programs promoting the connectivity of research centres.
- Promoting national RD&I and participation in national and European projects tending to design and implement innovating technological solutions, namely leading to the reduction of CO₂ emissions in maritime transportation.
- Promoting multi-modality and logistic integration based on the port and maritime transportation components.
- Developing an efficient market for liquid natural gas, particularly at the wholesale level, promoting the installation of green supply posts, allowing, in particular, the liquid natural gas supply to vessels.

#### AA2 - Exploitation

- Implementing the set of measures and investments contained in the Strategic Transportation Plan - Sustainable Mobility (2011-15), which constitutes the document framing the strategy for the sector, contributing the NOS 2013-2020 for the objective of creating conditions for its implementation in the maritime port component and in creating synergies allowing potentiating other economic activity sectors.
- Development of a common national commercial port policy, duly articulated in order to maximise its aggregate potential, namely optimising the available capacity and rationalising port costs, allowing fee reduction, stimulating port competitiveness and a greater potential to attract investors, through identification of the most relevant public and private stakeholders in port costs, so as to establish as an objective the proportional decrease of the port costs induced by each of them.
- Consolidating the integration of the commercial port system in the trans-European transport network and the logistic chains of the Atlantic façade, by reinforcing the position of ports as nodes in the network and clearly betting on logistics, accessibilities and multimodal integration, also promoting maritime transportation and the highways of the sea, in which a decisive role belongs to the continuous simplification of procedures, modal integration of information fluxes and improvement of the info-structure in the maritime and port sector.
- Publishing and implementing the National Maritime Port Plan and integrate harbor planning in the Legal Framework for Land Management Instruments.
- Make more effective use of skilled port manpower and improve port operation, based on the effective implementation of the recent revision of the Legal Regime of Port Labour Code. Adopting, in the context of national merchant marine, of practices of the maritime transport sector, namely legal and tax policies, similar to those adopted by European partners, with good results, both in tax income and in recovering and creating competitiveness at a global scale.
- Consolidating the maritime traffic control service, supporting high seas, coastal and port navigation safety, including its integration with other maritime control and surveillance systems.
- Restructuring national fishing ports promoting assessment of the sustainability of the supporting structures network and creating a development plan.
- Rationalising and specialising shipbuilding and repair shipyards, namely taking into account the fishing ports rearrengement that is also bound to be implemented.
### AA3 - Preservation

- Controlling practices associated to port and maritime space transportation activities, particularly concerning the effects and impacts arising from the anthropic activity, ensuring the environmental sustainability of the actions, in line with the international commitments undertaken by Portugal, namely within UNCLOS, CFP, OSPAR, CBD and relevant Environmental and Framework Directives of the EU, implying, among others, the implementation of adequate procedures to accompany the exploitation and assessment of environmental impact, adaptation of dredging plans, the extension of good waste-management practices (ship-generated and load-waste) to all port infrastructures, better effluent management, ballast water treatment, and management of anti-fouling paints and marine litter.

### PA2: Recreation, Sports and tourism
#### AA1 - Research

- Researching new technological solutions for nautical leisure and sport, strengthening action in areas with confirmed success, such as the production of boats to practice canoeing, and developing other areas adapted to the Atlantic and Portuguese maritime space.
- Assessment of the service network for this PA establishing the state of the existing offer and a roadmap for specialisation, differentiation and development.

#### AA2 - Exploitation

- Development of an integrated plan for seamanship contemplating the creation of Luso-Atlantic seamanship as a destination and establishing a network of supporting infrastructures within the context of promoting valorisation of maritime heritage and the engagement of coastal communities allowing to venture on promoting maritime-touristic activities, beach support facilities, nautical charter, nautical sports and nature tourism.
- Promoting the provision of nautical tourism, notably sailing and surfing, and structuring stakeholders qualification and promotion of nautical events with international projection.
- Improvement of ships and passenger reception and implementation of a project to capture cruises.
- Promotion of Sun and Sea, and Health Tourism (thalassotherapy) and of the Sports Traineeship Project, in the review of the NTSP - National Tourism Strategic Plan for the 2013-2015 period.
- Developing a sports policy for the nautical sport sector and educational and social links between sea and citizens, the younger or less favoured, involving marginal communities, promoting more effective links between clubs and nautical sport associations and school, education and social action, contributing for a more coherent and integrating society and a wider base of participants potentiating the enhancement of high competition.
- Maintain and foster the achievement of internationally renowned nautical events (eg, surfing championships and sailing regattas).
- Updating and rationalising the legal and regulatory framework of maritime recreation activities in an integrated way, with the revision of the general regulation of professional and commercial maritime activities.
### AA3 - Preservation
- Controlling practices associated to nautical leisure, sports and tourism activities in the maritime space, particularly concerning the effects and impacts arising from the anthropic activity, ensuring the environmental sustainability of the actions, in line with the international commitments undertaken by Portugal, namely within the relevant Environmental and Framework Directives of the EU, implying implementation of adequate procedures to accompany exploitation and assessment of environmental impact.

### PA3: Shipbuilding, Maintenance and Repairs
#### AA1 - Research
- Strengthening the innovation and project capacity, to face challenges such as climate change, atmospheric pollution, energetic efficiency and the development of high-sea activities, implying competitiveness, establishing technological basing segments allowing its assertion within the context of internationalisation in a highly competitive global market where workforce costs for heavy and traditional shipbuilding keeps demand away from Europe.

#### AA2 - Exploitation
- Adapting the sector to benefit from future opportunities linked to green maritime shipping, diversification for new economic activities, such as renewable marine energies, and technological innovation linked to shipbuilding and repair in leisure boats, integrating central and local viewpoints, and taking into account not only challenges arising from such adaptation, as well as including the present reality and designing responsive strategies for the needs of ships, boats and repair and maintenance platforms for coastal and inshore waters and the offshore, and, also, the "green dismantling" of obsolete assets and recycling materials.

#### AA3 - Preservation
- Controlling practices associated to activities of shipbuilding and repair, guaranteeing the environmental sustainability of the actions, particularly concerning the effects and impacts arising of the anthropic activities, in line with the international commitments undertaken by Portugal, namely the relevant Environmental and Framework Directives of the EU, implying implementation of adequate procedures to accompany the exploitation and assessment of environmental impact.

### PA4: Maritime Works
#### AA1 - Research
- Reinforcing research in coastal engineering adapted to the natural reality of the national coastline, developing observation and assessment programs and creating or adapting technical solutions.

#### AA2 - Exploitation
AA3 - Preservation

- Controlling practices associated to maritime works, ensuring the environmental sustainability of the actions, particularly concerning the effects and impacts arising from the anthropic activity, in line with the international commitments undertaken by Portugal, namely within the relevant Environmental and Framework Directives of the EU, implying the implementation of adequate procedures to assess the environmental impact, and using, as much as possible, environmental engineering solutions, adopting prevention by maintaining the GES of the coastline, instead of heavy remediation engineering.

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5 Namely, the General Regulation for Captaincies.
ACRONYMS

AA - Action Axis
ABNJ - Areas Beyond the National Jurisdiction
AM - Action Matrix
AP - Action Programs
CBD - Convention on Biological Diversity
CF - Cohesion Fund
CFP - Common Fisheries Policy
CLCS - Commission on the Limits of the Continental Shelf
CLS - Convention on the Law of the Sea
CPSC - Community of Portuguese Speaking Countries
CRCD - Commissions for Regional Coordination and Development
DGMP - Directorate-General for Maritime Policy
EEZ - Exclusive Economic Zone
EGTC - European Grouping of Territorial Cooperation
EIB Group - European Investment Bank Group
EMFF - European Maritime Affaires and Fisheries Fund
ERDF - European Regional Development Fund
ESF - European Social Fund
EU - European Union
GES - Good Environmental Status
GDP - Gross Domestic Product
GGE - Greenhouse Gas Emissions
ICMA - Inter-ministerial Commission for Maritime Affairs
IMP - Integrated Maritime Policy
Inter-ministerial Commission for the Delimitation of the Continental Shelf (ICdCS)
IOC - Intersectorial Oceanographic Commission
LIFE - Financial Instrument for Implementation, Upgrade and Development of the Policy and Community Legislation for the Environment
MPA - Marine Protected Area
MPP - Mar-Portugal Plan
NEAFC - North East Atlantic Fisheries Commission
NGO - Non-Governmental Organisation
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMA</td>
<td>National Maritime Administration</td>
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<tr>
<td>NOS</td>
<td>National Ocean Strategy</td>
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<td>NSRF</td>
<td>National Strategic Reference Framework</td>
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<td>NTSP</td>
<td>National Tourism Strategic Plan</td>
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<tr>
<td>OP</td>
<td>Thematic Operational Programmes</td>
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<tr>
<td>OPTE</td>
<td>Thematic Operational Programme for Territorial Enhancement</td>
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<tr>
<td>OSPAR</td>
<td>Convention for the Protection of the Northeast Atlantic Marine Environment (Oslo and Paris Conventions)</td>
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<td>p</td>
<td>Projects</td>
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<tr>
<td>PA</td>
<td>Program Areas</td>
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<td>PNAEE</td>
<td>National Action Plan for Energetic Efficiency</td>
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<tr>
<td>PPOST</td>
<td>Program for the Promotion of Ocean Sciences and Technology</td>
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<td>R&amp;D</td>
<td>Research and Development</td>
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<td>ROV</td>
<td>Remote Operated Vehicle</td>
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<tr>
<td>SA</td>
<td>Support Axis</td>
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<tr>
<td>SDD</td>
<td>Strategic Development Domains</td>
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<tr>
<td>SFMA</td>
<td>Standing Forum on Maritime Affairs</td>
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<tr>
<td>SOC</td>
<td>Strategic Ocean Committee</td>
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<tr>
<td>TGECS</td>
<td>Task-Group for the Extension of the Continental Shelf</td>
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<tr>
<td>TGMA</td>
<td>Task-Group for Maritime Affairs</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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