

SIMNORAT



Initial assessment

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Initial assessment MSP oriented



Supporting Implementation of Maritime Spatial Planning in the Northern European Atlantic





**European Commission
Directorate-General for Maritime Affairs and Fisheries**

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Acronyms

ACI	Area of Common Interest	ICPC	International Cable Protection Committee
AAMP	Agence des Aires Marines Protégées	IMO	International Maritime Organization
AMT	Autoridade da Mobilidade e dos Transportes	LBOGEM	Lei de Bases do Ordenamento e Gestão do Espaço Marítimo Nacional
ATBA	Area to be avoided	MSFD	Marine Strategy Framework Directive
CEF	Connecting Europe facility	LCoE	Levelised cost of energy
CFP	Common Fisheries Policy	LOA	Length overall
CIEM	Comisión Interministerial de Estrategias Marinas	MEDDTL	Ministère de l'Écologie, du Développement Durable, des Transports et du Logement
CLCS	Commission on the Limits of the Continental Shelf	MEEM	Ministère de l'Environnement, de l'Énergie et de la Mer
DGPM	Direção-Geral de Política do Mar	MIEEN	Ministère de l'Industrie, de l'Énergie et de l'Économie Numérique
DGRM	Direção-Geral dos Recursos Naturais, Segurança e Serviços Marítimos	MINETAD	Ministerio de Energía, Turismo y Agenda Digital
DIRM	Direction Interrégionale de la Mer	MINETUR	Ministerio de Industria, Energía y Turismo
DOGGM	Document d'orientation pour une gestion durable des granulats marins	MPA	Marine Protected Area
DRAM	Direção Regional dos Assuntos do Mar – Governo Regional dos Açores	MPP	Mar-Portugal Plan
DROTA	Direção Regional do Ordenamento do Território e Ambiente – Governo Regional da Madeira	MTES	Ministère de la Transition Écologique et Solidaire
DSF	Document stratégique de façade	MSP	Maritime Spatial Planning
DSN	Departamento de Seguridad Nacional	MSPD	Maritime Spatial Planning Directive
EC	European Commission	MSY	Maximum Sustainable Yield
EIB	European Investment Bank	NECP	National Energy and Climate Plan
EMFF	European Maritime and Fisheries Fund	NOS	National Ocean Strategy
ENTSO-E	European Network of Transmission System Owners for Electricity	NREAP	National Renewable Energy Action Plan
EU	European Union	OPPE	Organismo Público Puertos del Estado
FBA	French Biodiversity Agency	OWC	Oscillating Water Column
GES	Good Environmental Status	PCI	Project of Common Interest
GPM	Grand port maritime	POC	Programa da Orla Costeira
ICES	International Council for the Exploration of the Sea	POOC	Planos de Ordenamento da Orla Costeira
ICM	Integrated Coastal Management	PdM	Programme of Measures
ICZM	Integrated Coastal Zone Management	POEM	Plano de Ordenamento do Espaço Marítimo (Portugal)
		POEM	Plan de Ordenación del Espacio Marítimo (Spain)

PPE	Programation pluriannuelle de l'énergie	TAC	Total allowable catches
PSOEM	Plano de Situação do Ordenamento do Espaço Marítimo Nacional	TEU	Twenty-foot equivalent unit
PSSA	Particularly sensitive sea area	TSS	Traffic separation scheme
RTE	Réseau de Transport d'Électricité	TSO	Transmission System Operator
RSC	Regional Sea Convention	TUPEM	Título de Utilização Privativa do Espaço Marítimo Nacional
SRDAM	Schéma régional de développement de l'aquaculture marine	TYNDP	Ten Year Network Development Plan
SME	Small and medium enterprise	UNCLOS	United Nations Convention on the Law of the Sea
SNML	Stratégie nationale pour la mer et le littoral	WDPA	World Database on Protected Areas

Foreword

This initial assessment report aims to provide a synthetic and shared overview of existing conditions and dynamics of the SIMNORAT project area.

"Living document", this report has evolved and has been updated throughout the project's duration based upon the most recent informations available from European and national sources and the works and results of its different activities.

The report is divided into two main sections.

Part I – The SIMNORAT project area: an overview

This section addresses project area's main characteristics: maritime delimitations, marine environment, maritime activities, pressures and impacts.

The marine environment chapter gives a description of the biological features of the various coastal and offshore ecosystems based on the MSFD descriptors 1 "Biodiversity" (benthic and pelagic habitats, marine mammals, marine birds, marine turtles, cephalopods, fish species) and 4 "Food webs". It aims to identify where particularly sensitive and ecologically important areas are. This detailed chapter is provided in annex 1.

The next chapter examines maritime activities undertaken by France, Spain and Portugal in the coastal and offshore waters of the project area: current situation, key figures, spatial distribution, strategies and policies, future trends... In line with works and reflections led at European level, focus is made on the following key maritime sectors: fisheries, marine aquaculture, offshore oil & gas, marine aggregates, ports & shipping, submarine cables, marine renewable energies: offshore wind and ocean energy, coastal and maritime tourism.

Finally, the interactions chapter draws on the preceding chapters to identify main pressures, potentially impacted areas (areas subject to high levels of pressures), and, if available, impacts on ecosystems. Assessment is based on the MSFD descriptors related to anthropogenic pressures, belonging to "biological", "physical" or "substances, litter and energy" categories. This chapter is provided in annex 2.

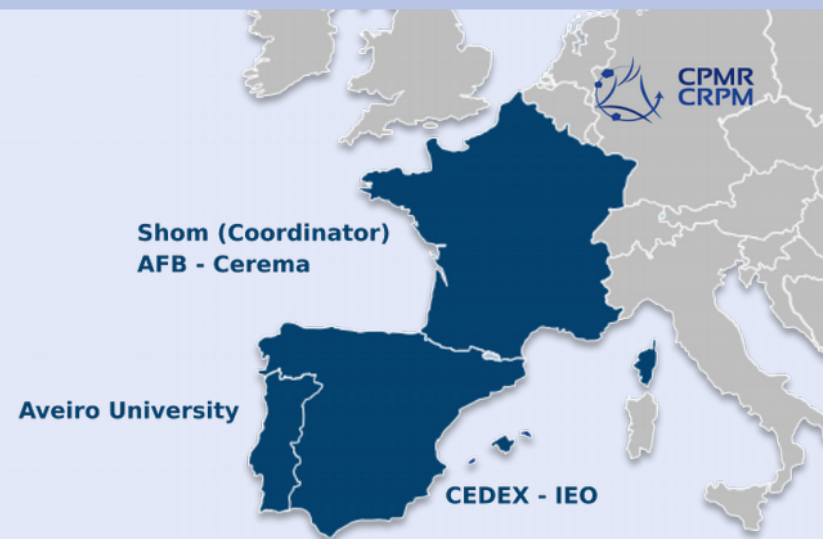
Part II – Towards maritime spatial planning in the SIMNORAT project area

After a quick reminder of the main overarching European legal and policy frameworks which regulate maritime activities in Europe's regional seas, this section reviews current status of maritime spatial planning in countries bordering the project area: France, Spain and Portugal.

If legal frameworks for maritime spatial planning are in place in all these three countries, level of progress in the preparation, elaboration and implementation of maritime spatial plans, is, however, very different from one country to another. In France and Portugal, maritime spatial plans are foreseen to be adopted in 2019 whereas, in Spain, works have just been undertaken.

This section concludes with a brief summary of previous, or current, transboundary MSP-related projects for the region of interest: TPEA, MAIA, MUSES.

The SIMNORAT project



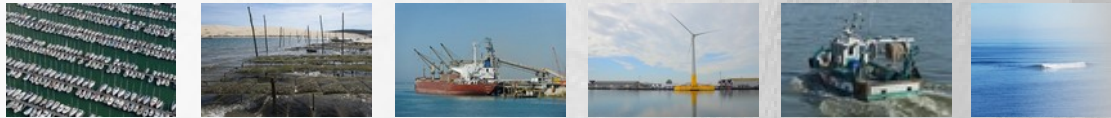
SIMNORAT – Supporting Implementation of Maritime Spatial Planning in the Northern Atlantic is a two-years €1.8 million project co-funded by the European commission focusing on two key objectives:

- provide support for the implementation of the Maritime Spatial Planning Directive in the Northern Atlantic marine waters of France, Spain and Portugal,
- launch and carry out concrete cross-border MSP cooperation between the three Member States.

Led by Shom, the SIMNORAT consortium brings together seven partners from government bodies and research institutes in France, Spain and Portugal, and the Conference of Peripheral Maritime Regions (CPMR), to address both key objectives through a variety of approaches and activities: literature and desktop research, future trend analysis, collaborative scenario development, practitioner/stakeholder interview, development of case studies and stakeholder engagement mechanisms.

SIMNORAT outputs are practitioner focused, and seeks to identify and share best practice on technical (e.g. data management), scientific (e.g. ecosystem based management), and social (e.g. stakeholder engagement processes) aspects of MSP implementation.

PART 1



The SIMNORAT project area An overview

1.1 – The SIMNORAT project area: Bay of Biscay and Iberian coast

The SIMNORAT project area corresponds to the OSPAR Region IV – Bay of Biscay and Iberian coast, from 48°N to 36°N, from Brittany to the Gulf of Cadiz, and from 11°W to the coastlines of France, Portugal and Spain.

Extending beyond these limits, the region of interest also includes the Galicia Bank and the Vigo and Vasco de Gama seamounts located on the lower slope of the Iberian continental margin.

Four key areas constitute the ecoregion:

- the Bay of Biscay, characterized by a wide shelf extending west of France. Upwelling events occur in summer off southern Brittany and low-salinity water lenses are associated with the river outflows of the Landes coastline,
- the northern Iberian Shelf, characterized by a narrow shelf with summer upwelling events off Galicia,
- the western Iberian Shelf, characterized by a narrow shelf west of Portugal with summer upwelling events,
- the Gulf of Cadiz, characterized by a wider shelf strongly influenced by input of warm Mediterranean waters.

Consequence of the topographical variability – from continental shelf to abyssal plain, the naturally favourable oceanographic conditions with strong hydrodynamics processes and the diversity of the substrates, the region features a wide rich range of ecosystems, habitats and fauna.

With estuaries, rias, wetlands, coastal lagoons, rocky cliffs, shingle, rocky shores, sandy and muddy shores, the coastline is highly diversified and support extremely productive ecosystems.

Some remarkable topographic features can be found, such as seamounts, banks and submarine canyons which provide a pathway to the deep sea for sediment and nutrients and contain diverse biological communities with many endemic species.

Many northern species reach the southern limit of their distribution in the region and many southern species reach their northern limit of distribution. Mediterranean species occur in the south. A large variety of marine mammal's species have been reported in the region, including 30 species of cetaceans and 7 species of seals. The Iberian Peninsula is at a strategic geographical position regarding the migratory behaviour of seabird species.

A wide variety of maritime activities are undertaken by France, Spain and Portugal in the coastal and offshore waters of the project area. If historic maritime sectors such as fishing, aquaculture, ports & shipping, and coastal tourism and marine leisure, always represent the mainstays of activities and uses, and a large part of the blue economy, some emerging sectors, like, in particular, offshore wind and ocean energy, have the potential and are likely to underpin growth and job creation significantly in the coming years.

But, with land-based activities, these various activities place important pressures on the marine and coastal environment and some issues of particular importance can be highlighted: selective extraction of species, abrasion which affects the seabed habitats, by-catch of marine mammals, eutrophication, marine litter, noise disturbance.

► Figure 1 – SIMNORAT project area



1.2 – Maritime delimitations

Under the United Nations Convention on the Law of the Sea of 10 December 1982 (UNCLOS), coastal States possess or are permitted to establish various maritime zones, such as the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf, and may establish straight baselines or, in the case of archipelagic States, archipelagic baselines, from which the breadth of these maritime zones is measured. Thus, coastal States exercise sovereignty, sovereign rights and jurisdiction over substantial portions of the seas. The 1982 Convention fixed the limits of the territorial sea at up to 12 nautical miles, 24 nautical miles for the contiguous zone, and 200 nautical miles for the exclusive economic zone.

In France, the legal bases for the definition and the delimitation of internal waters, the territorial sea, the contiguous zone, the economic exclusive zone and the continental shelf has been renewed through the order n°2016-1687 of 8 December 2016. Normal and straight baselines for mainland France and Corsica from which the breadth of these maritime zones is measured have been defined by the decree n°2015-958 of 31 July 2015. The decree n°2018-681 of 30 July 2018 established the external limit of the territorial sea off the coast of mainland France.

Regarding maritime boundary delimitation agreements between France and neighbouring countries in the project area, two agreements has been reached with Spain:

- convention between France and Spain of 29 January 1974 on the delimitation of the territorial sea and the contiguous zone in the Bay of Biscay,
- convention between France and Spain of 29 January 1974 on the delimitation of the continental shelves of the two States in the Bay of Biscay.

These two conventions entered into force on 5 April 1975.

No agreement has been reached to date with Spain regarding the EEZ limits in the Bay of Biscay.

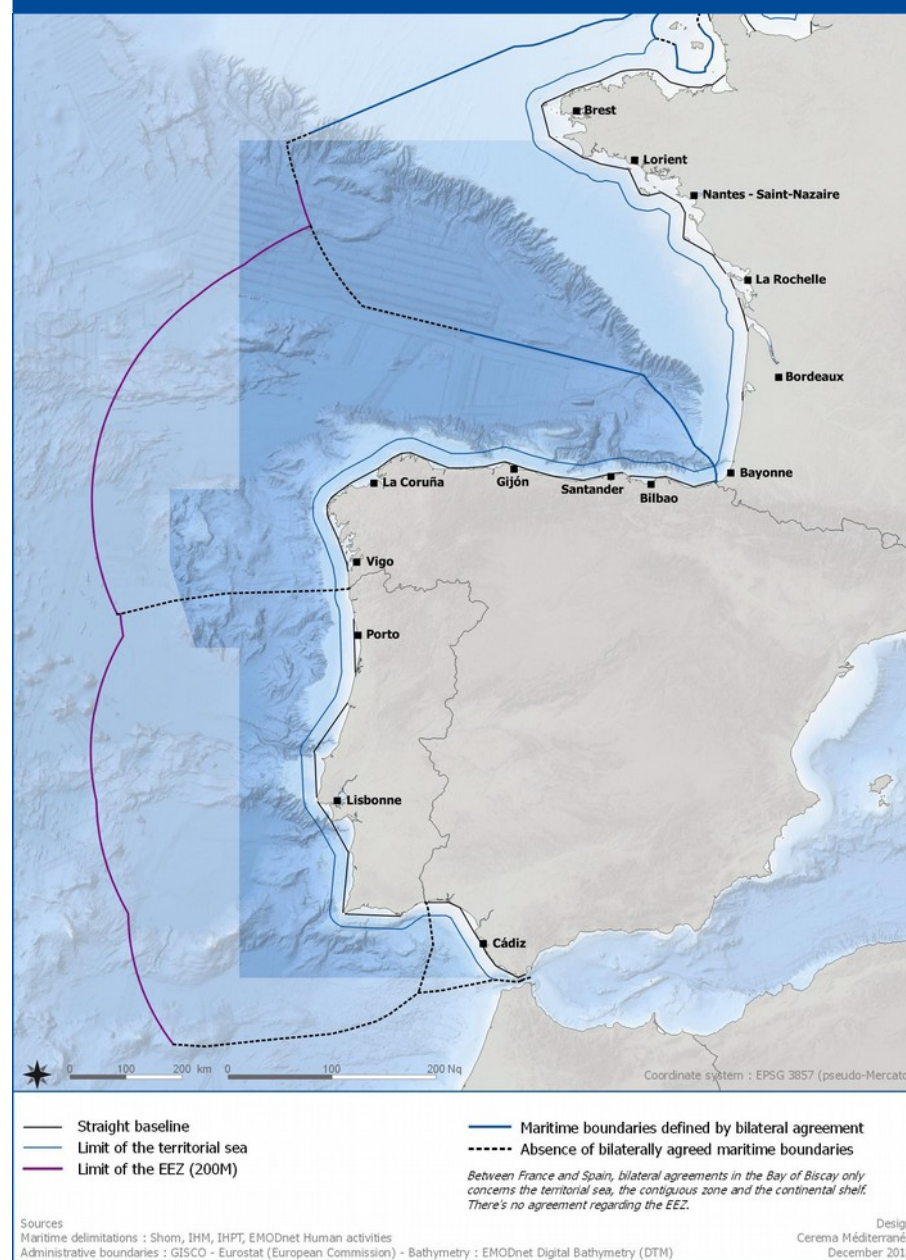
In Spain, if legal bases for the definition of internal waters, the territorial sea, the contiguous zone and the economic exclusive zone, have been approved before the entry in force of UNCLOS, they nevertheless in line with its provisions. The territorial sea has been defined by the law n°10/1977 of February 4. It has an extent of 12 nautical miles from the normal and straight baselines defined by the royal decree n°2510/1977 of August 5. The Spanish legislation regarding EEZ is the Law n°15/1978, of February 20 on the economic zone which only applies to the Atlantic coasts of Spain, both of the mainland and the islands, including the coasts on the Cantabrian Sea and the Bay of Biscay

With exception of the two aforementioned conventions between France and Spain on the delimitation of the territorial sea, the contiguous zone and the continental shelves in the Bay of Biscay, there are no other agreed maritime boundaries between Spain and its neighbouring countries in the project area, in particular between Spain and Portugal.

In Portugal, the law n°34/2006 of 28 July 2006 has renewed the legal provisions for the definition and the delimitation of internal waters, the territorial sea, the contiguous zone, the economic exclusive zone and the continental shelf. Normal and straight baselines for mainland Portugal, and Madeira and Azores archipelagic baselines, have been defined by the decree-law n°495/85 of 29 November 1985.

As previously mentioned, there are no agreed maritime boundaries between Portugal and Spain in the project area.

► Figure 2 – Maritime delimitations



Box 1 – Limits of the continental shelves

According to the UNCLOS provisions, the continental shelf extends to the outer edge of the continental margin, or to a distance of 200 nautical miles where the outer edge of the continental margin does not extend up to that distance.

When the margin extends beyond 200 nautical miles, the outer limits of the continental shelf are determined by a complex formula contained in article 76 of the Convention. In this case, information on the limits of the continental shelf beyond 200 nautical miles shall be submitted by the coastal States to the Commission on the Limits of the Continental Shelf (CLCS) and the Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.

On 19 May 2006, France, Ireland, Spain and the United Kingdom of Great Britain and Northern Ireland submitted to the Commission on the Limits of the Continental Shelf a partial Joint Submission in respect of the Celtic Sea and the Bay of Biscay prepared collectively and collaboratively by the four coastal States. Recommendations have been adopted by the Commission on 24 March 2009.

On 11 May 2009, Spain submitted a partial Partial Submission in respect of the area of Galicia.

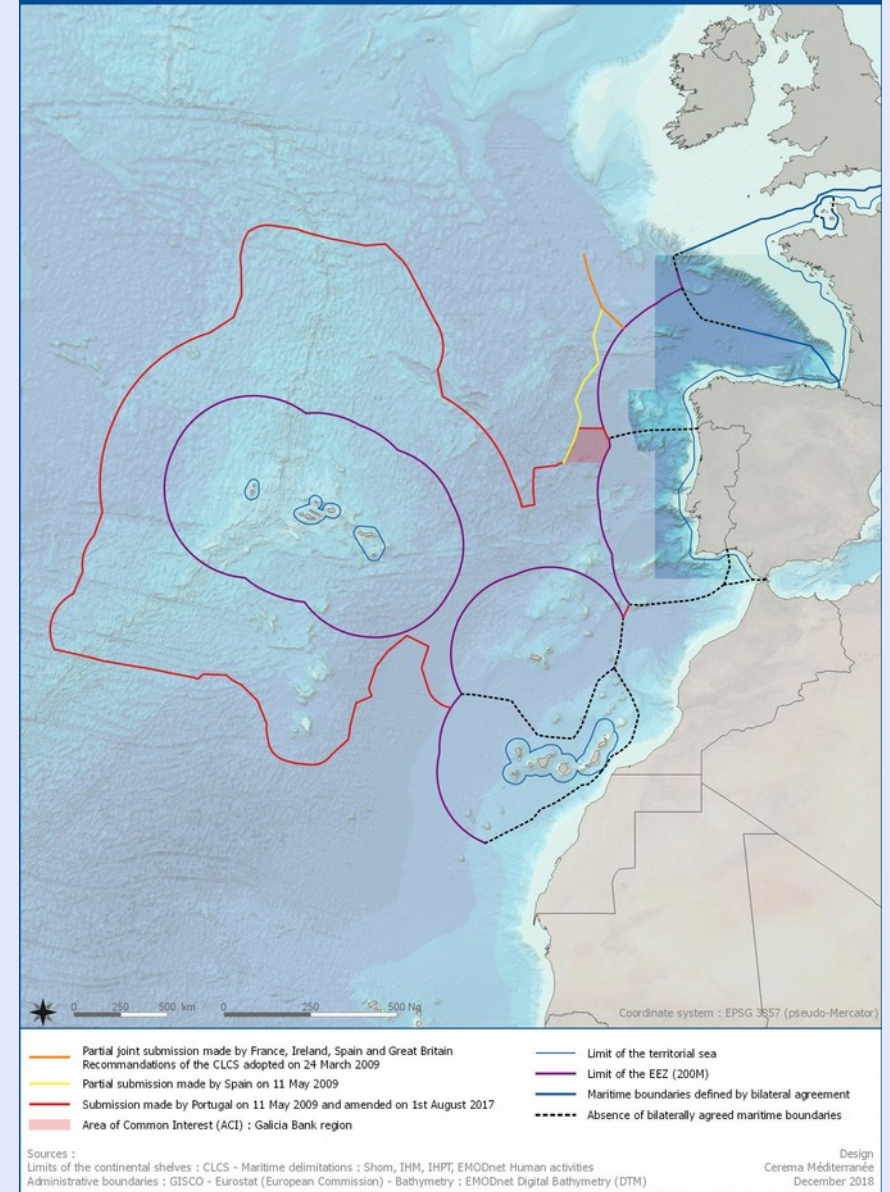
The same day, Portugal also presented to the Commission a submission for the outer limits of the Portuguese extended continental shelf.

Although each of the two States presented separate Submissions to the Commission, Spain and Portugal have agreed, for the exclusive purpose of defining the outer limits of the continental shelf beyond 200 nautical miles, to identify an Area of Common Interest (ACI): the Galicia Bank Region in the northwestern part of the Iberian Peninsula.

Within this ACI, the outer limits of the extended continental shelf have been established by the two coastal States acting in coordination and in accordance with common information, scientific and technical data, and criteria. Spain and Portugal have also agreed that the delimitation of the extended continental shelf in the ACI does not prejudice the lateral delimitation of the continental shelf between both coastal States, which shall be resolved in the future and by common agreement between both Parties.

On 1st August 2017, Portugal submitted an addendum to the proposed continental shelf extension based on new bathymetry, geology and geophysics data collected since 2009. This addendum includes a new limit for a surface of about 2.4 million square kilometers.

► Figure 3 – Limits of the continental shelves



1.3 – Marine environment

Initial Assessment

MSP oriented

Northern European Atlantic

February 2018
Version 2

Annex 1 to Initial Assessment: Marine Environment

This chapter is provided in Annex 1.



Supporting Implementation of Maritime Spatial Planning in the
Northern European Atlantic



European Commission
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1.4 – Maritime activities

1.4.1 – Fisheries

In the project area, fishing and its subsidiary activities, such as fish processing and wholesale, constitute an industry with huge tradition and with a high importance in terms of social and economic contribution. Fishing activities are characterised by a wide variety of fishing vessels and fishing techniques, as well as by the large number of fish species targeted.

As of 31 December 2017, the fleet registered in the region of interest area numbered 14 319 vessels, with a combined gross tonnage (GT) of 407 504 tonnes and engine power of 1 098 116 kilowatts.

With 6 020 vessels (42% of the total), 250 718 GT (61,5% of the total) and 511 703 kW (46,6% of the total), Spain had the largest fishing capacity. In particular, Galicia, which host almost 75% of registered vessels, is a region of high importance for Spanish fisheries. While Portugal accounted for 47% of the total number of vessels, its fleet represented only 18% of the gross tonnage and 25% of engine power, indicating a fleet mostly made of small scale vessels.

Of the total number of vessels, 69,45% were active in 2017: around 90-95% in Spain and France but only 45,50% in Portugal.

The fleet registered showed a prevalence of small fishing boats, where vessels of overall length of less than 12 meters accounting for 83,6% of the total: 73% in France, 77,6% in Spain and up to 91,5% in Portugal. Vessels of overall length more than 24 meters represented only 4,8% of the fleet in number but 75,9% of the gross tonnage and 44,6% of the engine power.

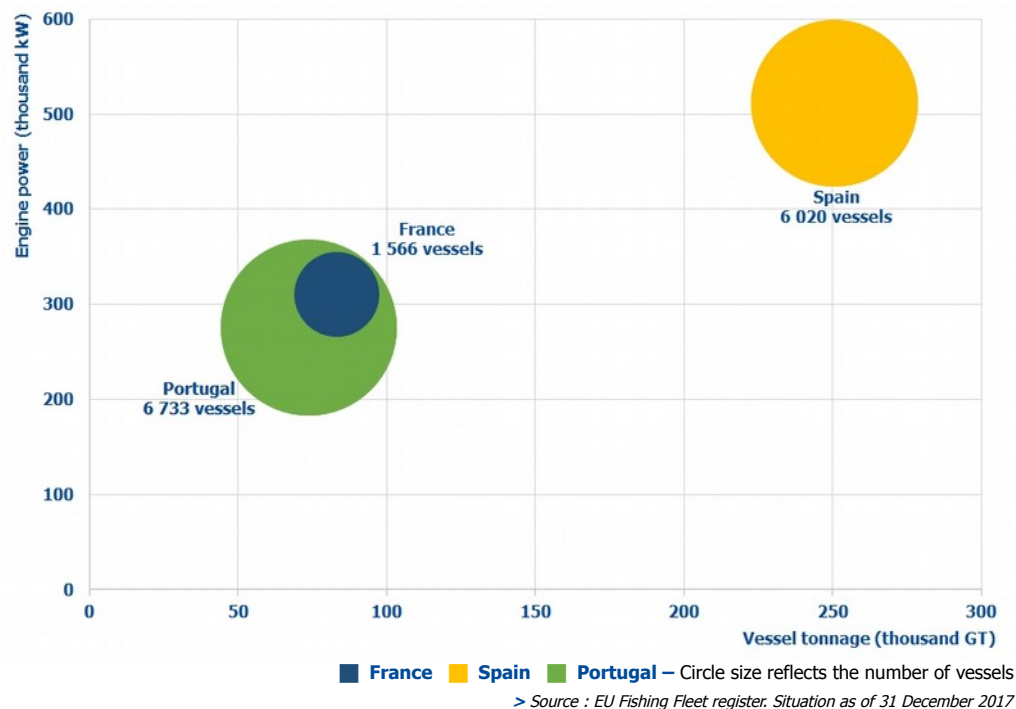
Overall the capacity of the fleet decreased gradually since 2008: -13,1% in number of vessels, -23,6% in GT and -18,19% in kW.

In Spain, about 5 220 vessels operated in the project area in 2017. 98% fished in national fishing grounds, in particular in the Cantabrian – North West (CNW) Spanish waters, from the border with France, at the mouth of the Bidasoa River, to the border with Portugal on the River Miño, which is the main fishing area for the Spanish fleet.

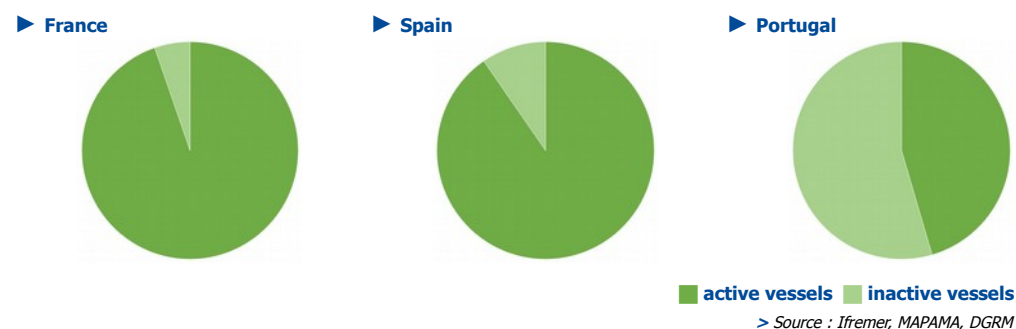
The Cantabrian – North West fleet, which numbered 4 425 active vessels in 2017, is made up of the following segments:

- a small-scale "artisanal" fleet, using passive and mobile multipurpose gears, pots, gillnets and dredges mainly targeting molluscs. With about 3 956 vessels, it is the most important segment and, even if it do not provide high catch volumes, species targeted have a high socio-economic importance locally.
- purse seiners (260 vessels) targeting sardines, horse mackerel and anchovy,
- bottom-set longliners (64 vessels) and gillnetters (69 vessels) directing their effort at hake, anglerfish, mackerel, horse mackerel,
- and bottom trawlers (76 vessels) fishing for hake, anglerfish, horse mackerel, blue whiting and Norway lobster.

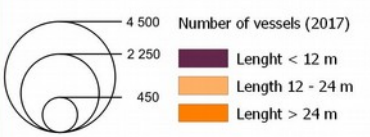
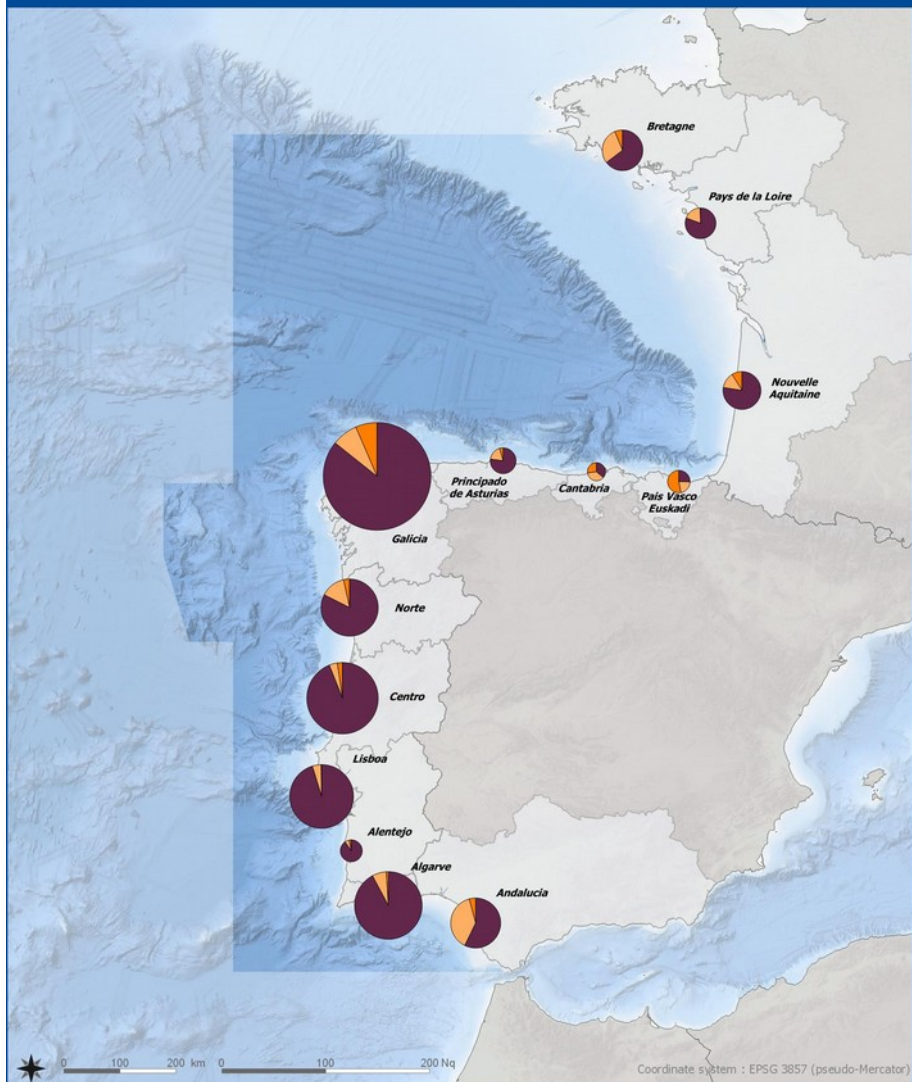
▶ Figure 4 – Main fleet capacity indicators by Member State (2017)



▶ Figure 5 – Share of active fleet in number of vessels (2017)



► Figure 6 – Fleet capacity by NUTS2 region (2017)

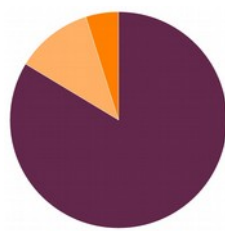


Sources
 Fishing fleet : EU fishing fleet register - Situation as of 31 December 2017
 Administrative boundaries : GISCO - Eurostat (European Commission)
 Bathymetry : EMODnet Digital Bathymetry (DTM)

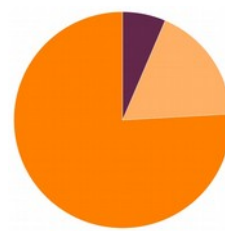
Design : Cerema Méditerranée - December 2018

► Figure 7 – Fleet capacity by vessel length group (2017)

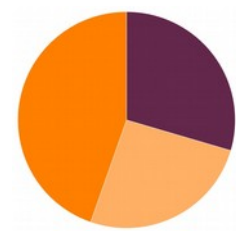
► Number of vessels



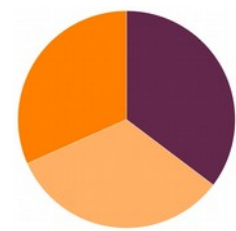
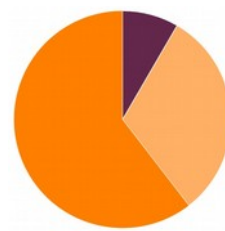
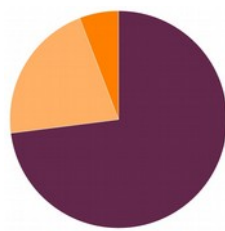
► Gross tonnage



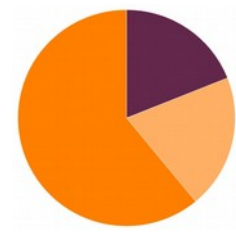
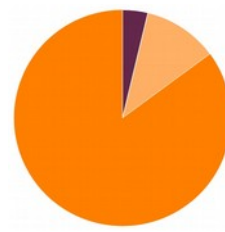
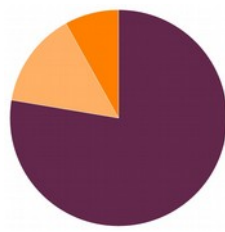
► Engine power



► For France



► For Spain



► For Portugal

■ < 12m ■ 12 - 24m ■ > 24m

> Source : EU Fishing Fleet register. Situation as of 31 December 2017

In the Gulf of Cadiz Spanish waters, 691 vessels operated in 2017, mostly "artisanal" (gillnets, hooks, traps) and dredges primarily aimed at striped venus. In this area, fishing activity was also carried out by 129 bottom trawlers (southern hake, white shrimp, Norway lobster and octopus) and 77 purse seiners (sardine, anchovy, mackerel and horse mackerel).

Outside national fishing grounds, 88 vessels carried out fishing activities in North Atlantic EU waters in 2017: from Scottish waters, at the north, to the Bay of Biscay French waters at the South (divisions ICES 5b, 6, 7 and 8abde). Using bottom trawl and passive gears (gillnets and bottom longlines), they targeted demersal species such as hake, anglerfish and megrim. In Portuguese waters (division ICES 9a), 15 trawlers operated, mainly fishing for southern hake.

In addition, temporary access outside national fishing grounds is also permitted to certain segments of the CNW fleet such that of purse seiners which can carry out their fishing activity in the Bay of Biscay French waters and in Portuguese waters, as well to vessels of other segments that adapt their gear for the seasonal capture of albacore tuna.

In Portugal, about 3 320 vessels operated in the project area in 2017. The active fleet was mainly composed of the three following segments: a "polyvalent" fleet, trawlers and purse seiners.

The "polyvalent" fleet, which accounted for more than 90 % of the active vessels, uses a variety of gears, mainly gillnets and trammel nets, traps and pots, drifting and set longlines, catching a diverse amount of species, being cephalopods (octopus and cuttlefish), crustaceans, small pelagic (chub mackerel, horse mackerel, sardine) or demersal species (conger, scabbard fish, seabream).

The "polyvalent" fleet is made up of "local" fishing vessels (length \leq 9m) which operates almost exclusively in the coastal zone, up to 6 miles, and "coastal" fishing vessels (length $>$ 9m) which usually operates at depths of 200 to 400m all along the Portuguese coast.

The purse seiners fleet, which included about 150 vessels, is predominantly made of vessels with length more than 15m. It operates all along the coast, at depths from 20 to about 200m targeting sardines, chub mackerel, horse mackerel and anchovy. The purse seiners fleet is an essential support for the Portuguese sardine canning industry, which uses about half of the sardines landed.

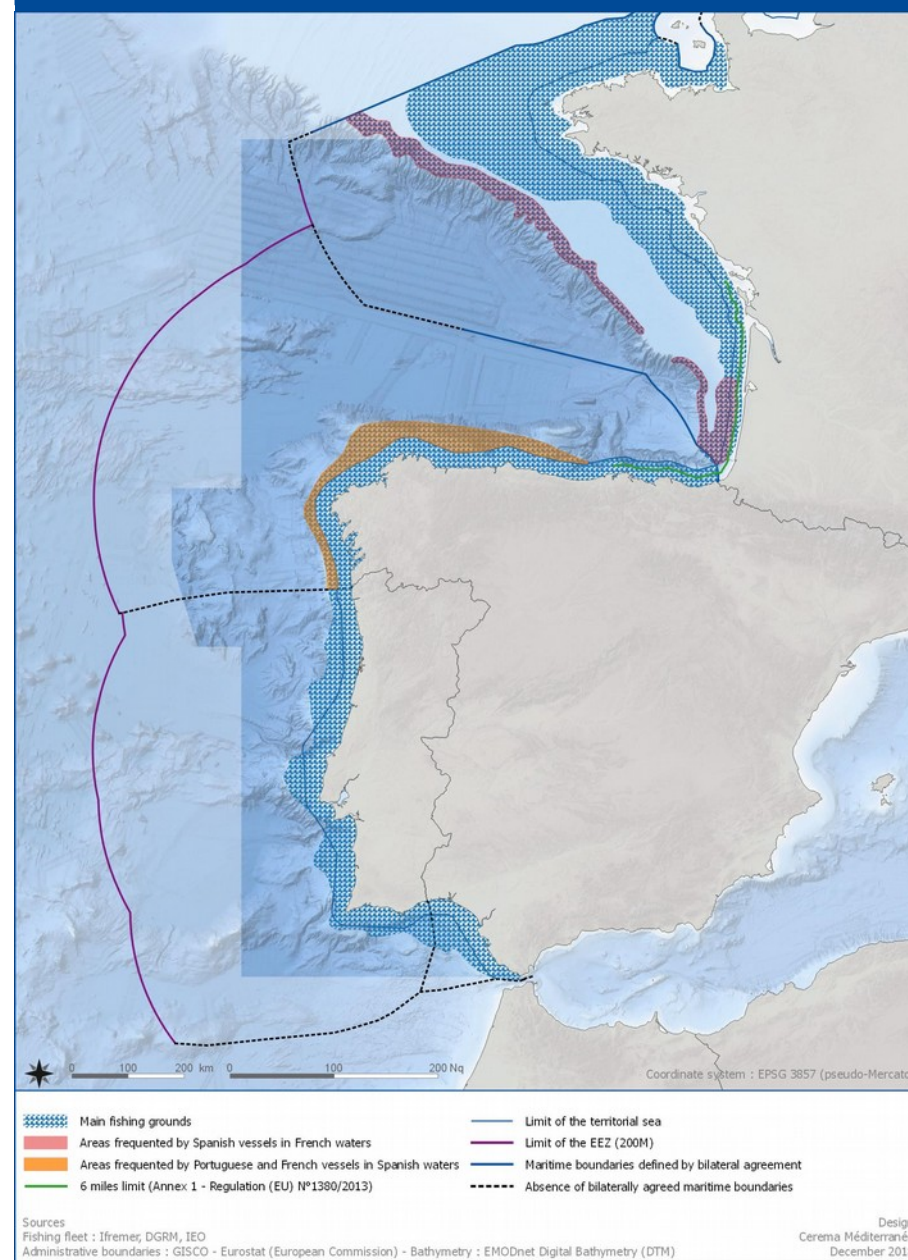
The trawlers fleet, which numbered about 80 vessels, is, like the purse seiners fleet, essentially made of vessels with length more than 15m. They target, on the one hand, crustaceans (shrimp and Norway lobster), mainly on the Algarve and Alentejo coasts beyond 6 miles and at depths up to 1000m depending on the target species, and, on the other hand, fishes (horse mackerel, Atlantic mackerel, blue whiting, anglerfish, hake) beyond 6 miles and at depths of up to 800m all along the coast of mainland Portugal.

The trawlers fleet may also operate outside the Portuguese waters, in particular in the Cantabrian – North West Spanish EEZ.

In France, 1 431 vessels carried fishing activities in 2015 in the Bay of Biscay. The fleet was made up of 69% of "coastal" vessels (more than 75% of the fishing activity within 12 miles), 20% of "mixed" vessels (between 25% and 75% of the activity within 12 miles) and 14 % of "offshore" vessels (more than 75 % of the activity beyond the 12 miles zone). The active fleet was composed of the main following segments:

- the trawlers fleet, exclusively (291 vessels) or in combination with other gears (158 vessels), targeting targets hake, monkfish, Atlantic mackerel, common sole, cuttlefish and Norway lobster,
- the netters fleet (trammel net and gillnet), exclusively (238 vessels) or in combination with pots and traps (97 vessels) or set-longlines (92 vessels), directing their efforts at common sole and monkfish,

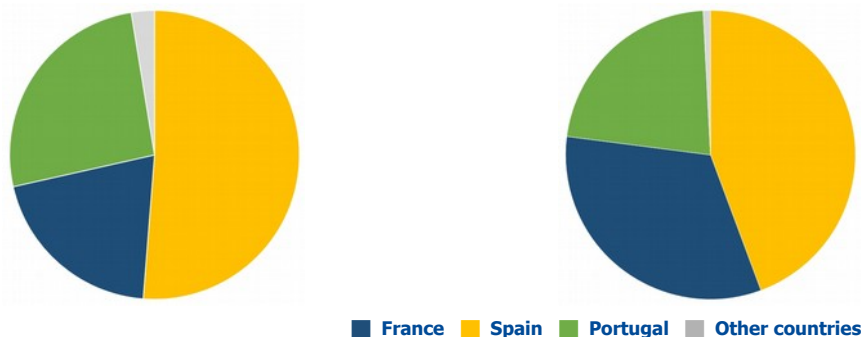
► Figure 8 – Main fishing grounds



► **Figure 9 – Share of landings by Member State (2016)**

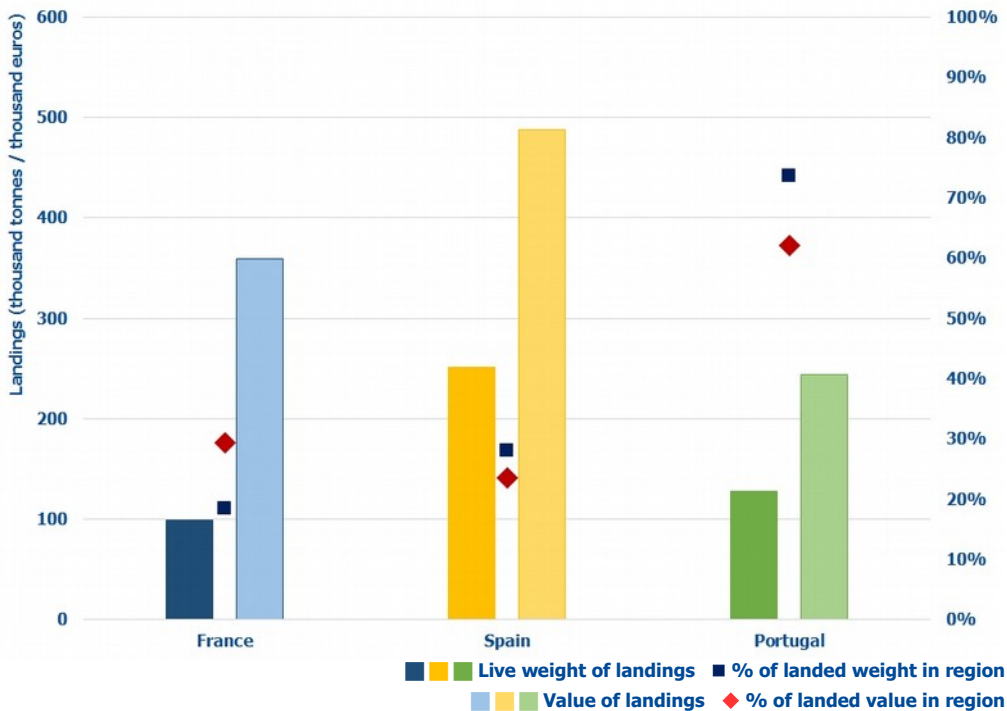
► **Live weight of landings**

► **Value of landings**



> Source : STECF – 2018 Annual Economic Report on the EU Fishing Fleet (STECF 18-07)

► **Figure 10 – Importance of the project area for Member States' fisheries (2016)**



> Source : STECF – 2018 Annual Economic Report on the EU Fishing Fleet (STECF 18-07)

- the eel fishing fleet (207 vessels) targeting glass eel in the mouths of the estuaries during winter,
- the longliners fleet (109 vessels) fishing for European sea bass, hake and pollack.

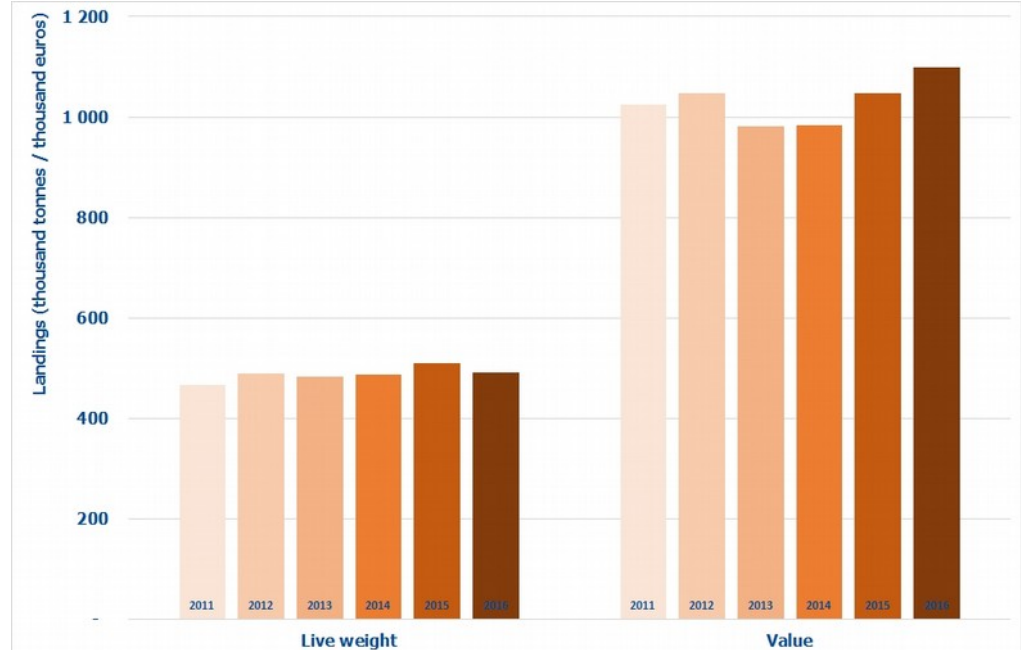
The French purse seiners fleet numbered only 32 vessels targeting sardine, anchovy and mackerel.

In 2016 the weight and value of landings from the project area amounted to approximately 491 000 tonnes and 1,1 billion €, respectively. Spanish landings, with 252 000 tonnes, accounted for 51% of the total weight landed. France, which only accounts for 20% of landed weight, share a higher percentage (30%) in value due to the high commercial value of some species like sole or Norway lobster.

Since 2011, landings, while remaining relatively stable in landed weight, have increased by 7% in value.

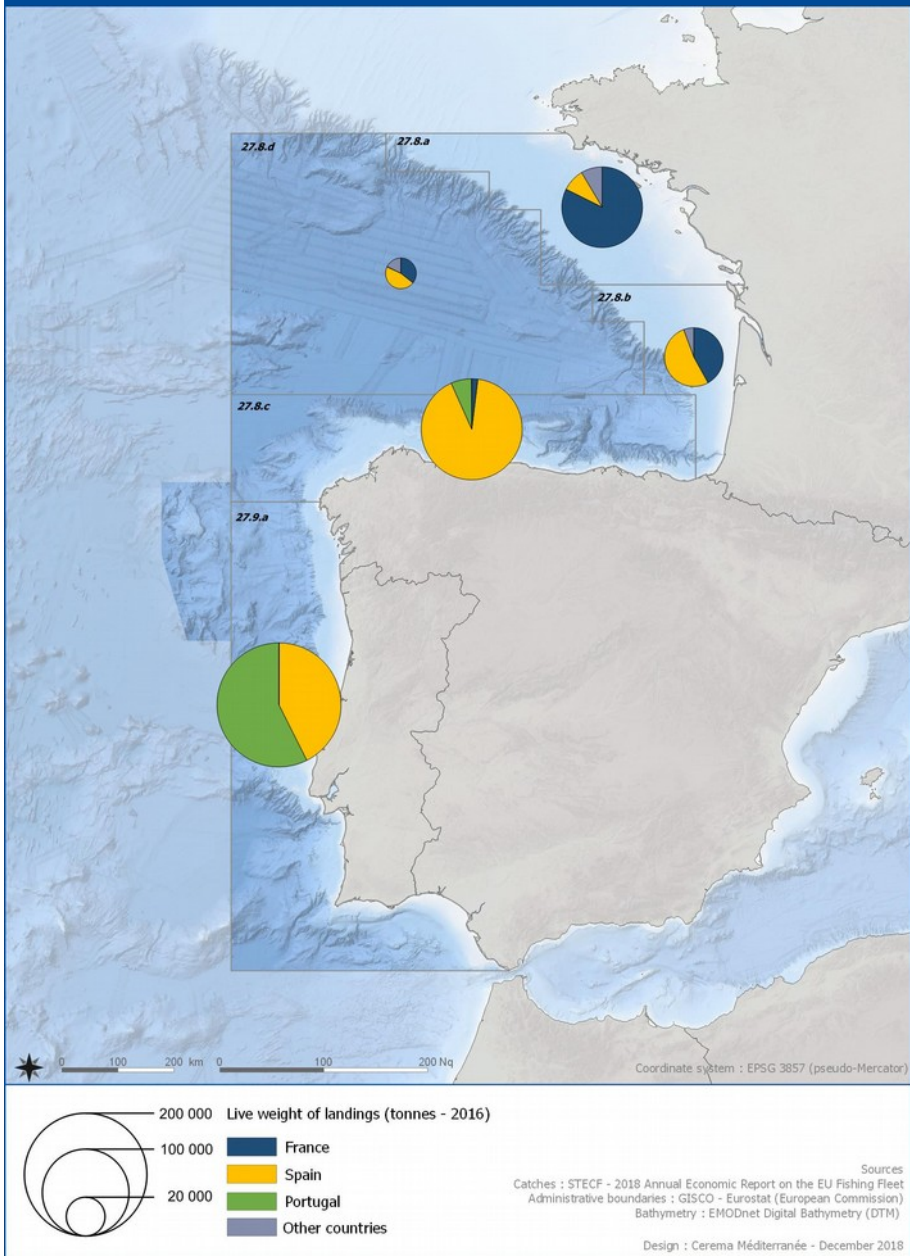
In term on landed weight, the five main species, which represent 45% of the total landings, were in 2016: chub mackerel, sardine, Atlantic mackerel, hake and anchovy. Hake, common octopus, sardine, anchovy and albacore generated the highest landed value.

► **Figure 11 – Trends in landings (2011 -2016)**

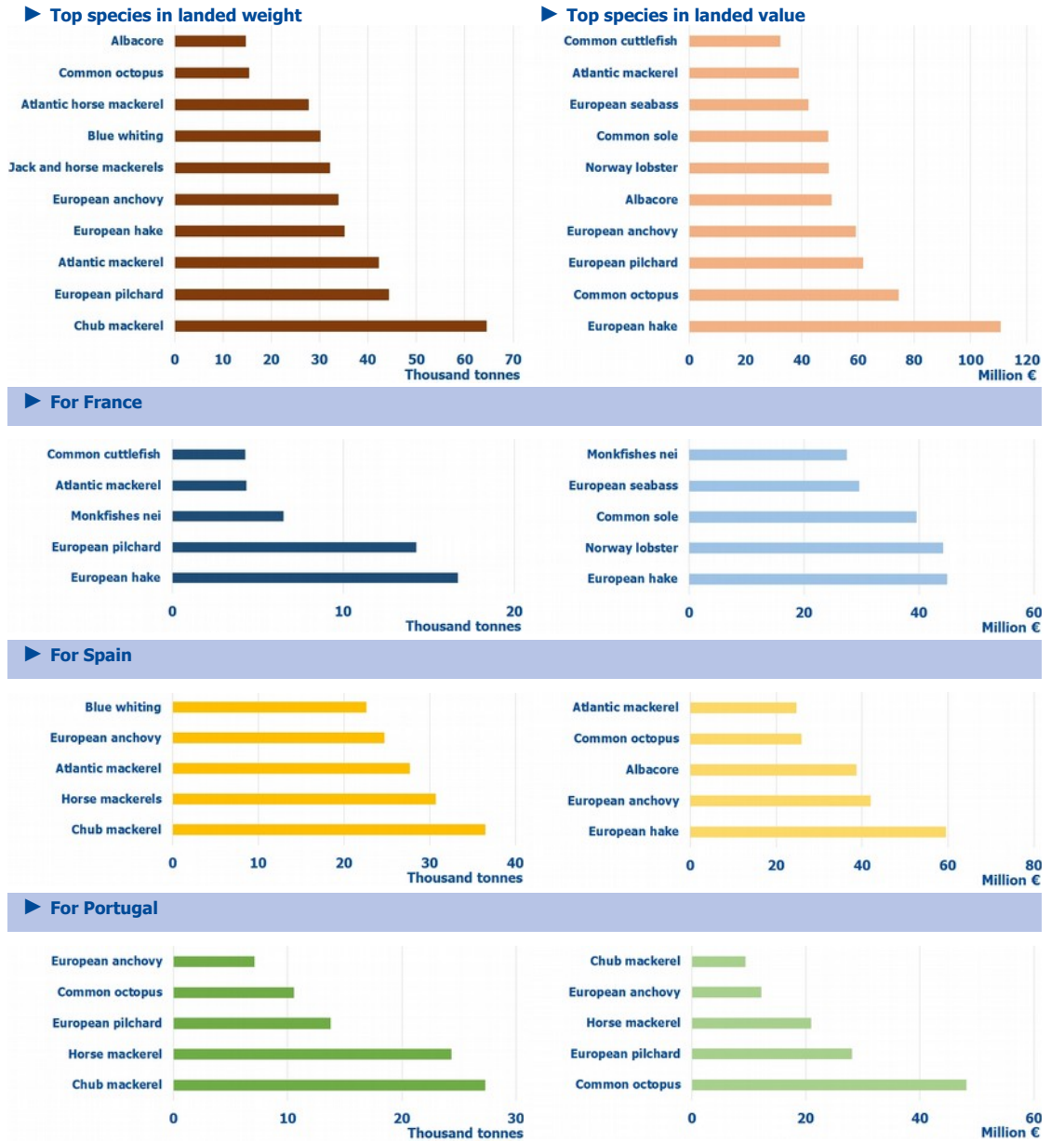


> Source : STECF – 2018 Annual Economic Report on the EU Fishing Fleet (STECF 18-07)

► Figure 12 – Landings by ICES division (2016)



► Figure 13 – Top species (2016)



The Common Fisheries Policy (CFP)

Exclusive competence of the European Union, the Common Fisheries Policy was first introduced in the 1970s and went through successive updates. The most recent reform came into force on 1st January 2014.

As stated in article 2 of regulation (EU) n°1380/2013 of 11 December 2013, The Common Fisheries Policy aim to "*ensure that fishing and aquaculture activities are environmentally sustainable in the long-term and are managed in a way that is consistent with the objectives of achieving economic, social and employment benefits, and of contributing to the availability of food supplies*".

The key objective of the reformed CFP is to achieve Maximum Sustainable Yield (MSY) by 2015 where possible and by 2020 at the latest for all fish stocks.

The second objective of the CFP is to ban the wasteful practice of discarding unwanted catches back into the sea, through the gradual introduction of a landing obligation which shall be implemented for all fisheries by 2019.

The Common Fisheries Policy has four main policy areas:

- fisheries management and sustainable exploitation of resources,
- external and international relations,
- common organisation of the markets in fisheries and aquaculture products,
- structural assistance through the European Maritime and Fisheries Fund (EMFF) 2014-2020,

Fisheries management and conservation measures can take the form of input controls, output controls, or a combination of both.

Input controls include:

- rules on access to waters,
- management of fishing capacity,
- technical measures.

Output controls mainly consist of limiting the amount of fish from a particular fishery, in particular through total allowable catches (TACs and quotas).

Under the new CFP, the adoption of conservation measures in the context of multi-annual fisheries management plans is become a priority in order to ensure transparency, predictability and stability.

Access to waters

As a general rule, European Union fishing vessels have equal access to all the Union waters and resources managed under the CFP.

There are however some temporary exceptions to this rule of equal access.

In the waters up to 12 nautical miles from baselines under their sovereignty or jurisdiction, access can be limited by Members States to fishing vessels that traditionally fish in those waters from ports on the adjacent coast, to vessels identified under existing neighbourhood relations and to vessels related to fisheries as listed in Annex 1 of regulation (EU) n°1380/2013.

These exceptions will expire by end 2022.

Between France and Spain, provisions of annex 1 for the project area are as follows:

Geographical area	Member State	Species	Importance or particular characteristics
Coastal waters of France and the overseas departments			
Atlantic Coast (6 to 12 nautical miles)			
Spanish/French frontier to 46° 08' N	Spain	Anchovies	Directed fishing, unlimited only from 1 March to 30 June Fishing for live bait from 1 July to 31 October only
		Sardines	Unlimited only from 1 January to 28 February and from 1 July to 31 December In addition, activities relating to the abovementioned species must be pursued in accordance with, and within the limits of, the activities pursued during 1984
Coastal waters of Spain			
Atlantic Coast (6 to 12 nautical miles)			
French/Spanish frontier to Cap Mayor lighthouse (3° 47' W)	France	Pelagic	Unlimited in accordance with, and within the limits of, the activities pursued during 1984

Between Spain and Portugal, the fisheries agreement regulating the activity of the fleets of each country in the territorial waters of the other was renewed in 2017 for five years. Of particular importance are the aspects of the agreement that regulate the activity of vessels in the vicinity of the mouth of the Minho and the Guadiana rivers. The main changes from the previous agreement are that certain restrictions on landing and reciprocal compliance with closed seasons for the trawler fleet in inland waters.

Management of fishing capacities

In accordance with article 22 of the regulation (EU) n°1380/2013, Member States are required to prepare annual reports on the situation of the fishing capacity of their fleets in relation to fishing opportunities, using biological, economic or technical indicators and/or supplementary information. To facilitate a common approach across the Union these national fleet reports are prepared following the Guidelines adopted by the Commission in 2014.

If a Member State identifies a structural imbalance, it must submit an action plan for the segment(s) concerned, setting out the adjustment targets, tools and a clear time-frame for its implementation.

To address these situations of imbalance, Member States can propose a variety of management tools in their action plans including:

- *fleet measures* (ban of new vessels, fleet conversion, reduction of the fishing capacity, permanent or temporary cessation of activities and modernisation of fishing fleet),
- *technical measures* (monitoring of landings, more selectivity or energy-efficient gear, permitting schemes for certain fisheries, space and time-related fishing restrictions),
- *economic measures* (support for development of marketing initiatives or assistance to improve competitiveness),
- *other measures*, such as measures to improve the cost-effectiveness of fishing vessels and safety at work on board, monitoring of landing through weighing of fishery products on automatic weighing and labelling machines, fishery inspection measures; real time closures, support measures in the EMFF Operational Programme (assistance for small-scale fleet vessels to meet requirements of the landing obligation, transposition of the legal requirements of the new CFP to promote a positive investment climate within the fishing industry, reduction of fleet activity).

In the project area, according to the latest 2018 annual reports from France, Spain and Portugal, three segments were considered as imbalanced:

- Spanish gillnetters between 18 and 24m in the "Cantabrian-NorthWest" national fishing ground (23 vessels) due to imbalanced economic indicators and dependence on overexploited stocks, mainly southern hake, blue whiting and mackerel,
- French netters between 12 and 18 m in the Bay of Biscay (35 vessels) due to dependence on overexploited stocks, mainly common sole,
- French vessels between 0 and 24 m fishing eel as a subsidiary activity in the Atlantic (435 vessels) due to the status of Atlantic eel stock.

In Portugal, no fleet segments were considered as structurally imbalanced.

Technical measures

Technical measures are rules governing how and where fishermen may fish. They aim to control the catch that can be taken with a given amount of fishing effort and also to minimise the impacts of fishing on the ecosystem. They form an integral part of the regulatory framework of most fisheries management systems including within Union waters.

Technical measures can be grouped into:

- measures that regulate the operation of the gear,
- measures that regulate the design characteristics of the gears that are deployed,
- minimum sizes below which fish must be returned to the sea,
- measures that set spatial and temporal controls (e.g. closed/limited entry areas and seasonal closures) to protect aggregations of juvenile or spawning fish,
- measures that mitigate the impacts of fishing gears on sensitive species (e.g. marine mammals, seabirds and turtles) or closed areas to protect sensitive habitats (e.g. coldwater coral reefs).

The history of technical measures applying in European fisheries legislation within the framework of the Common Fisheries Policy (CFP) is one of numerous regulations, amendments, implementing rules and temporary technical measures and led to a highly complex, heterogeneous and, sometimes, dis-jointed, system of provisions.

Besides, a retrospective evaluation carried out by the European Commission in 2014 has shown that the current technical measures have largely not delivered on the objectives of the previous CFP – Council Regulation (EC) 2371/2002 of 20 December 2002, in particular in some sea basins like the North-East Atlantic.

To address these issues, and considering the new challenges of the reformed CFP, the European Commission has put forward on 11 March 2016 a new framework proposal for technical conservation measures.

This proposal which is currently under review aims to:

- optimise the contribution of technical measures to achieving the key objectives of the new CFP,
- create the flexibility required to adjust technical measures by facilitating regionalised approaches,
- simplify the current rules in line.

TACs and quotas

Total allowable catches (TACs) or fishing opportunities, are catch limits (expressed in tonnes or numbers) that are set for most commercial fish stocks.

TACs are set annually for most stocks (every two years for deep-sea stocks).

Proposals are made by the European Commission on the basis on scientific advice on the stock status from advisory bodies such as the International Council for the Exploration of the Sea (ICES) and the Scientific, Technical and Economic Committee on Fisheries (STECF). They are approved by the Council of fisheries ministers.

For stocks that are shared and jointly managed with non-EU countries, the TACs are agreed with those non-EU countries.

TACs are shared between Member states in the form of national quotas. For each stock a different allocation percentage per EU country is applied for the sharing out of the quotas. The principle of relative stability, which is based in particular on historical catch levels, requires the maintenance of a fixed percentage for the main commercial species.

Fishing opportunities are allocated among the Member States in such a way as to ensure the relative stability of the fishing activities of each for each stock concerned.

Members States have to use transparent and objective criteria when they distribute the national quota among their fishermen. They are responsible for ensuring that the quotas are not overfished and, When all the available quota of a species is fished, they have to close the fishery.

In 2018, 34 TACs for 20 species have been set for the region of interest, mainly shared between Spain, France and Portugal but also, for some species, with other countries (Council Regulation (EU) 2018/120 of 23 January 2018).

Species	Management area	Final TAC 2018 (tonnes)	Countries
Boarfish	EU and int. waters of 6, 7 and 8	20 380	Denmark: 5 001 – Ireland: 14 084 United Kingdom 1 295
Anchovy	8	33 000	Spain 29 700 – France 3 300
	9 and 10 EU waters of CECAF 34.1.1	12 500	Spain 5 978 – Portugal 6 522
Cod	7b, 7c, 7e-k, 8, 9 and 10 EU waters of CECAF	3 076	Belgium 121 – France 1 984 – Ireland 757 United Kingdom 214
Megrims	8abde	1 218	Spain 674 – France – 544
	8c, 9 and 10 EU waters of CECAF 34.1.1	1 387	Spain 1 280 – France 64 – Portugal 43
Anglerfish	8abde	8 980	Spain 1 368 – France 7 612
	8c, 9 and 10 EU waters CECAF 34.1.1	3 955	Spain 3 296 – France 3 – Portugal 656
Haddock	7b-k, 8, 9 and 10 EU waters of CECAF 34.1.1	6 910	Belgium 77 – France 4 606 – Ireland 1 536 United Kingdom 691
Whiting	8	2 540	Spain 1 016 – France – 1 524
Hake	8abde	42 460	Belgium 19 – Spain – 13 065 France – 29 338 The Netherlands – 38
	8c, 9 and 10 EU waters of CECAF 34.1.1	9 258	Spain 5 924 – France 569 – Portugal 2 765

Species	Management area	Final TAC 2018 (tonnes)	Countries
Blue whiting	EU and Int. waters of 1 to 7, 8abde, 12, 14	401 363	Denmark 61 277 – Germany 23 825 – Spain 51 949 France 42 644 – Ireland 47 451 The Netherlands 74 720 – Portugal 4 826 Sweden 15 158 – United Kingdom 79 513 Norway 110 000 – Faroe Islands 10 000
	8c, 9 and 10 CECAF 34.1.1	53 473	Spain 42 778 – Portugal 10 695
Ling	EU and intl. Waters of 6, 7, 8, 9, 10, 12, 14	12 696	Belgium 48 – Denmark 8 – Germany 173 Spain 3 498 – France 3 730 – Ireland 935 Portugal 8 – United Kingdom 4 296 Norway 7 500 – Faroe Islands 200
Norway lobster	8abde	3 614	Spain 217 – France 3 397
	8c	0	Spain 0 – France 0
	9 and 10 EU waters of CECAF 34.1.1	381	Spain 95 – Portugal 286
Plaice	8, 9 and 10 EU waters of CECAF 34.1.1	395	Spain 66 – France 263 – Portugal 66
Pollack	8abde	1 482	Spain 252 – France 1 230
	8c	231	Spain 208 – France 23
	9 and 10 EU waters of CECAF 34.1.1	282	Spain 273 – Portugal 9
Saithe	7, 8, 9 and 10 EU waters of CECAF 34.1.1	3 176	Belgium 6 – France 1 245 – Ireland 1 491 United Kingdom 434
Skates and rays	EU waters of 8 and 9	4 326	Belgium 9 – France 1 640 – Portugal 1 330 Spain 1 338 – United Kingdom

Species	Management area	Final TAC 2018 (tonnes)	Countries
Undulate rays	EU waters of 8	30	Belgium 0 – France 12 – Portugal 9 Spain 9 – United Kingdom 0
	EU waters of 9	48	Belgium 0 – France 18 – Portugal 15 Spain 15 – United Kingdom 0
Mackerel	6, 7, 8a, 8b, 8d and 8e EU and int. waters of 5b int. waters of 2a, 12 and 14	326 014	Germany 20 743 – Spain 22 – Estonia 172 France 13 830 – Ireland 69 141 – Latvia 127 Lithuania 127 – The Netherlands 30 249 Poland 1 460 – United Kingdom 190 143 Norway 14 609 – Faroe Islands 30 877
	8c, 9 and 10 EU waters of CECAF 34.1.1	37 305	Spain 30 746 – France 204 – Portugal 6 355
Common sole	8ab	3 621	Belgium 45 – Spain 8 – France 3 319 – The Netherlands 249
	8c-e, 9 and 10 EU waters of CECAF 34.1.1	1 072	Spain 403 – Portugal 669
Picked dogfish	EU and int. waters of 1, 5, 6, 7, 8, 12 and 14	270 by-catch avoidance programme	Belgium 20 – Germany 4 – Spain 10 France 83 – Ireland 53 – The Netherlands 0 Portugal 0 – United Kingdom 100
Horse mackerel	EU waters of 2a, 4a 6, 7a-c, 7e-k, 8abde EU and int. waters of 5b int. waters of 12 and 14	99 470	Denmark 9 861 – Germany 7 694 – Spain 10 494 France 3 960 – Ireland 25 625 The Netherlands 30 871 Portugal 1 011 Sweden 675 – United Kingdom 9 279 Faroe Islands 1 600
	8c	16 000	Spain 14 335 – France 248 – Portugal 1 417
	9	55 555	Spain 14 373 – Portugal 41 182

Landing obligation

The reform of the Common Fisheries Policy of 2013 aims at gradually eliminating the wasteful practice of discarding through the introduction of a landing obligation

The landing obligation requires all catches of regulated commercial species on-board to be landed and counted against quota. These are species under TACs and quotas or, in the Mediterranean, species which have a minimum landing size.

The CFP provides for the progressive phasing-in of the landing obligation across fisheries and species, with full implementation as of the 1st January 2019.

In principle, details of the implementation of the landing obligation must be specified in a multiannual plan. These include the species covered, technical measures, the fixing of minimum conservation reference sizes where appropriate, high survivability exemptions, and de minimis exemptions of up to 5% of the total annual catches.

In the absence of a multiannual plan, article 15(6) of Regulation (EU) No 1380/2013 empowers the European Commission to adopt discard plans by means of a delegated act, for an initial period of no more than three years that may be renewed for a further total period of three years, on the basis of joint recommendations developed by Member States in consultation with the relevant Advisory Councils.

In the project area, the Commission has thus adopted several discard plans through so-called delegated acts in preparation of the implementation of the landing obligation:

- for demersal species:

Commission Delegated Regulation (EU) 2016/2374 of 12 October 2016 establishing a discard plan for certain demersal fisheries in South-Western waters

Commission Delegated Regulation (EU) 2017/2167 of 5 July 2017 amending Delegated Regulation (EU) 2016/2374 establishing a discard plan for certain demersal fisheries in South-Western waters

Commission Delegated Regulation (EU) 2018/44 of 20 October 2017 amending Delegated Regulation (EU) 2016/2374 establishing a discard plan for certain demersal fisheries in South-Western waters

Commission Delegated Regulation (EU) 2018/2033 of 18 October 2018 establishing a discard plan for certain demersal fisheries in South-Western waters for the period 2019-2021

- for pelagic species:

Commission Delegated Regulation (EU) 2016/2377 of 14 October 2016 amending Delegated Regulation (EU) No 1394/2014 establishing a discard plan for certain pelagic fisheries in South-Western waters

Commission Delegated Regulation (EU) 2018/188 of 21 November 2017 amending Delegated Regulation (EU) No 1394/2014 establishing a discard plan for certain pelagic fisheries in South-Western waters

Multi-annual plans

To date, in the project area, there are three main multi-annual plans in force for fisheries:

- The recovery plan for the northern stock of hake (Regulation (EC) n°811/2004)
This management plan, which aims to increase the quantities of mature fish in the Northern hake stock to at least 140 000 tonnes, concerns Spanish, French, Portuguese, Irish, UK, Dutch and Belgian fleets in the following areas: Kattegat, Skagerrak, North Sea, the Channel, West of Scotland, all around Ireland and Bay of Biscay.
- The recovery plan for hake and Norway lobster in the Iberian peninsula (Regulation (EC) n°2166/2005)
This plan aims to increase the spawning stock biomass of Southern hake to 35 000 tonnes for two consecutive years and, for Norway lobster, to rebuild stocks to within safe biological limits. It covers the Cantabrian Sea and Western Iberian Peninsula and concerns mainly the Portuguese and Spanish fleets.
- The multi-annual plan for sole in the Bay of Biscay (Regulation (EC) n°388/2006)
The objective of this plan was to bring spawning stock biomass to above the precautionary level of 13 000 tonnes in 2008. It covers the Bay of Biscay (ICES 8a and 8b) and concerns predominantly the French fleet and, to a lesser extent, the Belgian fleet.

All of these plans have been adopted prior to the 2013 CFP reform and several scientific assessments led mostly by the Scientific, Technical and Economic Committee for Fisheries (STECF) and the International Council for the Exploration of the Sea (ICES) have shown that they were not adapted to the objectives and requirements of the new CFP, in particular not addressing the specific objective of Maximum Sustainable Yield (MSY).

On 23 March 2018, a proposal has been made by the European Commission to replace these existing single-species based multi-annual plans adopted by separate regulations by bringing all plans for the different demersal stocks in the Western Waters into one single regulation.

The main element of the proposal which is currently under review are:

- simplifying fisheries management under one main regulatory framework, and repealing current plans in place for sole in the Western channel and Bay of Biscay, northern hake, southern hake and lobster,
- while fully respecting the 2020 objective of MSY, allowing a certain flexibility in setting the fishing opportunities, where such a flexibility is needed in order to manage for example mixed fisheries,
- following the precautionary approach for bycatch stocks, taking into account mixed fisheries,
- allowing provisions for the landing obligation and technical conservation measures to be put forward by the South Western Waters and North Western Waters Advisory Councils for their respective fisheries.

1.4.2 – Marine aquaculture

The marine aquaculture sector refers to the farming of aquatic organisms, such as marine fishes, molluscs, crustaceans and algae in sea and brackish waters.

In the project area, the marine aquaculture sector's sales for human consumption reached 316 thousand tonnes and 629 million Euros in 2016. If Spain has the largest production volume (71%), it only accounts for 35% in value, due to the relative low market value of mussels.

The shellfish sector, mainly mussels, oysters and clams, represented 95% of the volume produced. The marine fishes, mainly turbot, sea bream and sea bass accounted for only 5% in volume but almost 20% in value.

In Spain, mussel culture is by far the largest activity in the region of interest, with a production of 210 thousand tonnes in 2016 representing 93% of the volume production.

Spain is the main producer of mussels in Europe and the bulk of the whole Spanish mussels' production is harvested in the Galicia region where the mussel industry has a strong social and economic impact in the surrounding communities. Mussel farming is all based on the Mediterranean mussel specie. Rafts – floating platforms with pending ropes, is the dominant technique.

Mussel production is highly depended to the environmental conditions in the Galician estuaries, where red tides and harmful algae can close the production areas for long periods of time as it was the case in 2013.

The remaining mollusc production, with significantly lower volumes, was distributed between clams, on the Galician and southern coasts, and oysters on the Cantabrian and Galician coasts.

In regards with marine fish production, which accounted only for 5% in volume but nearly 40% in value, the main species produced were turbot in tanks, on the North Atlantic coast, and sea bream and sea bass, mainly in cages, on the Atlantic coast of Andalucía.

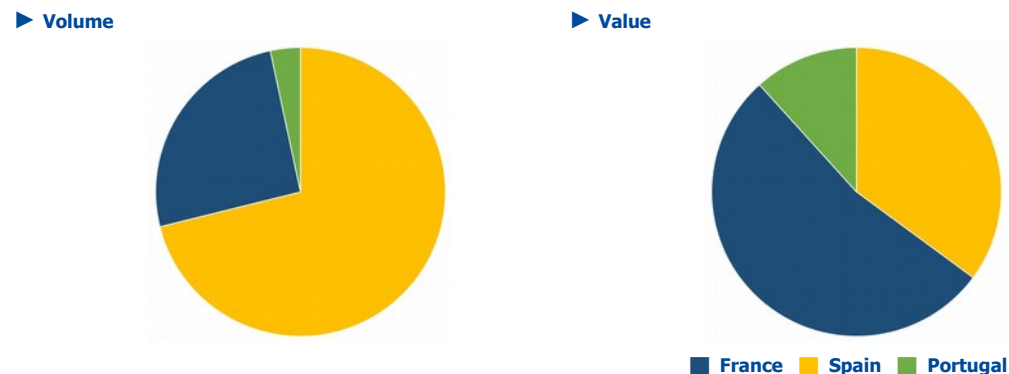
In France, the marine aquaculture sector in the project area is largely dominated by bivalve molluscs farming, especially Pacific cupped oysters and blue mussel. The activity is widely spread along the Atlantic coast and concentrated in several well defined areas: southern Brittany and areas around Bourgneuf Bay, Marennes-Oléron and Arcachon Bay, are major sites for shellfish farming.

France is the leading producer of oysters in Europe. On the Atlantic coast, sales nearly represented 67% in weight and 84% in value of the marine aquaculture production. Oysters are mainly produced in intertidal areas by elevated cultivation systems (bags on trestles).

Since 2008, the French oyster industry is facing to mortalities of spat (shellfish less than one year) in Pacific cupped oysters: between 60 and 90% mortalities in all breeding sites. This have impacted noticeably the production.

Blue mussel represents 30% in weight and 13% in value of the marine aquaculture production on the Atlantic coast. The predominant cultivation system relies on fixed wooden poles (so-called "bouchot" technique) used in intertidal areas. The long line technique is being developed on open sea areas. For some producers, this technique is complementary to the "bouchot" technique.

► Figure 14 – Share of marine aquaculture production by Member State (2016)



► Source : Eurostat – Aquaculture production at first sale for human consumption

Since 2014 a high mortality of mussels is observed in some production areas on the Atlantic coast (Bourgneuf Bay and Pertuis Breton). The mortalities have reached up to 100% on the long line for some professionals and 50-80% of the "bouchot" cultivation system.

In Portugal, despite favourable natural conditions, the marine aquaculture sector is still relatively modest with 10,5 thousands tonnes produced in 2016 for a total value of 73,5 million Euros. The sector has nevertheless experienced a significant growth in the last few years with an increase of 48% of the volume production since 2006 and 80% of the value.

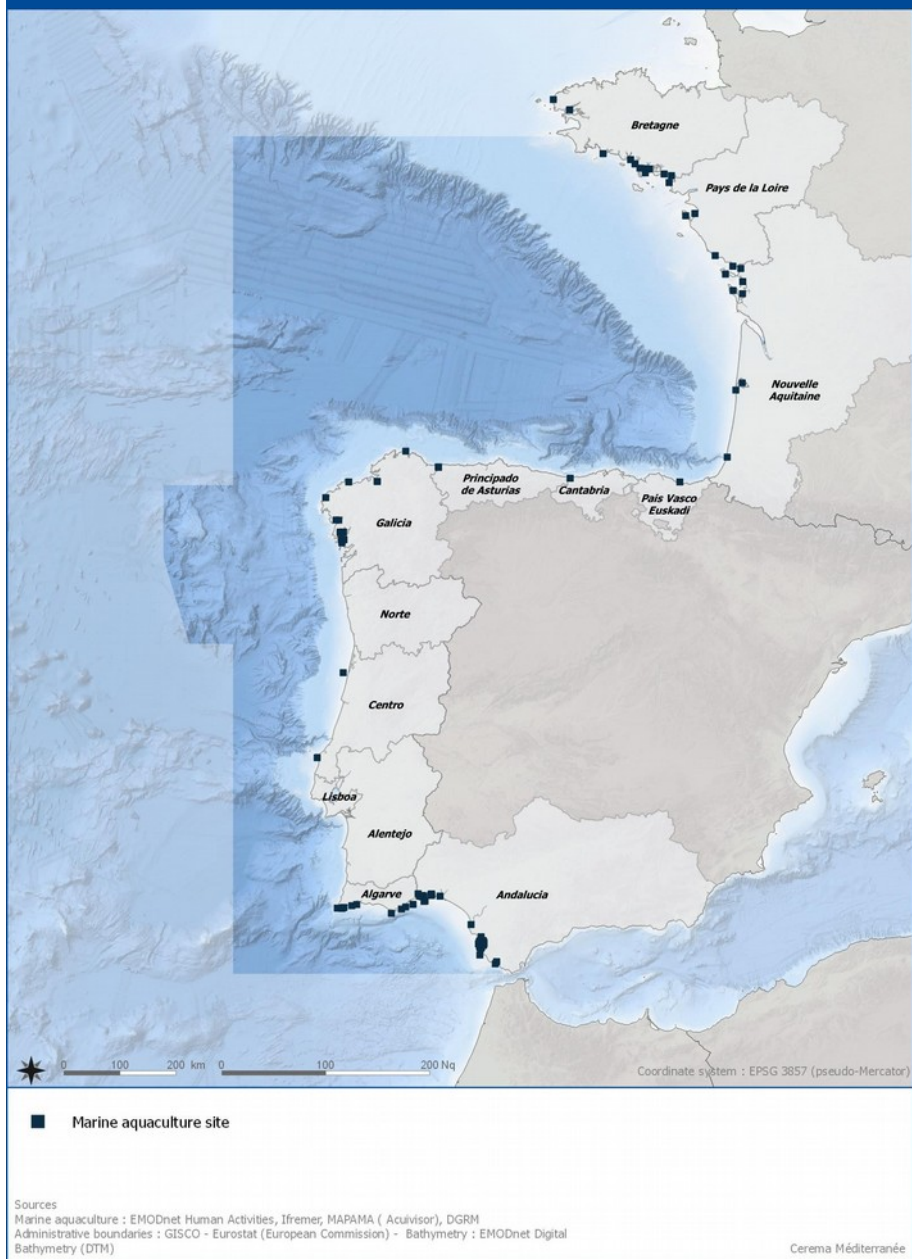
The most important segment, in terms of production weight and sales value, is the bottom culture of clams, mainly confined to estuaries and coastal lagoons, in small areas in intertidal zone, usually with less than 1 hectare. The production volume was 3 620 tonnes in 2016 with a value of 34,5 million Euros, representing 36% of the total volume and 51% of the total value of production.

The remaining mollusc production was distributed between oyster culture – using bags and tables in intertidal zones, or long lines in open sea – and mussels culture in long lines in open sea in south region of the mainland.

As for marine fishes, the most important segment, which accounted for 23% of the volume and 25% of the value total production, was turbot produced in tanks and recirculation systems.

With about 15% in volume and value of total production, sea bass and sea bream farming is also an important segment. It is mostly characterized by traditional production using earth ponds but more intensive techniques like cages are also used.

▶ Figure 15 – Marine aquaculture sites

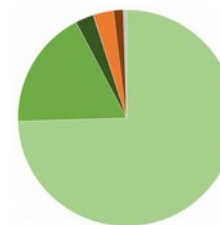


▶ Figure 16 – Share of marine aquaculture production by species (2016)

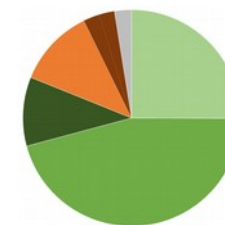
▶ Production

316 000 tonnes
 629 million Euros

▶ Volume

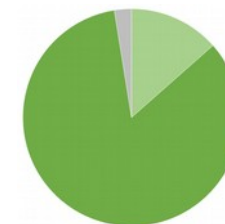
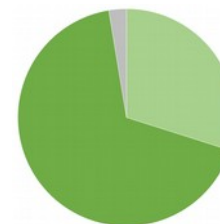


▶ Value



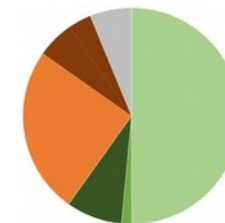
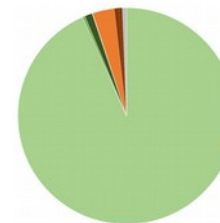
▶ For France

80 500 tonnes
 334,5 million Euros



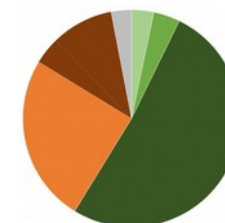
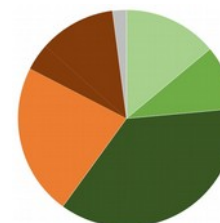
▶ For Spain

225 000 tonnes
 221 million Euros



▶ For Portugal

10 500 tonnes
 73,5 million Euros



■ Mussels ■ Oysters ■ Clams ■ Turbot ■ Sea bream and sea bass ■ Others species

> Source : Eurostat – Aquaculture production at first sale for human consumption

The multiannual national aquaculture plans

The reformed Common Fisheries Policy (CFP) had placed an increased emphasis on the sustainable development of aquaculture, one of the five pillars of the European Commission's Blue Growth Strategy. As established in the new basic regulation for the CFP (Regulation (EU) n°1380/2013), Member States were due to submit multiannual national strategic plans for the development of aquaculture activities on their territory by 30 June 2014. The multiannual national plans include the Member States' objectives until 2020 and beyond, and the measures necessary to achieve them.

In 2013, The European Commission published the Strategic Guidelines for the sustainable development of EU aquaculture to assist the Member States in defining their own national targets, taking account of their relative starting positions, national circumstances and institutional arrangements. The Guidelines address four priority areas:

- simplifying administrative procedures,
- securing sustainable development and growth of aquaculture through coordinated spatial planning,
- enhancing the competitiveness of EU aquaculture,
- and promoting a level playing field for EU operators by exploiting their competitive advantage.

In Spain, the national strategic plan attempts for an increase in production of 20% in volume – 27% for fresh water fish farming, 32% for marine fish farming and 17% for shellfish farming – and 26% in value during the period between 2012 to 2020.

In order to fulfil these expectations, a set of 8 strategic objectives have been proposed in line with the four pillars defined in the guidelines provide by the Commission:

- simplification of the administrative procedures and harmonization of the legal framework across the autonomous regions,
- improvement of spatial planning and selection of new farm locations,
- reinforcement of environmental aspects,
- promotion of animal safety and welfare,
- reinforcement of competitiveness through R+D+I,
- support and improvement of existing training tools,
- promotion of processing marketing and internationalization,
- improvement in the awareness of farmed products value by mean of communication campaigns.

These strategic goals were divided into 541 specific actions to be undertaken during the implementation period. 38 of these actions are projected at the national level while the other 503 are to be implemented at regional level.

In Portugal, the multiannual national plan aims to "*increase and diversify the supply of products of national aquaculture, based on the principles of sustainability, quality and food safety, to meet consumer needs*". The target for the national aquaculture presents a strong growth in the next years, especially concerning the exploitation of new open sea areas, and set an increase in productive capability of about 25 000 tonnes by 2023.

The interventions to reach the strategic goal for the aquaculture sector in Portugal are grouped in three axes, each one of which with specific goals and corresponding actions and/or projects to implement:

- simplify the administrative proceedings in order to reduce the deadlines and administrative steps needed for the licensing process,
- facilitate the access to the space and water with the aim to identify spaces with water resources with higher potential for aquaculture and having lesser environmental impact,
- reinforce the competitiveness of the aquaculture and promote equal conditions for the EU operators, with the aim to increase, diversify and value the national aquaculture production.

The majority of these objectives are expected being achieved by 2020. Since 2017 and the decree-law n°40/2017, of April, a new consent process has been defined for the installation and operation of marine culture establishments. In the draft situation plan (second version for public consultation – December 2018), new potential and specific areas have been identified for open ocean aquaculture production. Based on the methodology used for the situation plan, a plan for aquaculture in brackish waters and coastal lagoons is currently under development.

In France, the expected growth objectives are an increase of 47 000 tonnes by 2023, with maintaining of shellfish production and increasing freshwater and marine fish farming, and an increase of 343 million Euros of production value. Five main objectives have been defined:

- improve the governance of the interfaces between administrations and professionals,
- strengthen the role of aquaculture in the territories and develop employment.
- develop the sustainability of aquaculture production activities
- increase the value of products,
- better develop and share skills, knowledge and innovation for aquaculture development.

In regards with spatial planning, the regional aquaculture development schemes (*SDRAM – Schémas régionaux de développement de l'aquaculture marine*) are highlighted as "best practise" in the national plan. Established by the law n°2010-874 of 27 July 2010 for the modernisation of agriculture and fisheries, these regional schemes aim to identify suitable new sites for the development of the sector. They are elaborated in association with local stakeholders, especially fisheries and aquaculture committees. In the project area, SRDAM have been approved in 2012 for the Aquitaine and Poitou-Charentes regions and have been taken into account in the sea basin strategy documents.

1.4.3 – Oil & Gas

The activity includes the research and exploitation of offshore hydrocarbons. In the project area, unlike other OSPAR regions, only minor oil and gas activities take place. Two offshore installations are currently operational:

- "Poseidon" in the Gulf of Cadiz: located 30 km from the coast in shallow waters, the exploitation of these natural gas deposits began in 1997. After a shutdown between 2007 and 2009, exploitation resumed in 2009 after the discovery of new reserves. However, production, of 5 Mm³ in 2016, remains since well below the peak production of 52 Mm³ obtained in 2002. The concession will expire in 2025.
- "Gaviota" in the Bay of Biscay: located 8 km off the coast of Bermeo in Spanish Basque Country, these natural gas deposits have been exploited between 1986 and 1994 until the gas field depletion. It has been since converted to an underground gas storage facility located at a depth of 2 150 m.

Despite the exploration works performed so far, the region of interest is nevertheless considered as under-explored, with potential for petroleum and gas discoveries. Four exploration licenses are currently in force: in Spain, the "Fulmar" permit near the Gaviota underground storage facility and, in Portugal, three concessions in offshore Alentejo (Lavagante, Santola and Gamba areas) for which only one title of private use of maritime space was emitted to date for a prospective drilling.

In Spain, two applications for exploration licenses are also under review: "Cuelebre 1-2" located near Gijón and "Mesana 1-5" located offshore Bilbao.

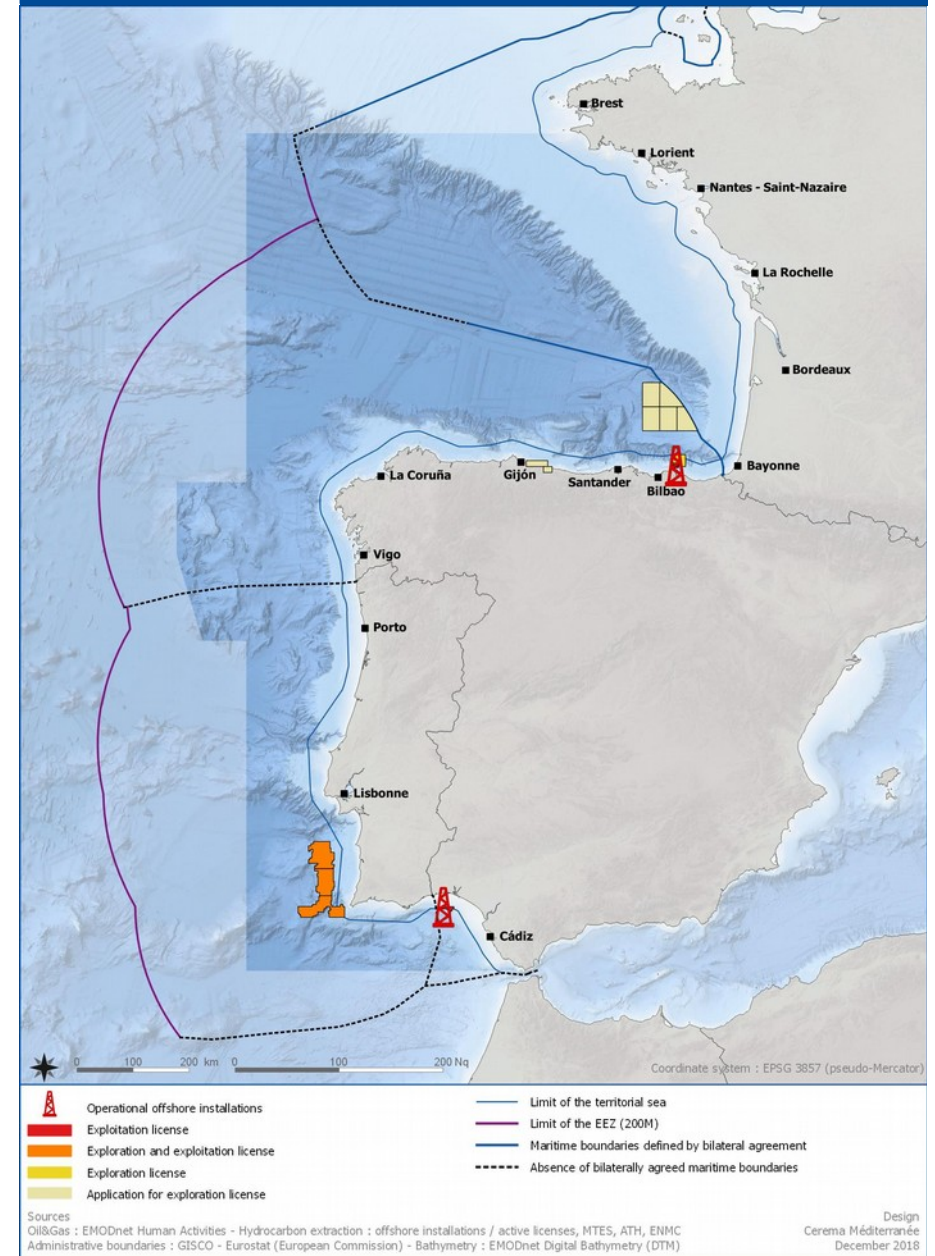
But given the ambitious European Union's climate change commitments and the implementation of the low-carbon and clean energy transition, the concerns about safety and the marine environment, and an increasing social and public opposition to these projects, the development of this activity should remain very modest in the next few years.

In Spain, if the national Energy Security Strategy approved by the National Security Council at its meeting of 20 July 2015 sets among its objectives to "foster the use of indigenous sources in order to diversify the energy mix and reduce external dependence" and to "encourage the exploration and exploitation of hydrocarbon deposits and the design of feasibility plans for extracting these resources within the territory under environmentally appropriate conditions", future trends for this activity will be conditioned by the future law on climate change and energy transition currently under discussion.

In Portugal, in absence of a national strategy for the sector, no potential areas have been identified in the draft situation plan (second version for public consultation – December 2018) for the development of this activity which, if necessary, will require the definition of an allocation plan.

In France, following the national strategy for the sea and coast, approved by decree n°2017-22 of 23 February 2017, which has established a moratorium on the search for hydrocarbons in the Mediterranean and in the Atlantic, the law n°2017-1839 of 30 December 2017 has put an end to research and exploitation of hydrocarbons in a general way in France. Its main measures are to no longer grant new hydrocarbon exploration licenses, to stop the exploitation of hydrocarbons by 2040 and to strengthen the shale gas research and exploitation ban.

► Figure 17 – Oil & Gas / Offshore installations and licenses



1.4.4 – Marine aggregates

The marine aggregates sector considers the exploration, exploitation and extraction of marine sediment from the seabed, mainly sand and gravel, that are assessed and licensed for specific purpose as construction, beach nourishment/coastal protection or fill purposes. Sand and gravel may also be generated as a by-product of another activity, such as maintenance or capital dredging. In these instances, the sediment removed through these processes may be reused. Such dredging operations may not be controlled or managed in the same way as licence or borrow areas awarded specifically for the production of sediment. Therefore, they are not considered in this chapter.

In the project area, 2 to 2,5 million m³ of marine aggregates are extracted each year mainly in France for the construction industry.

With around 3 million m³ extracted in 2016, for 2/3 in the Atlantic sea-basin and 1/3 in the Channel sea-basin, French marine aggregates production make up about 2% of national production. It is a resource of proximity for coastal areas and a complement to the production from land quarries increasingly constrained by environmental protections and the depletion of accessible reserves.

If materials extracted are dominated by sand and gravel, other non-aggregate materials, such as shelly sands off the coast of North Brittany, are also dredged in limited quantities for the agricultural soil improvement, for water treatment and for animal feed. France does also extract sand for beach replenishment but data are not available.

In the region of interest, extraction takes place in nine licensed areas (33,8 km²) for a maximum total volume authorized of 4 722 000 m³. Two exploration licenses (863,43 km²) have also been granted and a new application for an exploitation license is currently under review (12,14 km² / 2 000 000 m³)

The depth of extraction, around thirty-five to forty meters for the most recent licensed areas, is conditioned by the length of dredging vessels, which itself depends on the capacity of the harbour facilities to accommodate them.

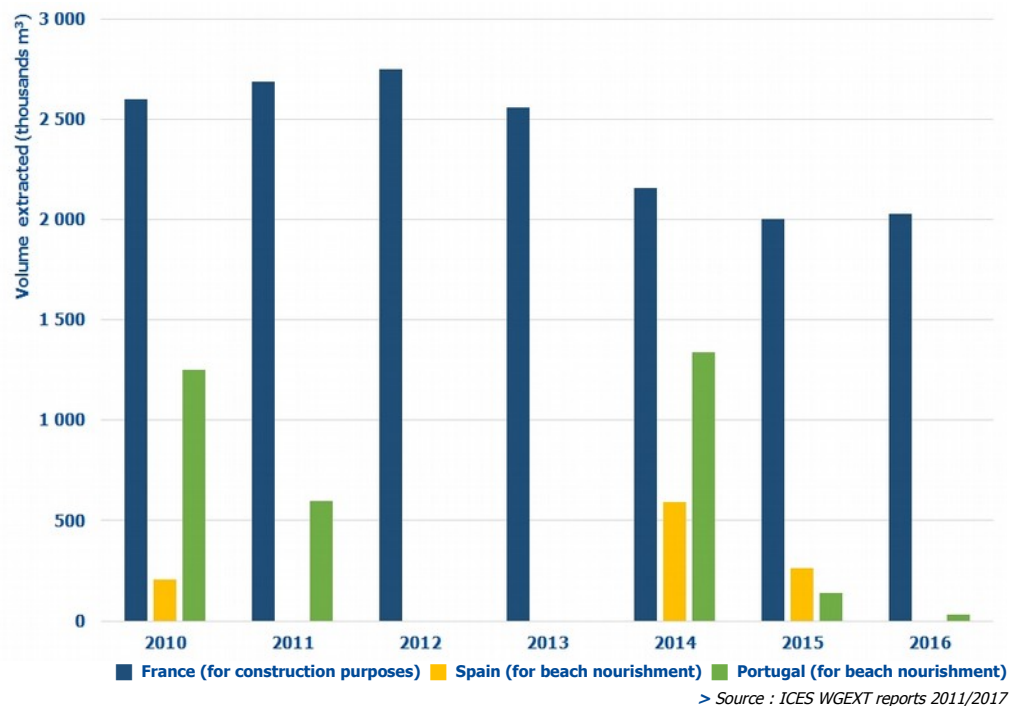
Materials extracted are mainly used in a 50 km area around the reception harbours, for the supply of concrete plants and concrete products prefabrication plants.

In 2012, the national strategy for a sustainable management of marine and terrestrial aggregates and quarry materials and substances set out, among other objectives, the management of the development of marine aggregates' use and exploitation within an integrated maritime policy framework.

To reach this goal, document guidance for sustainable management of marine aggregates (*DOGGM – document d'orientation pour une gestion durable des granulats marins*) have to be drafted within the MSFD program of measures framework for each French marine sub-region except the Mediterranean.

The DOGGM aim to provide a decision-making framework for marine aggregates exploration and exploitation projects, taking into account environmental sensitivities and socio-economic needs. They have to be taken into account in the sea basin strategy documents.

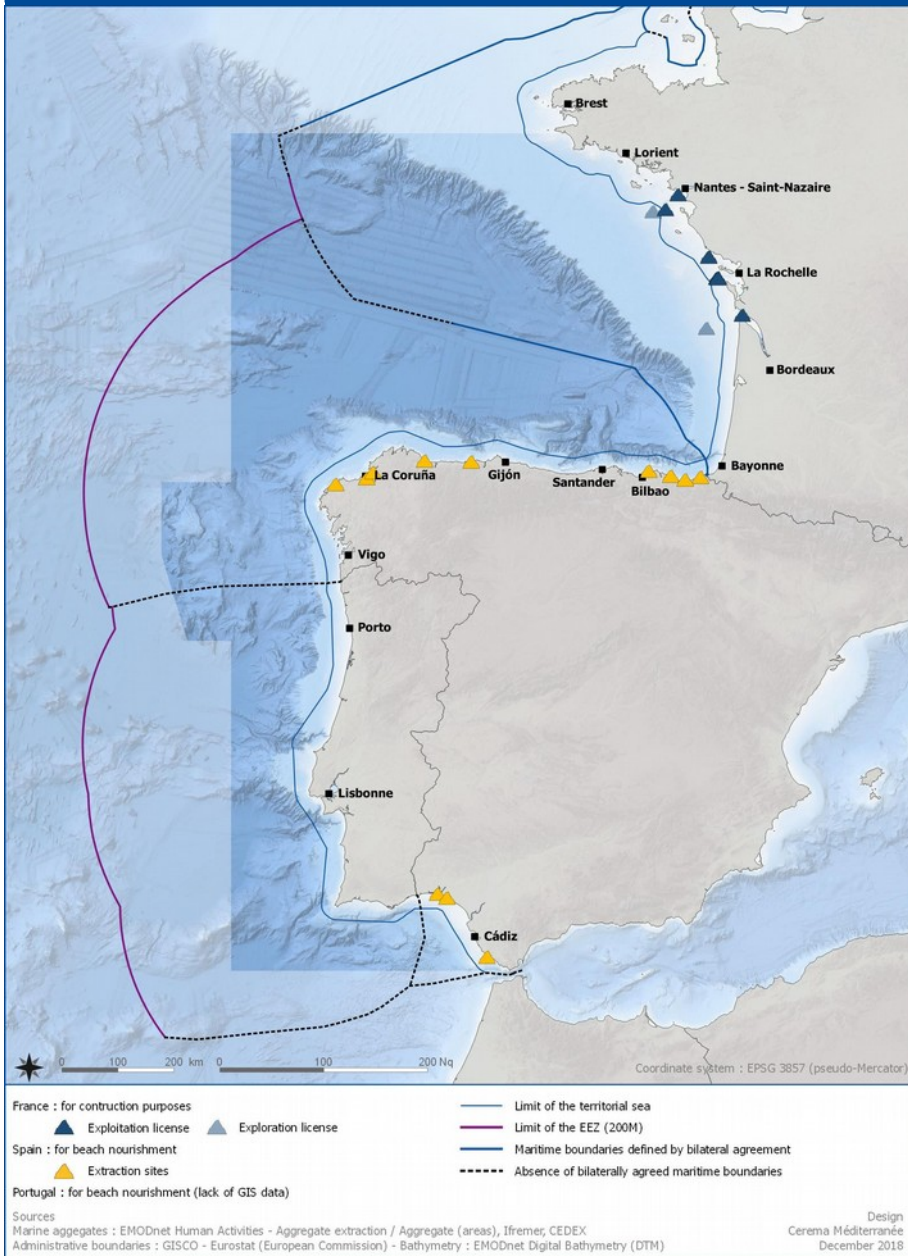
► Figure 18 – Trends in marine aggregates extraction (2010 – 2016)



In the project area, development of this activity should however remains limited in the next few years.

As stated in the draft DOGGM for the North Atlantic – West Channel sea basin (Annex 9 of the draft sea basin strategy document – version submitted to the environmental authority – November 2018), and considering that authorized volumes to date should be sufficient to respond to demands, no new licence increasing the total authorized production volume will be granted for the exploitation of marine aggregates throughout the sea-basin until 2031. For the South Atlantic sea basin, the elaboration of the DOGGM has not yet been engaged.

▶ Figure 19 – Marine aggregate extraction sites



In Spain, marine aggregates extraction for construction purposes has been prohibited since the entry into force of the Coastal Law 22/1988, of July 28.

According to the legislation in force, the only extractive activities that can be carried out are:

- sand extraction for beach creation and regeneration (regulated by the Coastal Law),
- port dredging for the construction or maintenance of ports and waterways (regulated by the law 48/2003, of November 26, concerning the economic system and service supply in ports of general interest, and also subject to the Coastal Law in relation to coastal matters),
- dredging activities carried out outside the public port domain for land reclamation in port areas (regulated by the same standards).

Between 2010 and 2016, 1,06 million m³ of marine sand deposits along with 0,97 million m³ of harbours dredged materials have been used to beach nourishment all along the Atlantic coast, from the Basque Country to the gulf of Cádiz with the main objective being to improve the amenity value of beaches.

Because of climate change impacts and rising sea levels, demand for sediments is likely to increase in the next few years. The need to carry out new port infrastructures and/or works to support economic development could also lead to increasing demands.

In Portugal, coastal erosion, coupled with the effects of climate change, has created a complex situation along the coast. In the last two decades, artificial beach feeding has been used as a way to stabilize the current coastline and to reduce the impacts of coastal erosion on certain urban centres.

Between 2010 and 2016, 36 million m³ of marine aggregates have been extracted for beach nourishment purposes, mainly in the Tejo and Algarve regions.

In 2015, a working group on sediments was established by the order n°3839/2015, of April 17, to prepare large scale beach nourishment schemes in areas most exposed to coastal erosion.

Four priority areas have been identified: south of Espinho, Aveiro, Figueira da Foz and North of Costa da Caparica, for a total of 56 km of coastline.

The working group have also identified the strategic marine sands deposits required for these operations.

These sectors, along with those identified in the coastal zone programs and/or management plans (*POC/POOC – Programa da Orla Costeira / Plano de Ordenamento da Orla Costeira*), are identified as "servitudes and administrative restrictions" areas in the draft situation plan (second version for public consultation – December 2018).

As regards with marine aggregates extraction for construction purposes, one dredging enterprise was licensed in 2010 for exploration in eight areas of the mainland continental shelf between the –20 and –50m contours. If exploration studies have occurred in six of the eight areas, all processes are in dispute today.

Considering that it should not be necessary to extract marine aggregates for construction purposes on mainland Portugal over the next ten years, no potential areas have been identified in the draft situation plan (second version for public consultation – December 2018) for the development of this activity which, if necessary, will require the definition of an allocation plan.

1.4.5 – Ports & Shipping

With 36 commercial ports, ranging from major all-purpose ports, specialised container ports, ports catering for specialised bulk traffic to smaller ports essentially catering for local traffic or specialising in particular sectors, the project area is characterized by an important port activity.

In France, on the Atlantic coast, there 3 major seaports (GPM – Grand port maritime: Nantes-Saint Nazaire, La Rochelle, Bordeaux) supervised by French State and 8 decentralized ports owned by local authorities and their groupings (Brest, Dournanez, Concarneau, Lorient, Les Sables-d’Olonne, Rochefort, Tonnav-Charente, Bayonne).

In Spain, in the region of interest, the State-owned Spanish port system includes 17 ports of general interest, which are managed by 13 port authorities: A Coruña, Avilés, Bahía de Cádiz (ports of Cádiz, Santa María, Zona Franca and Cabezuela), Bilbao, Ferrol – San Cibrao (ports of Ferrol and San Cibrao), Gijón, Huelva, Marín y Ria de Pontevedra, Pasaia, Sevilla, Santander, Vigo and Vilagarcía de Arousa. They are supervised and coordinated by a State Ports Public Body (*OPPE – Organismo Público Puertos del Estado*) which is responsible for implementing the government's port policy according to the Royal Decree 2/2011, of September 5.

In Portugal, the mainland port system is made of 6 ports authorities and 11 ports: port authority of Douro, Leixões and Viana do Castelo, port authority of Aveiro, port authority of Figueira da Foz, port authority of Lisboa, port authority of Setúbal and Sesimbra, port authority of Sines and Algarve (Faro and Portimão). They are supervised by an independent administrative entity (*AMT – Autoridade da Mobilidade e dos Transportes*) whose mission is to regulate the mobility and transport sector on land, waterways, railways and related infrastructure, and economic activity in the sector of commercial ports and maritime transport.

In 2016, the total gross weight of goods handled in the project area's ports reached about 272 thousand tonnes. Close to 4,2 million twenty-foot equivalent units (TEUs) were handled in total.

If Spain, with nearly 50 % of the total gross weight of goods handled, is the main maritime freight transport country in the region of interest, Portugal is the first in term of containers, with 64% of the total number of TEUs handled.

Sines, Bilbao, Huelva and Nantes-Saint-Nazaire are the largest freight ports, where, in particular, transportation of hydrocarbons is concentrated, whereas container shipping is largely controlled by Sines, Leixões and Bilbao.

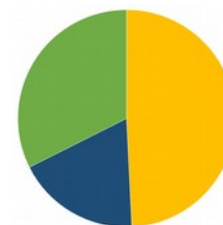
Overall, liquid bulk goods accounted for 42% of the total cargo handled, followed by dry bulk goods (35%) and other cargo, included containerised goods (23%). In France, share of liquid bulk goods was more important (54% of the total), whereas in Portugal share of containerised goods reached almost 39%

Inward movements accounted for more than 59 % of the total tonnes of goods handled. Liquid bulk goods, such as crude oil and oil products, make up a substantial proportion of the inward tonnage, especially in France where inward movements represented 68% of the total.

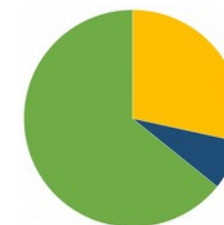
With the exception of France, volumes handled have returned to pre-crisis levels and, in the case of Portugal, have even surpassed them.

► Figure 20 – Share of goods handled by Members States (2016)

► Gross weight of goods handled



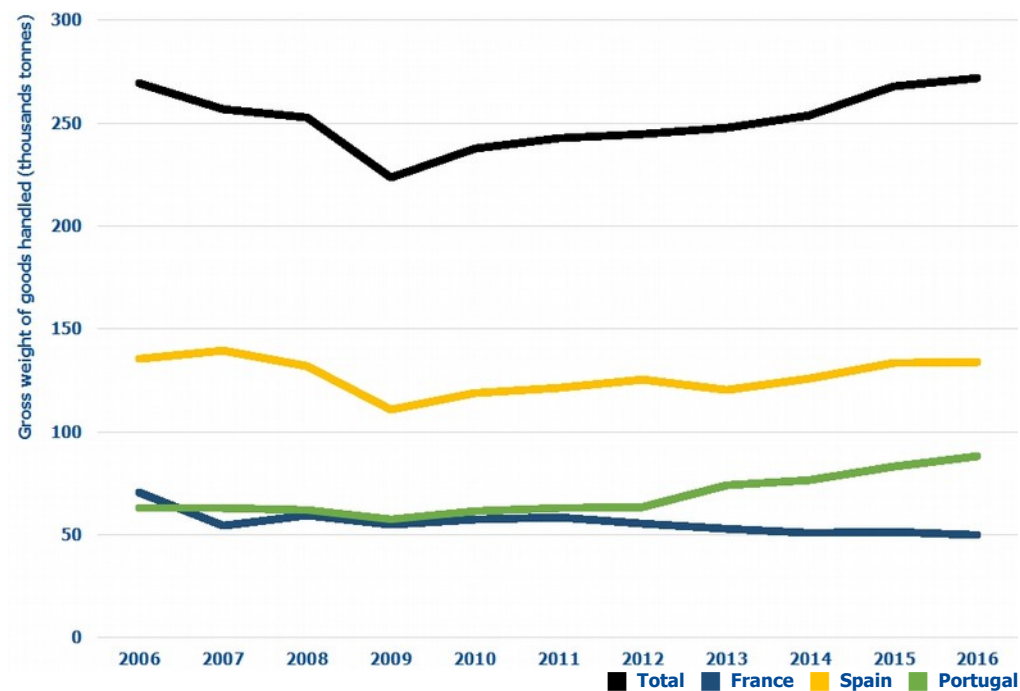
► Volume of containers (TEU)



■ France ■ Spain ■ Portugal

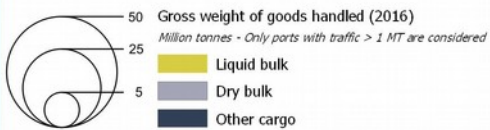
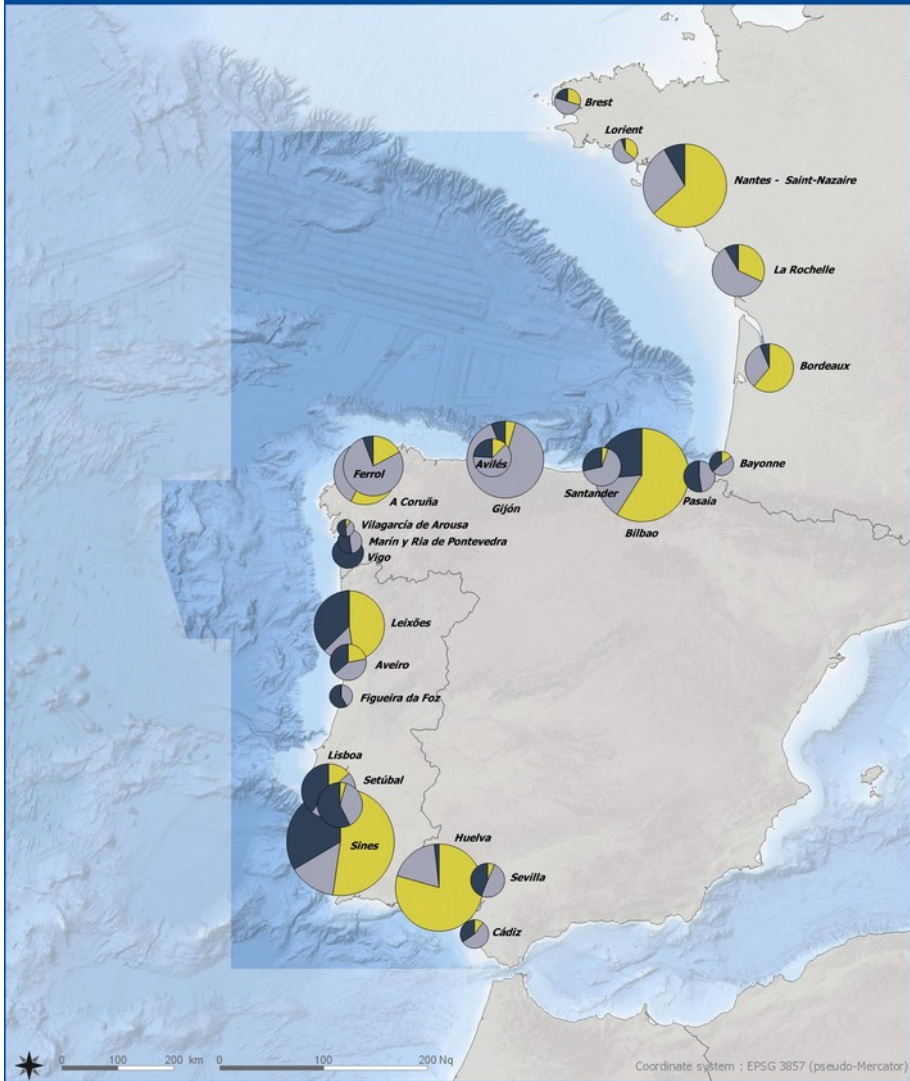
TEU: twenty-foot equivalent unit > Source : Eurostat – Gross weight of goods / Volume of containers handled

► Figure 21 – Trends in gross weight of goods handled (2006 – 2016)



> Source : Eurostat – Gross weight of goods handled in all ports

▶ Figure 22 – Gross weight of goods handled by port (2016)



Sources
 Gross weight of goods handled : Eurostat - Maritime transport
 Administrative boundaries : GISCO - Eurostat (European Commission)
 Bathymetry : EMODnet Digital Bathymetry (DTM)

Design : Cerema Méditerranée - December 2018

▶ Figure 23 – Gross weight of goods handled by type of cargo (2016)

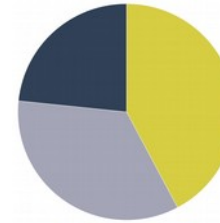
▶ Gross weight of goods handled

271 700 tonnes

▶ Volume of containers

4,182 million TEU

▶ Type of cargo



▶ Direction of flow



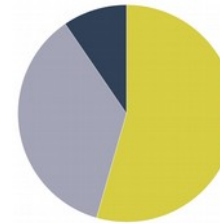
▶ For France

▶ Gross weight of goods handled

49 900 tonnes

▶ Volume of containers

0,308 million TEU



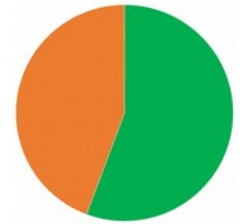
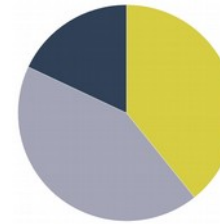
▶ For Spain

▶ Gross weight of goods handled

133 800 tonnes

▶ Volume of containers

1,188 million TEU



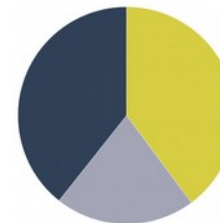
▶ For Portugal

▶ Gross weight of goods handled

88 000 tonnes

▶ Volume of containers

2,686 million TEU



■ Liquid bulk ■ Dry bulk ■ Other cargo / ■ Inwards ■ Outwards

TEU: twenty-foot equivalent unit > Source : Eurostat – Gross weight of goods / Volume of containers handled

Over the last 25 years, the Spanish, French and Portuguese port systems have undergone numerous legal reforms and changes in port policy and management, and, broadly speaking, have gradually moved from the service port model in France and Spain, or the tool port model as it was the case in Portugal, to the "landlord" model which is currently the most widespread in Europe.

If these port devolution processes and changes in ports governance have shown different patterns depending on the country, their common objectives were to improve port competitiveness and efficiency to address the major trends in international maritime transport: the international containerization process, the increase in vessel size to favour economies-of-scale, the development of port-logistics-industrial clusters, technological improvements and the intensive introduction of information and communication technologies into maritime transport management, improvements in the infrastructure that connects a port and its hinterland.

This, in turn, had an impact on the better integration of distribution channels, and the stepping-up of short sea shipping and the more sophisticated Motorways of the Sea.

In Portugal, a new strategy for enhancing the competitiveness of the mainland ports network – Horizon 2026, has been approved in 2017 (Resolution of the Council of Ministers n°175/2017, of November 16).

The strategy, which aims to boost port activity and administrative simplification, addresses three strategic objectives: adapt infrastructures and equipments to increase the size of vessels and demands, and connections to the hinterland, improve operational conditions of port units, and create platforms for technological acceleration and new skills in ports.

In Spain a revision of the national strategic framework of the general interest port system has been engaged by Puertos del Estado in October 2018 with the view of drawing the future scenario of ports and reformulating their strategic development bases, the criteria for action and the general objectives. A series of consultations has been launched with the 28 Port Authorities integrated in the port system of general interest to gather their opinions and proposals on the following issues: vision and mission of the ports of general interest, governance of the port system, port planning and management, economic and financial regime, human resources.

The final document, which is expected to be approved in 2019, will include the strategic development model, the criteria for action, as well as the general technical, economic, financial and human resources management objectives of the entire port system.

In France, with the ambition set in the national strategy for the sea and coast adopted by the decree n°2017-22 of 23 February 2017 to "make France the main European port", the development of a new national port strategy has been announced during the Interministerial Committees for the Sea of 17 November 2017 and 15 November 2018.

The main objective of this strategy will be to transform the economic model of ports and develop their competitiveness and attractiveness against their European competitors.

The strategy will also aim to improve inter-port cooperation, especially for the axes "Seine", "Manche/mer du Nord" and "Méditerranée-Rhône-Saône" and to set a high-performance and sustainable governance of these axes.

On the Atlantic coast, if the port of Nantes – Saint Nazaire will remain a major seaport, a devolution process of the major seaports of Bordeaux and La Rochelle to local authorities is to debate.

Box 2 – European maritime transport and ports policy

In January 2009, the European Commission published a communication on the main strategic goals and recommendations for the European maritime transport system up to 2018. A wide range of challenges was identified:

- EU maritime shipping in globalised markets and in the face of increased competition,
- human resources, seamanship and maritime know-how,
- the long-term objective of "zero-waste, zero-emission" for maritime transport,
- improvement in maritime safety & security,
- establishment of a true "European maritime transport area without barriers" and exploitation of the full potential of short sea shipping,
- maritime research and innovation to improve the energy efficiency of ships, reduce their environmental impact and provide better quality of life at sea.

On 23 May 2013, the European Commission adopted a new initiative to improve port operations and onward transport connections at 329 key seaports along Europe's coastline.

This initiative comprised a proposal for a regulation establishing a framework on market access to port services and financial transparency of ports, which was adopted on 15 February 2017, and a communication "Ports: an engine for growth" that reviewed the European port policy and announced additional actions to deliver the following objectives:

- connect ports to the trans-European network,
- modernise port service,
- attract investment to ports,
- promote the Social Dialogue,
- raise the environmental profile of ports,
- encourage innovation.

In the project area, 24 seaports have been identified under the trans-European transport network (TEN-T) regulation (EU) n°1315/2013 to become part of a unified network boosting growth and competitiveness in Europe's single market:

- 14 belong to the comprehensive network that will ensure effective connections to all EU regions and is to be completed by 2050,
- 10 to the core network which prioritize the most important and strategically nodes of the TEN-T, and is to be completed by 2030: Nantes, Bordeaux, Bilbao, A Coruña, Huelva, Sevilla, Leixões, Lisboa, Sines.

Box 3 – Maritime traffic and maritime safety

The project area is crossed by important shipping lanes and, in particular, encloses one of the busiest sea lanes in the world – the route taking vessels through the Suez Canal and Straits of Gibraltar to North Europe.

Due to the number of ships and the quantities of dangerous or polluting goods transported, a number of measures and regulations have been established to prevent accidents and pollution at sea and to minimise their impact on the marine and coastal environment, the economy and the health of local communities.

The region of interest is part of the Particularly Sensitive Sea Area" (PSSA) of the Western European Waters. This PSSA was designated by the IMO in 2004 due to its ecological, social, economic, cultural, scientific and educational value (resolution MEPC.121(52) adopted on 15 October 2004). The PSSA imposes a mandatory ship reporting system, applicable to all oil tankers over 600 deadweight tons.

Vessel traffic services and ships' routing systems have also been introduced and are playing an important part in the efficiency of navigation and/or protection of the marine environment in certain shipping areas which are congested or hazardous for shipping.

Four traffic separation schemes (TSS) are in place in the project area:

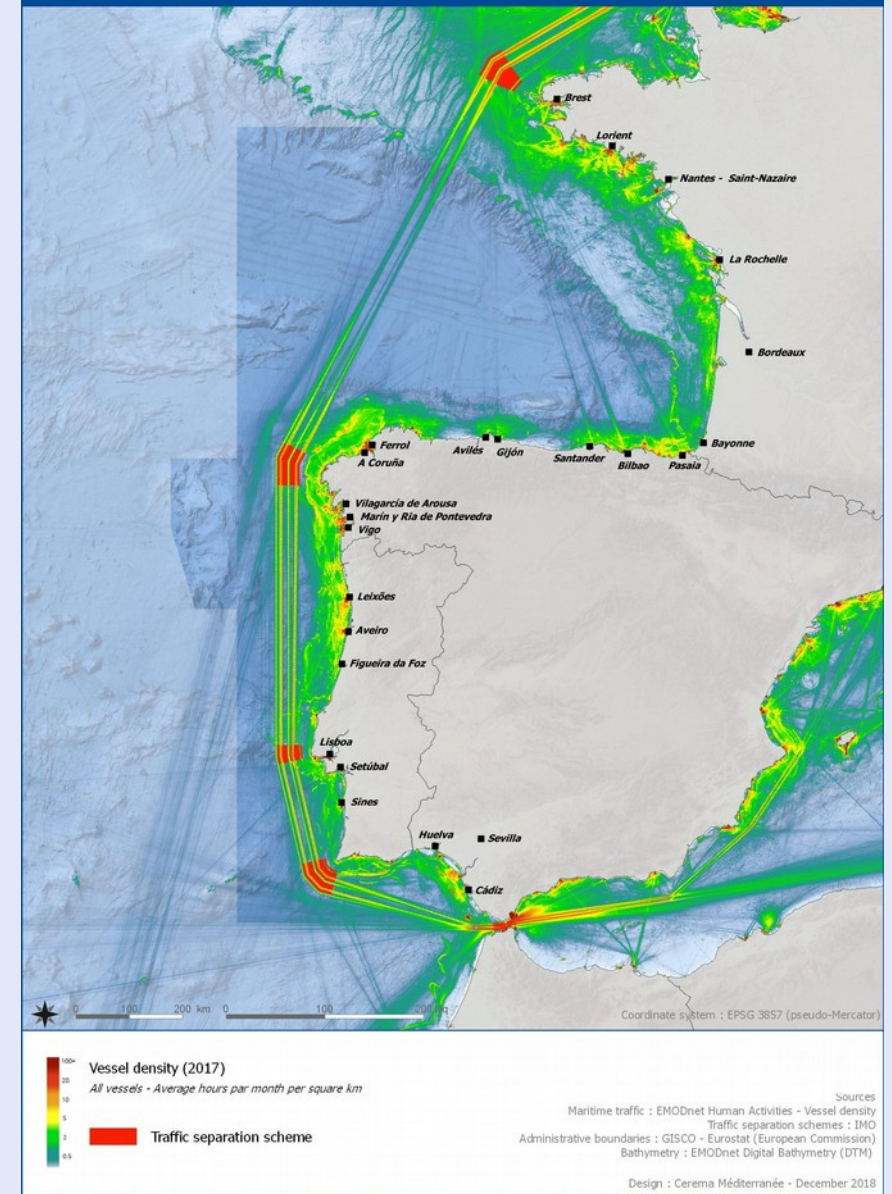
- "Off Ushant" (IMO COLREG.2/Circ.64, 4 December 2012, amended scheme),
- "Off Finisterre" (IMO COLREG.2/Circ.53, 10 December 2003, amended scheme),
- "Off Cape Roca" (IMO COLREG.2/Circ.61, 1st June 2010, amended scheme),
- "Off Cape S. Vicente" (IMO COLREG.2/Circ.61, 1st June 2010, amended scheme).

Two areas to be avoided (ATBA) have also been designated: Rochebonne shelf in the bay of Biscay (IMO A.161 (ES.IV), 27 November 1968) and the Berlengas Islands off the coast of Portugal (IMO SN/Circ.240, 13 December 2004).

Furthermore, Lisbon is home of the headquarters of the EU's decentralised agency EMSA (European Maritime Safety Agency). The Agency provides technical assistance and support to the European Commission and Member States in the development and implementation of EU legislation on maritime safety, pollution by ships and maritime security. It has also been given operational tasks in the field of oil pollution response, vessel monitoring and in long range identification and tracking of vessels.

Regional and bilateral agreements have also been reached on accidental marine pollution as, for example, the Cooperation Agreement for the Protection of the Coasts and Waters of the North-East Atlantic against Pollution – the Lisbon Agreement signed on 17 October 1990 between Spain, France, Portugal, Morocco and the European Commission, which creates a mechanism to ensure the cooperation between the Contracting Parties in case of pollution accidents, and obliges them to establish and implement their own emergency structures and plans, or the "Biscaye Plan", a bilateral agreement between France and Spain French-Spanish signed on 25 November 25 1999 to strengthen cooperation in the Bay of Biscay in case of pollution.

► Figure 24 – Maritime traffic



1.4.6 – Submarine cables

The activity includes the laying and maintenance of submarine cables immersed at depth, and generally buried, intended to carry communications or electrical power.

The service activity of cable laying and upkeep is performed by a small number of operators worldwide. There are about 59 cable ships in the world: about half are on stand-by to carry out emergency repairs pursuant to cable ship pooling contracts with various cable owners, and the other half is laying new cables or performing other tasks (training, vessel maintenance, out of service cable recovery). With a fleet of 13 units, France is, in number of vessels, the main worldwide shipowner of cable ships.

The project area is crossed by several telecommunications cables linking the Iberian peninsula to the north of Europe, Mediterranean, Africa and American continent. Land connection infrastructures are concentrated in the Lisbon and Cadiz areas.

One of the biggest changes in the past few years is the type of companies involved in building cables. If cables were traditionally built and owned by consortiums of telecom companies, content providers such as Google, Facebook, Microsoft and Amazon have now become the largest investors in new subsea cable routes as, for example, the trans-Atlantic "Marea" cable commissioned in 2017 between Virginia Beach in United States and Bilbao in Spain. Owned by Facebook, Microsoft and the Spanish telecom operator Telxius, it's the most powerful "Internet pipe" ever built to date.

Two new projects are under development in the region of interest and are scheduled to be "ready for service" in 2020: the Ellalink project which will link Brazil and Latin America to Sines in Portugal and the Dunant project which will connect Virginia Beach in United States to Saint-Hilaire-de-Riez in France. Owned by Google, Dunant cable will be the first private trans-Atlantic cable built by a non-telecom company.

Faced with the prospect of ongoing massive bandwidth growth and demands for increased communication capacities and intercontinental connections, it is likely that, along with upgrade activities, further new cables would be installed in the future.

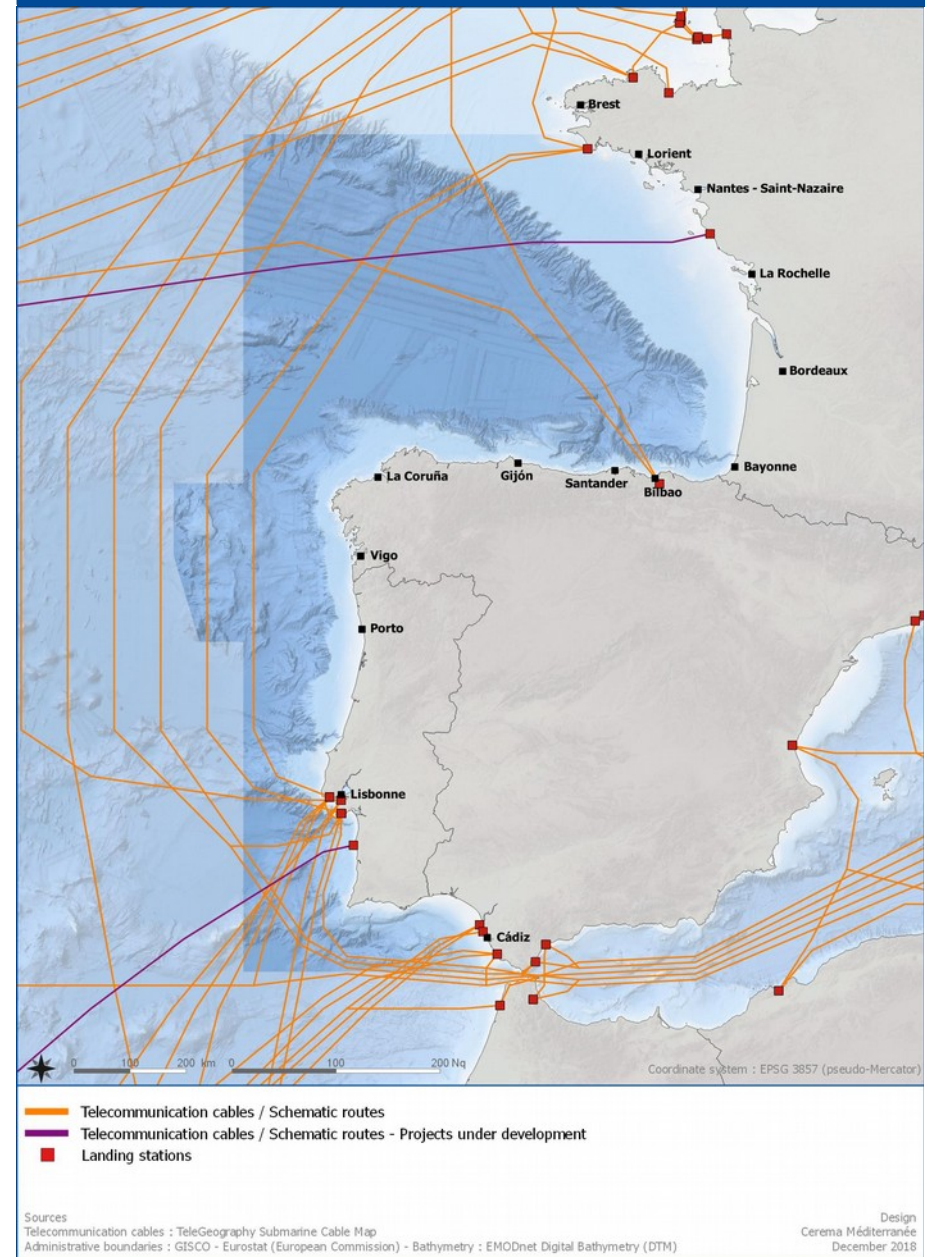
In Portugal, in the draft situation plan (second version for public consultation – December 2018), and with the exception of some exclusion areas, e.g. vulnerable marine ecosystems located on seamounts, all the remaining space is considered potential place to lay cables.

In France, due to their strategic importance, focus is on the protection of these critical infrastructures through the national maritime security strategy adopted by the Inter-ministerial Committee for the Sea of 22 October 2015.

As regards with power cables, the few submarine electricity cables built to date link, on the one hand, coastal islands to mainland as, for example, Groix, Houat, Belle-Île-en-Mer and Yeu islands in France, and on the other hand, offshore wind and ocean energy demonstrators to energy grids onshore as, for example, the "Ondas Peniche" and "Windfloat" projects in Portugal or the "Floatgen" project in France.

In the next few years, development of submarine electrical cabling would mainly being driven by offshore wind energy development, mainly in France, and the growing ocean energy sector, and, to a lesser extent, the submarine Bay of Biscay Interconnector project currently under development (see box 4).

► Figure 25 – Telecommunications cables / Schematic routes



Box 4 – Bay of Biscay Interconnector project

The Bay of Biscay Interconnector project aim to bring the exchange capacity between France and Spain from 2 800 to 5 000 MW, increasing the safety, stability and quality of electricity supply between the two countries and with the rest of Europe, and promoting the integration of a greater volume of renewable energy, particularly wind power from the Iberian system.

The project will help to reach the interconnection targets of at least 10 % in 2020 and 15% in 2030 set at European level and to integrate the Iberian Peninsula in a full-integrated European internal energy market, as it will reduce its historical electric isolation.

Along with two other additional interconnection projects across the Pyrenees that will increase the capacity exchange to 8 000 MW, the project has been given political priority during the first energy interconnections summit Portugal-France-Spain-European Commission-EIB held in Madrid on 4 March 2015.

Within the framework of the trans-European energy network (TEN-E) regulation (EU) n°347/2013, it has been registered in the 2013, 2015 and 2017 lists of Project of Common Interest (PCI) for the priority electricity corridor "North-South electricity interconnections in Western Europe" (NSI West Electricity).

Carried out by the French and Spanish transmission system operators (TSO) RTE (Réseau de Transport d'Electricité) and REE (Red Eléctrica de España), this submarine and underground direct current dual connection will be 370 km in length, running between the Cubnezais substation (near Bordeaux, France) and the Gatika substation (near Bilbao, Spain).

The submarine section will be approximately 280 km in length, from the Spanish Basque coast to the French Médoc coast. The choice of route and placement of the cable on the sea floor will minimise the impact on maritime activities, especially fishing.

Technical studies, public participation and consent processing are currently under progress in France and Spain based on their respective regulations. Commissioning is expected in 2024/2025.

During the second energy interconnections summit Portugal-France-Spain-European Commission-EIB held in Lisbon on 27th July 2018, the signatories *"expressed their satisfaction with the progress of the strategic Bay of Biscay Interconnector project, the new electricity link through the Bay of Biscay, and with today's signature of the grant agreement under the Connecting Europe Facility, giving the highest ever EU financing for an energy infrastructure. In this framework, they insist on the urgency of putting all the necessary conditions in place for its prompt entry into operation. They welcomed the priority awarded by the EIB to the assessment of financing for this project."*

However, even with this project and interconnections planned to date, Spain will probably remain insufficiently connected with the EU electricity market, necessitating development of new interconnections, as maybe, for example, the BritIB project (a mostly subsea interconnection project between South-West England, France and the Spanish Basque Country) mentioned in the 2016 and 2018 Ten Year Network Development Plan (TYNDP) developed by the European Network of Transmission System Owners for Electricity (ENTSO-E) pursuant to article 8 of Regulation (EC) n°714/2009.

► Figure 26 – Bay of Biscay Interconnector project



1.4.7 – Marine renewable energies: offshore wind and ocean energy

The marine renewable energies covers, on the one hand, offshore wind energy (fixed and floating technologies) and, on the other hand, ocean energy which is largely derived from the power of currents, tides and waves and, to a lesser extent, also from thermal and saline gradients.

The use of renewable energies is crucial in achieving international, European and national commitments in line with energy transition and in the fight against climate change,

Marine renewable energies, in particular offshore wind, could be an important contributor to this. They could help reach the targets sets in the 2030 climate and energy policy framework adopted by the European Union on 23 October 2014, especially under the renewable energy directive 2009/28/EC of 23 April 2009 and the newly approved directive (EU) 2018/2001 of 11 December 2018.

The renewable energy directive 2009/28/EC of 23 April 2009 set a target of at least a 20 % share of energy from renewable sources in the Community's gross final consumption of energy in 2020 – to be achieved through mandatory national targets – France: 23%, Spain: 20 %, Portugal: 31%.

Under the directive, each Member State was required to adopt a national renewable energy action plan (NREAP), providing projections for the share of renewable energy consumed in electricity, transport and heating/ cooling sectors in 2020 and the general roadmap of their renewable energy policy.

In this sense, the French Renewable Energy Action Plan 2009-2020 foresaw the installation of 6 000 MW of offshore wind energy and 380 MW of tidal, ocean current and wave energy by 2020.

The Spanish Renewable Energy Action Plan 2011–2020 pursued the objective of achieving 750 MW of offshore wind energy and 100 MW of wave and tidal energy by 2020.

And contributions expected in the Portuguese Renewable Energy Action Plan 2013–2020 were of 27 MW of offshore wind energy and 6 MW of wave energy for the year 2020.

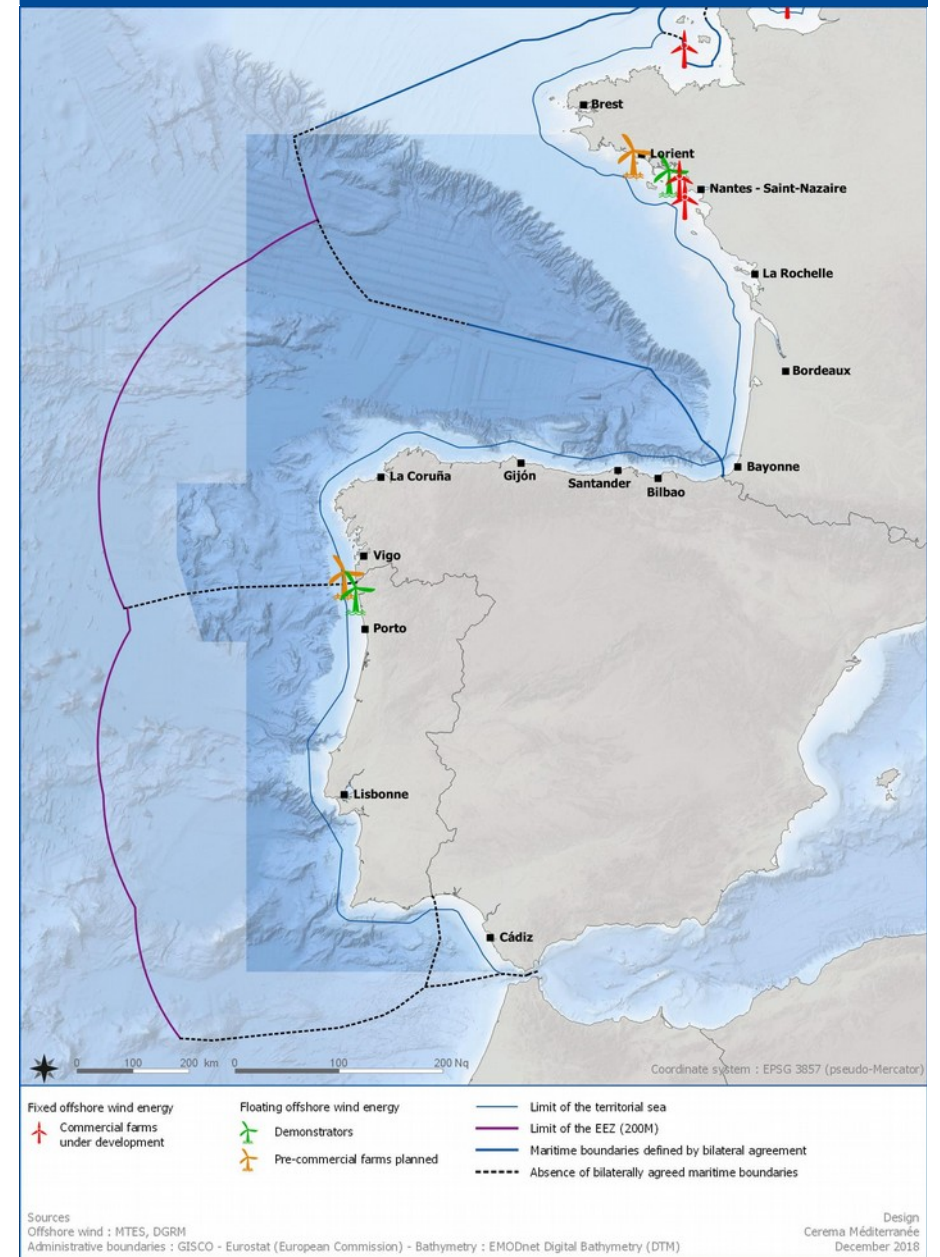
The revised directive sets a binding Union target of at least 32 % for the overall share of energy from renewable sources in the Union's gross final consumption of energy in 2030.

Member States shall set national contributions to meet, collectively, the binding overall Union target, as part of their integrated national energy and climate plans (NECP) required by the Regulation (EU) 2018/1999.

In order to ensure consolidation of the results achieved under the directive 2009/28/EC, the national targets set for 2020 constitute Member States' minimum contributions to the new 2030 framework. Under no circumstances should the national shares of renewable energy fall below those contributions.

In the project area, despite of a high potential, marine renewable sector is still at its infancy and its development is taking place at a slower pace than expected. If projects are currently under development, especially in France, there is no operational offshore wind farms in service to date.

► Figure 27 – Offshore wind



In France, the multiannual energy plan (*PPE – Programmation pluriannuelle de l'énergie*), established by the law n°2015-992 of 17 August 2015 on energy transition for green growth, and approved by the decree n°2016-1442 of 27 October 2016, has set new trajectories for each renewable energy source leading, for marine renewable energies, to the following targets by the end of 2023:

- 3 GW of installed bottom-fixed offshore wind, with between 0,5-6 GW of ongoing projects, depending on the outcome of the first projects and price levels,
- 100 MW of installed floating offshore wind, tidal and wave, with between 200-2 000 MW of ongoing projects, depending on the outcome of the first pilot farm projects and price level.

For fixed offshore wind, two calls for tender, in predefined dedicated areas for a predetermined capacity, were awarded, in 2012 and 2014 respectively. Grid connection was systematically guaranteed for each tender area. Technical studies, public consultation and consents processes are currently under progress and commissioning is expected between 2021/2024.

Date awarded	Location	Capacity	Expected commissioning
2012	Fécamp (Channel)	498 MW – 83 turbines	2021/2022
2012	Courseulles-sur-Mer (Channel)	450 MW – 75 turbines	2023
2012	Saint-Brieuc (North Brittany)	496 MW – 62 turbines	2023
2012	Saint-Nazaire (Atlantic)	480 MW – 80 turbines	2021/2022
2014	Tréport (Channel)	496 MW – 62 turbines	2023
2014	Iles d'Yeu et de Noirmoutier (Atlantic)	496 MW – 62 turbines	2024

In 2018, a third call for tender has been launched for an area offshore of Dunkerque in the Channel. It is expected to be awarded in 2019.

As regards with floating offshore wind, a call for projects was launched in August 2015 for the development of pilot floating wind pre-commercial farms, consisting of three to six turbines and power equal to, or larger than, 5 MW, in four designated areas (one off the coast of Brittany and three in the Mediterranean Sea). The four projects awarded in 2016 are currently under development and commissioning is for 2020/2021.

Date awarded	Location	Capacity	Expected commissioning
2016	Groix (Brittany)	24 MW – 4 turbines	2020/2021
2016	Faraman (Mediterranean)	24 MW – 3 turbines	2020/2021
2016	Gruissan ((Mediterranean)	24 MW – 4 turbines	2020/2021
2016	Leucate (Mediterranean)	24 MW – 4 turbines	2020/2021

In 2018, a 2-MW floating offshore wind demonstrator – the Floatgen project, was commissioned and connected to grid off the coast of South Brittany at the SEM-REV open sea test site. It's the first offshore wind turbine installed in France.

For ocean energy – emerging sectors in the research and pre-development stage, several calls for proposals on technological bricks, prototypes or pilot projects, have been launched since 2009 to remove obstacles of technological and non-technological nature (environmental, economic...) and help bringing these sectors to maturity.

In particular, two tidal stream devices have been deployed and connected to the onshore power grid: in 2015, the Sabella 1MW turbine off the island of Ushant in the Fromveur passage, and, in 2016, two 0,5 MW DCNS/OpenHydro turbines off the coast of North Brittany at Paimpol-Bréhat test site.

In 2014, a call for projects has been launched for demonstration pilot farms of tidal stream energy in the Raz-Blanchard off the coast of Normandy. Two projects have been awarded but are currently on stand-by.

In 2018, with the view to launch a set of complementary calls for tender, technical studies were performed to identify new suitable areas for fixed and floating offshore wind.

Initially divided into two periods (2016-2018 and 2019-2023) the multiannual energy plan is currently under revision for the periods 2019-2023 and 2024-2028. The draft document published on 25 January 2019 retains for offshore wind a target of 2,4 GW installed in 2023 and between 4,5-5,2 GW in 2028. The provisional timetable foresees the following program of tenders.

Date awarded	Capacity	Location	Foundation	Target price (€/MWh)
2019	500MW	Dunkirk	Fixed	<70
2020	1GW	East Channel/North Sea	Fixed	65
2021	250MW	Brittany	Floating	120
2022	250MW	Mediterranean	Floating	110
2023/24	1-1,5GW		Fixed	60
2024	250-500MW <i>depending on prices in previous rounds</i>		Floating	
2025 onwards	500MW/year <i>depending on price and resources</i>		Fixed/Floating	

With respect to ocean energy, no figures are provided. As mentioned in the draft multiannual energy plan, "in the case of tidal turbines, the studies and demonstrators carried out demonstrate that this sector is not mature and has very high production costs whose downward prospects are not sufficient to ensure the long-term competitiveness of the sector compared to other technologies such as offshore wind".

After public consultation, the revised multiannual energy plan should be approved by the end of 2019.

In Spain, despite an extensive coastline and a potential for the use of wind energy, the development of the offshore wind sector has been hindered by a number of environmental, technical, economic, social, and legal factors.

Both from an environmental and a technical-economic point of view, the depth of Spanish marine waters, as well as the environmental restrictions on installing offshore wind farms in shallower waters near to the coast – derived from the strategic environmental assessment of the Spanish coast for the installation of offshore wind farm led in 2009 as well as from the establishment of new marine protected areas, make difficult to use the current technology based on fixed structures.

Within the political and legal issues are the lack of public support measures, and the effect of the removal of renewable energy premiums, as well as the lack of legal certainty, due to the sudden and unforeseen reforms in 2012 in the regulation of the electricity sector on account of the economic crisis, discouraging investment in renewable energy sources, and the complex process of consent that is necessary to obtain licenses for constructing and exploiting an offshore wind farm.

To date there are no offshore wind projects planned, with the exception of the Elisa/Elican project currently under development at Gran Canaria, Canary Islands. This full-scale operational prototype, consisting of an integrated, self-installing, pre-cast concrete, telescopic tower and foundation allowing crane-free, will be the first bottom fixed offshore wind turbine in Spain.

With regards to ocean energy, two open sea test sites are in operation in the project area: the Biscay Marine Energy Platform (BiMEP) and the Mutriku wave power plant.

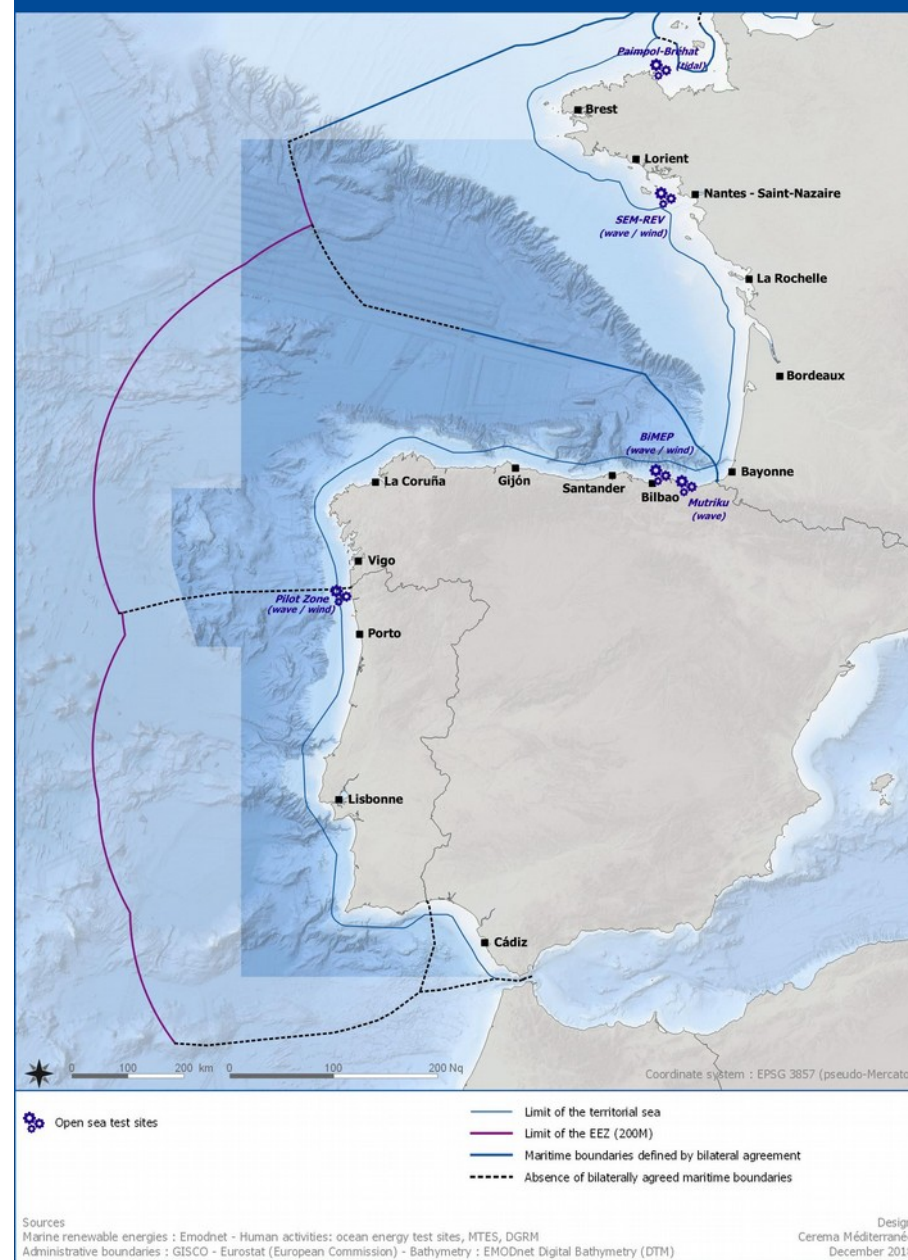
BiMEP, located off the coast of Arminza in the Basque country, is an open sea facility to support the research, technical testing and commercial demonstration of prototype wave or offshore wind devices. In 2016, it hosted the first floating wave energy device connected to grid in Spain, the MARMOK-A-5 project.

The Mutriku wave power plant was the first multi-turbine wave energy facility in the world. Integrated with the breakwater of Mutriku, in the Basque country, the plant was connected to the grid in July 2011 and had since completed years of continuous operation reaching a record of cumulative energy from waves powered to the grid of almost 1,5 Gwh. It is also being used as a test site for Oscillating Water Column (OWC) components.

The draft Spanish national energy and climate plan 2021-2030 foresees a number of measures which could support the development of marine renewable energies:

- realization of studies and analysis of both the evolution and potential of energy technologies, such as the preparation of a Spanish strategy for the development of offshore wind,
- the need to review the administrative processes for technologies with presently no or little market development, like offshore wind or ocean energy, will be analysed,
- for technologies that, although not yet competitive, have great potential, as, for example, ocean energy or floating offshore wind, a specific auction calendar with a reduced volume of power is proposed for demonstration or flagship projects. Depending on the specific needs of each case, the auction could be accompanied by public financing.

► Figure 28 – Ocean energy / Open sea test sites



Portugal is a pioneer country in the exploitation of marine renewable energies, particularly in harnessing wave energy, for which several experimental and demonstration projects have already witnessed on its territory: the Pico plant – a shoreline wave energy pilot plant located in the Azores on the island of Pico which ran from 1999 to 2017, or, in mainland, the Pelamis project which was operated in 2008 off the coast of Aguçadoura, and the WaveRoller technology installed in 2012 off Peniche.

Following the success of the WaveRoller demonstration, more than 5,000 operational hours between 2012 and 2014, new projects based on this technology are currently under development or are planned for the next years: First-of-a-Kind/FOAK, a 350 kW commercial scale device, Ondas de Peniche/ODP and SWELL, large-scale projects of 1MW and 5,6MW respectively.

As for offshore wind, Portugal saw the installation of the first floating wind turbine in open Atlantic waters. The 2 MW Windfloat turbine was deployed in 2011 5 km off the coast of Aguçadoura and has produced more than 16 GWh of electricity delivered to the local grid until it was decommissioned in 2016.

Based on the Windfloat technology, a pre-commercial farm of 25 MW located 18 km off Viana do Castelo is currently under development.

Another offshore wind technology development project, the Demogravi3 project, is also underway off Aguçadoura. It aims to develop an innovative gravity foundation for offshore wind turbines for installation in medium depth waters (30 to 60m).

In 2008 a pilot zone of 320 km² near Sao Pedro de Moel for the production of wave energy under demonstration, in the pre-commercial or commercial regime, was created by decree-law n°5/2008. Recently, the Portuguese Government has decided to move this pilot zone to Viana do Castelo where the Windfloat Atlantic project is planned, and to extend it to all marine renewable energies in general (Resolution of the Council of Ministers n°12/2018, of February 19).

In 2016, a working group was established by the Resolution of the Council of Ministers n°15/2016, of March 9, whose mission was the presentation and promotion of a public discussion of a model for the development of offshore energy in Portugal, with the objective of boosting investment in demonstration projects and pre-commercial projects in this area, with strong involvement of the industry.

This led to the adoption in 2017 of an industrial strategy for ocean renewable energies (*EI-ERO – Estratégia industrial para as energias renováveis oceânicas* – Resolution of Council of Ministers n°174/2017, of November 24), which aims at the creation of a competitive and innovative industrial export cluster for marine renewable energies, like floating offshore wind energy and wave energy.

Two main goals are identified: stimulate export and value added investment, and assist industry in reducing risks. The strategy will also contribute to the realization of Port Tech Clusters by creating synergies with the naval sector which could accelerate the development of marine renewable energies.

When it comes to wave energy, the potential is estimated at 3-4GW of wave power capacity. The approach to the wave energy commercialization will be pursued in three stages, with the first involving the development and demonstration of technology by 2022, that will be followed by pre-commercial development between 2023 and 2028. The third stage will see the technology reach commercial maturity, with significant activity expected to take place from 2030.

A working group composed of public administration entities, representative business associations, companies, R&D centers, universities and renowned specialists, will be established under the coordination of the Ministry of the Sea to monitor the EI-ERO, as well as to propose measures for its implementation.

Box 5 – Ocean energy: strategic roadmap and SET-Plan

In January 2014, in order to support the growth and development of the ocean energy sector, one of the five pillars of the Blue Growth Strategy, the European Commission presented its "Blue Energy Communication". The communication highlighted the current gaps and proposed an action plan to aid the development and uptake of ocean energy, setting a framework for implementation.

The process was initiated by the creation of the Ocean Energy Forum, a platform to bring together ocean energy actors and stakeholders to develop a shared understanding of the problems faced by the sector and to collectively devise workable solutions.

This has fed into a strategic roadmap finalised by the Forum in November 2016 that gives a clearer understanding of the remaining challenges and necessary steps. The strategic roadmap identified four key actions for making ocean energy a commercial reality:

- establish a European phase-gate scheme to validate sub-systems and early prototypes in the less mature ocean energy technologies,
- set up an investment support fund providing flexible capital and enabling further private capital to be leveraged,
- set up an insurance and guarantee fund to underwrite projects risks,
- de-risk environmental consenting through an integrated programme of measures that will develop guidance on planning, consenting, research, socio-economics and demonstration.

Within the European Strategic Energy Technology Plan (SET-Plan) and its 10 key actions to address the Energy Union research and innovation priorities, especially action 1 "*Sustain technological leadership by developing highly performant renewable technologies and their integration in the EU's energy system*" and 2 "*Reduce the cost of key technologies*", invited stakeholders and SET-Plan countries also reached in 2016 an agreement on common high-level targets for the ocean energy sector:

- bring ocean energy to commercial deployment,
- drive down the levelised cost of energy (LCoE),
- maintain and grow Europe's leading position in ocean energy,
- strengthen the European industrial technology base, thereby creating economic growth and jobs in Europe and allowing Europe to compete on a global stage.

This was followed by an implementation plan, endorsed in March 2018, which identifies concrete R&I activities whose realisation will help reduce the cost of ocean energy technologies and meet the agreed targets.

1.4.8 – Coastal and maritime tourism

Coastal tourism covers beach-based tourism, e.g. swimming and sunbathing, and all other tourism and recreation activities that take place in the coastal area for which the proximity of the sea is a condition, such as coastal walks and wildlife watching.

Maritime tourism covers predominantly water-based activities, e.g. recreational boating, yachting and nautical leisure activities such as surfing, kite surfing, windsurfing, kayaking, diving, recreational fishing.

In the project area, the coastal and maritime tourism sector is of particular importance and an essential driver for the economy of many coastal regions.

In 2016, the tourist accommodation capacity in coastal areas were close to 1,69 million bedplaces: 1,02 million in France, 0,43 in Portugal and 0,24 in Spain.

Nights spent in tourist accommodation reached more than 122 millions with Brittany, Pays-de la-Loire, Aquitaine, Lisboa and Algarve being the most popular regions.

In France, the 58,3 million nights spent in the Atlantic coastal areas represented 14% of total overnight stays in France and 42% of nights spent in coastal areas. 82% of nights were spent by French residents.

In Spain, where coastal tourism is mainly concentrated on the Mediterranean coast and in Canarias, the 16,6 million nights spent in the Atlantic coastal areas only accounted for 4% of total overnight stays in Spain and 5% of nights spent in coastal areas. 77% of nights were spent by Spanish residents.

In Portugal, 47,2 million nights were spent in the mainland coastal areas – 71% of total total overnight stays in Portugal. A much more greater proportion of nights (70%) were spent by non-residents.

Overall, if the traditional "sun, sand and sea" holidays are always a mainstay of the sector – there is more than 1 600 bathing sites in the region of interest, nautical tourism assumes an increasing economic and social importance.

About 500 marinas are spread all along the Atlantic coast and the number of moorings exceed 125 000.

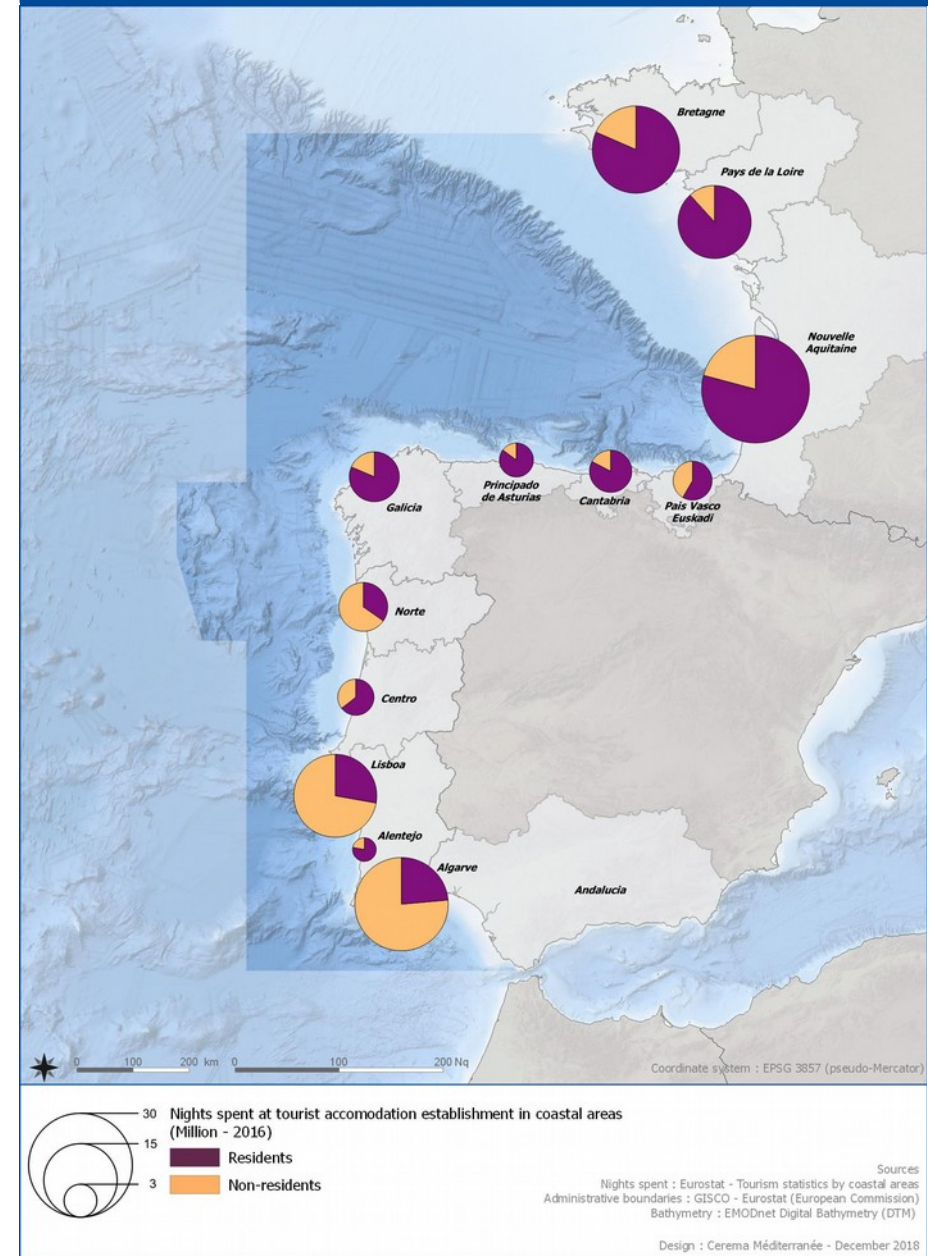
Of note is also the surf sector which is of particular importance on the Aquitaine coast and in Portugal with internationally renowned spots like Lacanau, Hossegor or Nazaré.

In France, the national strategy for the sea and coast, adopted by the decree n°2017-22 of 23 February 2017, aims to safeguard the fragile balance between ecosystems and economic on which rests the opportunity for all to access the sea and enjoy nautical activities. On this condition, the leisure market provision, which is often coastal areas' main resource, and which continues to create jobs, can be developed and diversified.

The strategy also aims to support and value the emerging approaches of participatory science and sustainable tourism that are undertaken by stakeholders, and to deepen synergies between tourism, fishing and aquaculture sectors.

A particular focus is made on recreational boating and marinas to strengthen efforts engaged towards an ecological transition, reduce their footprint by energizing the management of sites and services – a logic of quality replacing a purely quantitative logic, and raise awareness among recreational boat users. France is the only nation in the world to have set up, with its standards agency (AFNOR), a European environmental certification specific to marinas: Clean Harbour Guidelines (CWA 16387).

► Figure 29 – Nights spent in coastal areas by NUT2 region (2016)



In Portugal, the Tourism Strategy 2027, adopted in 2017 (Resolution of the Council of Ministers nº134/2017, of September 27), intends to affirm tourism as a hub for economic, social and environmental development throughout the territory, positioning Portugal as one of the most competitive and sustainable tourism destination in the world.

The strategy set a number of priority areas and actions to affirm tourism in the sea economy, such as:

- strengthen Portugal's position as a destination for nautical activities, especially as an international reference surf destination,
- boost and valorize infrastructures, equipment and services to support nautical tourism, namely ports, marinas and nautical centres,
- develop in a sustainable way nautical activities such as diving, sailing, kayaking, whale and seabirds watching, recreational fishing as well as sightseeing tours and beach activities,
- promote "routes of experiences" and tourist offers on sea and nautical activities.

In mainland Portugal, the draft situation plan (second version for public consultation – December 2018), defines a 1,5 miles protection zone for common uses intended primarily to safeguard recreation, sport and tourism as well as a potential area for the development of these activities when they require space reservation, defined throughout the coast up to 6 miles.

In Spain, the "Horizon 2020" Tourism Plan approved in 2007 aimed to make the Spanish tourism the most competitive and sustainable by 2020 contributing to the maximum level of social well-being.

Structured around five key approaches, the strategy pursued the following objectives:

- new tourist economy: fully developing differentiated advantages resulting from the new economy in which innovation, knowledge and attracting and developing talent are key strategic assets for customer satisfaction and business success,
- value to the client: improving the value offered to the customer through tourist experiences which differentiate and promote the personality and positioning of Spain as a destination, making management of the customer relationship and customer satisfaction into the new paradigm for the development, marketing and management of products,
- sustainability of the model: improving the sustainability of the Spanish tourism system, optimising profits per unit of sustainable-load capacity and investment, guaranteeing the quality of the natural and cultural environment in each location, together with integration and social welfare and socio-territorial rebalancing,
- competitive environment: creating the optimum environment for the creation and development of competitive and innovative tourist businesses,
- shared leadership: promoting a new shared leadership system for Spanish tourism based on principles of efficiency and joint responsibility in developing common actions, helping to increase awareness of the socio-economic benefits of sustainable development of tourist activity for the sector and society.

A new Sustainable Tourism Strategy 2030 is currently under development around five strategic axes: collaborative governance, sustainable growth, competitive transformation and system profitability, people, companies and territories, product and tourist intelligence.

Box 6 – European coastal and maritime tourism strategy

In February 2014, the European Commission published its "European Strategy for more Growth and Jobs in Coastal and Maritime Tourism" – a sector highlighted in the Blue Growth strategy as one of the key drivers for creating growth and new jobs.

The strategy sought to address a number of issues the sector faces: gaps in data and knowledge, volatility of demand and seasonality, Increased worldwide competition, fragmentation of the sector with a high proportion of SMEs, mismatch of skills and qualifications, lack of innovation and diversification, limited or no access to finance, growing environmental pressures.

The strategy outlined 14 actions to help coastal regions and businesses tackle these challenges face and strengthen the sector's position as a key driver of Europe's blue economy. For example, the Commission proposed to:

- strive to close gaps in tourism data availability, in particular coastal and maritime,
- develop a coastal and maritime focus, where appropriate, in EU tourism initiatives, including promotional and communication campaigns,
- support the development of trans-national and interregional partnerships, networks, clusters and smart specialisation strategies,
- stimulate innovative management schemes through the information and communication technologies and the Tourism business portal,
- promote ecotourism and encourage linking to other sustainability actions,
- promote implementation of the Protocol to the Barcelona Convention on Integrated Coastal Management and the relevant Council Recommendation, and promote Maritime Spatial Planning and Green Infrastructure, to ensure the sustainable development of coastal areas,
- promote strategies on waste prevention, management and marine litter to support sustainable coastal and maritime tourism,
- encourage the diversification and integration of coastal and inland attractors, including through transnational thematic itineraries like cultural, religious or ancient trade routes,
- identify innovative practices for marina development through a specific study,
- develop an online guide to the main funding opportunities available for the sector (particularly SMEs),

These concrete actions were accompanied by a break-down of the tasks that Member States, Regions and industry stakeholders could undertake to complement the European actions, as, for example, develop and implement national / regional strategies or seek cross-border cooperation and exchange of best practice.

1.5 – Interactions: pressures and impacts

Initial Assessment MSP oriented

Northern European Atlantic

February 2018

Version 2

Annex 2 to Initial Assessment: Pressures/Impacts

This chapter is provided in Annex 2.

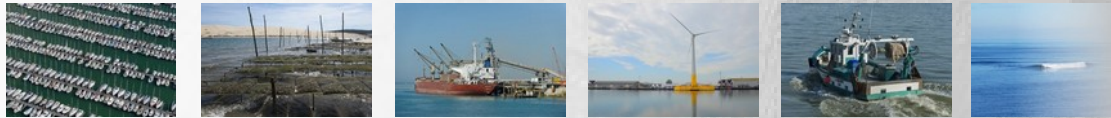


Supporting Implementation of Maritime Spatial Planning in the
Northern European Atlantic



European Commission
Directorate-General for Maritime Affairs and Fisheries
Grant Agreement: EASME/EMFF/2015/1.2.1.3/03/SI2.742089

PART 2



Towards MSP in the SIMNORAT project area

2.1 – The European framework

2.1.1 – From the Integrated Maritime Policy...

Based on the clear recognition that all matters relating to Europe's oceans and seas are interlinked, and that sea-related policies must develop in a joined-up way to reap the desired results, the Integrated Maritime Policy was adopted in 2007 by the European Commission in order to enhance the sustainable development of the European maritime economy and to better protect the marine environment by facilitating the cooperation and the coordination of all maritime players across sectors and borders.

The action plan accompanying the communication enumerated a set of actions to help the European Union move towards the attainment of the key objectives of the integrated maritime policy, i.e.:

- maximising the sustainable use of the oceans and seas,
- building a knowledge and innovation base for maritime policy,
- delivering the highest quality of life in coastal regions,
- promoting Europe's leadership in international maritime affairs,
- and raising the visibility of Maritime Europe.

With maritime surveillance and a comprehensive and accessible source of data and information, maritime spatial planning was in particular identified as a horizontal and cross-cutting tool of major importance to help policy makers and economic and environmental actors to join up their policies, interlink their activities and optimise the use of the marine and coastal space in an environmentally sustainable manner.

In 2008, the Commission adopted the communication "Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU", which proposed a set of key principles to support a common approach to maritime spatial planning among Member States: management principles (objective-setting, monitoring and evaluation), governance principles (stakeholder participation, transparency, institutional arrangements, cross-border cooperation) and horizontal principles (e.g. organisation of data).

Followed in 2010 by the communication "Maritime Spatial Planning in the EU — Achievements and Future Development", it paved the way for, in 2013, a proposal for a directive establishing a framework for maritime spatial planning finally adopted in 2014.

In October 2012, European Ministers for Maritime affairs adopted the "Limassol Declaration" stressing that "*the Europe 2020 strategy should be backed by a dynamic agenda for seas and oceans that supports the growth, competitiveness and jobcreating potential towards a sustainable blue economy*". Opening a new chapter of the Integrated Maritime Policy, the "Limassol Declaration" launched a process, the Blue Growth, which since had placed the blue economy firmly on the agenda of Member States.

2.1.2 – ...to the Blue Growth Strategy

In 2012, the European Commission formulated its Blue Growth strategy to harness the potential of Europe's oceans, seas and coasts for growth and jobs.

Endorsed in October 2012 at ministerial level through the "Limassol Declaration", Blue Growth is the contribution of the EU's Integrated Maritime Policy to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth.

The Blue Growth strategy identifies five specific areas as potential drivers for innovation and jobs where effort and targeted action at European level could provide additional stimulus:

- blue energy,
- aquaculture,
- marine, coastal and cruise tourism,
- marine mineral resources,
- marine biotechnology.

As a follow-up, in May 2014, the Commission tabled a communication on innovation in the blue economy which sets out its plans for addressing the following issues: gaps in knowledge and data about the state of our oceans, seabed resources, marine, life and risks to habitats and ecosystems, diffuse research efforts in marine and maritime science that hinders inter-disciplinary learning and slows the progress of technological breakthroughs in key technologies and innovative business sectors, lack of scientists, engineers and skilled workers able to apply new technologies in the marine environment.

Since then, extending and developing the actions undertaken since 2007, the Commission has launched a number of initiatives in many policy areas related to Europe's oceans, seas and coasts in order to:

- push for sustainable growth in the maritime economy, with a particular focus on the aforementioned sectors,
- underpin growth by working on key "enablers" considered as common prerequisites for the maritime economy to thrive: marine data, maritime spatial planning, research, skills development, environmental protection, maritime surveillance, marine and maritime research,
- promote a partnership approach through the sea-basin strategies in the Atlantic Ocean, the Baltic and the Adriatic and Ionian Seas and other regional initiatives, for instance for instance in the Mediterranean, the Black and North Seas,
- boost investments and mobilise EU funding instruments to support the development of Blue Growth.

2.1.3 – The Marine Strategy Framework Directive

Environmental pillar of the Integrated maritime Policy, the Marine Strategy Framework Directive (MSFD – Directive 2008/56/EC) aims to achieve a "good environmental status" of all the European marine waters by 2020. It provides an ambitious and holistic framework to protect seas and oceans and ensure that their resources are managed sustainably. Under the Directive, each Member State is required to develop and implement a marine strategy for its marine waters which must be kept-to-date and reviewed every 6 years.

The marine strategies revolve around 11 "descriptors" of the state of the environment, which Member States use to determine "good environmental status" and for which specific monitoring programmes and measures are to be defined:

- Biodiversity is maintained.
- Non-indigenous species do not adversely alter the ecosystem.
- The population of commercial fish species is healthy.
- Elements of food webs ensure long-term abundance and reproduction.
- Eutrophication is minimised.
- The sea floor integrity ensures functioning of the ecosystem.
- Permanent alteration of hydrographical conditions does not adversely affect the ecosystem.
- Concentrations of contaminants give no effects.
- Contaminants in seafood are below safe levels.
- Marine litter does not cause harm.
- Introduction of energy (including underwater noise) does not adversely affect the ecosystem.

The marine strategies include 5 steps:

- an initial assessment of the current environmental status of the marine waters,
- the determination of the good environmental status for the marine waters,
- the setting of environmental targets and associated indicators,
- the establishment and implementation of coordinated monitoring programmes,
- the development of a programme of measures (PoM) designed to achieve or maintain "good environmental status" by 2020.

The deadline for reporting on those programmes was 31 March 2016: Portugal has submitted its programme of measures for its four marine subdivisions in November 2014, France in August 2016 for its four sub-regions and Spain in May 2017 for the five Spanish marine demarcations. The MSFD is now entering its second 6-year cycle of implementation, with updates of the initial assessment, determination of GES and environmental targets due to be reported in October 2018, followed by updating of monitoring programmes due to be reported in October 2020, and updating of the programmes of measures due to be reported in March 2022.

Box 7 – MSFD and regional cooperation

The Marine Strategy Framework Directive sets out a regional approach to the management of European seas, requiring Member States sharing a marine region or subregion to cooperate when developing their marine strategies to ensure that the measures required to achieve the objectives of the Directive are coherent and coordinated across the marine region or subregion concerned.

To do so, Member States shall, where practical and appropriate, use existing regional institutional cooperation structures, including those under Regional Sea Conventions (RSCs), covering that marine region or subregion.

On these points, the technical Member State-specific assessments of programmes of measures prepared for the Commission by an external consultant pursuant to article 16 of the Directive, led to the following comments:

► France

France plays an active role within the coordination of OSPAR (North East Atlantic region) and the Barcelona Convention (Mediterranean Sea region) and links a number of its measures to these RSCs. For example, France implemented measures related to marine litter and protected species and habitats in order to meet the requirements agreed within the regional action plans defined in the framework of these Conventions.

Multilateral meetings took place in 2015 between the Member States involved in each of the four marine subregions in question (Bay of Biscay, Celtic Seas, Greater North Sea, Western Mediterranean Sea) to discuss their proposed national PoMs.

► Spain

Spain regularly refers to guidelines and action plans developed under the Barcelona and OSPAR Conventions, in addition to collaboration efforts with Portugal to implement the MSFD in Macaronesia. Additional tri-lateral meetings have also taken place between Spain, France and Portugal, thus indicating a strong subdivisional cooperation effort in the development of the PoM.

► Portugal

In terms of regional processes, Portugal is party to the OSPAR Convention. The Portuguese PoM refers to OSPAR on several occasions and, for certain targets and measures, specifically indicates that they are in line with actions undertaken within the framework of OSPAR (e.g. the regional action plan on marine litter). However, Portugal does not describe coordination activities within OSPAR in the development of its PoM.

2.1.4 – The Maritime Spatial Planning Directive

Together with the Marine Strategy Framework Directive, the Maritime Spatial Planning Directive (MSPD – Directive 2014/89/EU) is a foundation stone for the sustainable development of the European seas and oceans.

Defined as a “*public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives*”, maritime spatial planning aims to enable a cross-sectoral management of all the activities undertaken at sea, identifying and addressing their potential cumulative and combined effects, avoiding and resolving clashes between the different users of the marine environment, and promoting the coexistence of relevant activities.

The Directive came into force in September 2014. Member States had to transpose the Directive into their national legislation and designate a competent authority by September 2016.

The maritime spatial plans which set a time-space distribution of potential and future uses in their respective marine waters shall be established by 31 March 2021.

If maritime spatial plans shall first aim to contribute to the sustainable development of energy sectors at sea, of maritime transport and of the fisheries and aquaculture sectors, and to the preservation, protection and improvement of the environment, Member States may pursue other objectives such as the promotion of sustainable tourism and the sustainable extraction of raw materials.

The Directive leaves planning details, procedural steps or management objectives to the Member States discretion, but sets overarching principles and common key requirements for the development of maritime spatial plans:

- apply an ecosystem-based approach,
- take into account land-sea interactions,
- promote coherence between maritime spatial planning and the resulting plan or plans and other processes, such as Integrated Coastal Zone Management (ICZM),
- ensure the involvement of stakeholders, authorities and public concerned at an early stage in the development of maritime spatial plans,
- use the best available data and organise the sharing of information,
- ensure transboundary cooperation between Member States,
- promote cooperation with third countries.

Maritime spatial plans shall be reviewed by Member States as decided by them but at least every ten years.

Box 8 – MSPD and transboundary cooperation

Under the MSP Directive, Member States are required to cooperate and ensure that their maritime spatial plans are coherent and coordinated throughout the cross-border marine region concerned.

Member States shall also endeavour, where possible, to cooperate with third countries on their actions with regard to maritime spatial planning in the relevant marine regions and in accordance with international law and conventions, such as by using existing international forums or regional institutional cooperation.

To support the development of MSP processes and facilitate cooperation between Member States in the management of maritime space in European waters, the European Commission has co-financed since 2009 a number of preparatory actions in the Baltic Sea, the North Sea, the Atlantic and the Adriatic Sea. This was followed by the launch in 2014 of initiatives to establish lasting mechanisms for transboundary MSP cooperation in the Baltic, the Black and the Celtic Seas.

In 2016 and 2017, EASME published two new calls for proposals for projects to support the launch and implementation of concrete cross-border MSP cooperation initiatives between Member States. In 2016, the call covered the Northern European Atlantic, the Western and the Eastern Mediterranean while in 2017, the call covered the North and Baltic Seas and the Outermost Regions.

In parallel, an Assistance Mechanism has been set up in 2016 to support Member States in the implementation of the MSP Directive through a dedicated online platform and a team of MSP experts.

The European Commission has also concluded a number of studies on various aspects of MSP, including a study on international best practices for cross-border MSP which aimed to establish a detailed inventory of MSP implementation in the world, explore four case studies of MSP implementation to identify best practices in relation to the requirements of the Directive and prepare recommendations on the format, scope and added-value of international cooperation on MSP.

At international level, The European Commission and Unesco's Intergovernmental Oceanographic Commission (IOC-UNESCO) adopted a "Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide" adopted during the 2nd International Conference on Maritime Spatial Planning held in Paris in March 2017. The Roadmap foresees the creation of an International Forum on MSP and also aim at developing guidance on transboundary MSP.

2.1.5 – The Atlantic Maritime Strategy

The concept of Sea Basin Strategies is based on the idea that each sea region is unique and requires its own tailored strategy that takes into account its unique strengths, weaknesses, threats, opportunities and challenges.

Since the Baltic Sea Strategy was first launched in 2009, the sea basin approach has progressively developed in Europe's other sea basins following their own trajectory and approach.

In the Atlantic area, this led to the adoption by the European Commission in 2011 of an Atlantic Maritime Strategy. In line with the objectives of the Integrated Maritime Policy, the strategy sets the framework for drawing up policies aiming at creating blue growth and sustainable development in the Atlantic area. The strategy targets five high-level challenges, namely:

- implement the ecosystem approach
- reduce Europe's carbon footprint,
- ensure a sustainable exploration of seafloor resources,
- respond to threats and emergencies,
- achieve socially inclusive growth.

This was followed by the development of an accompanying Atlantic Action Plan over the course of 2012 – 2013 and its adoption in 2014. The Action Plan is structured around four priorities and ten specific objectives. In addition, a total of 37 actions under 20 headings targeting activities and focus areas at a project level have been identified, including *"Contribute to Member States maritime spatial planning and integrated coastal management processes, by sharing best practice and facilitating cross-border coordination."*

To support its implementation and monitor its progress, a governance framework was agreed and a dedicated assistance mechanism was put in place in 2013.

Representatives of the five Member States, the Committee of the Regions, the European Economic and Social Committee, the Conference of Peripheral Maritime Regions (CPMR), the European Parliament and the Commission meet regularly in the context of the Atlantic Strategy Group (ASG) to oversee implementation of the plan.

The Atlantic assistance mechanism is a dedicated tool to raise awareness of the plan, help project promoters find partners and access relevant information about funding opportunities, and track projects aligned with the Atlantic strategy and the plan. A network of national units in the five Member States ensures coordination on the ground and liaison with the relevant decision-makers, funding bodies and stakeholders.

The mid-term review of the Atlantic action plan, conducted during 2017-2018 and backed by an independent study and a public consultation, confirmed the relevance of the overarching objectives of the plan and its *"contribution to strengthening the Atlantic community of maritime stakeholders, by building awareness and buy-in around common objectives and developing networks of relevant policymakers and funding programmes"*.

Box 9 – Atlantic Action Plan: 4 priorities and 10 specific objectives

Priority 1: Promote entrepreneurship and innovation

- sharing knowledge between higher education organisations, companies and research centres
- enhancement of competitiveness and innovation capacities in the maritime economy of the Atlantic area
- fostering adaptation and diversification of economic activities by promoting the potential of the Atlantic area

Priority 2: Protect, secure and develop the potential of the Atlantic marine and coastal environment

- improving maritime safety and security
- exploring and protecting marine waters and coastal zones
- sustainable management of marine resources
- exploitation of the renewable energy potential of the Atlantic area's marine and coastal environment

Priority 3: Improve accessibility and connectivity

- promoting cooperation between ports

Priority 4: Create a socially inclusive and sustainable model of regional development

- fostering better knowledge of social challenges in the Atlantic area
- preserving and promoting the Atlantic's cultural heritage

In addition, the mid-term review suggested various avenues to improve the implementation of the action plan, mainly by removing shortcomings in its architecture, by calibrating the focus of the objectives, improving the coherence of the underlying actions and by addressing weaknesses in the overall governance framework. Adding a robust framework for monitoring and evaluating the performance was stressed as equally important. The European Commission is currently discussing with the Member States and coastal regions to revise and improve the plan's performance.

2.2 – Status of MSP implementation in the SIMNORAT project area

2.2.1 – Maritime spatial planning in France

From the national strategy for the sea and coast...

Since 2009 and the "Grenelle de la mer", France is resolutely engaged in the elaboration and implementation of an integrated national maritime policy which, according to the law n°2010-788 of 12 July 2010 on national commitment for the environment, relies on the development of a national strategy for the sea and coast (*SNML – Stratégie nationale pour la mer et le littoral*) and, at the sea basin level, of sea basin strategy documents (*DSF – Document stratégique de façade*).

Developed in association with the National Council for the Sea and Coastal Areas, made up of elected officials and representatives of civil society, the national strategy for the sea and coast was adopted, after public consultation, by the decree n°2017-22 of 23 February 2017.

This strategy constitutes the national reference framework for the protection of the marine environment, the sustainable exploitation of marine resources and the integrated and coordinated management of activities related to the sea and the coast, with the exception of those whose sole object is defence or national security.

It sets four complementary and inseparable long-term objectives:

- the ecological transition for the sea and coastline,
- the development of a sustainable blue economy,
- the good environmental status of the marine environment and the preservation of an attractive coastline,
- France's influence as a maritime nation.

The strategy sets a framework for action via four cross-cutting orientations:

- build on knowledge and innovation,
- develop sustainable and resilient maritime and coastal territories,
- support and promote initiatives and remove obstacles,
- promote a French vision within the European Union and in international negotiations and uphold national interests.

26 priority actions are identified, including "*be the engine of European blue growth*", "*protect environments, resources, biological and ecological balance*" and "*build maritime spatial planning to conciliate uses, seek synergies between activities and integrate new activities*".

The national strategy for the sea and coast is to be reviewed every six years.

...to the sea basin strategy documents

Established by the law n°2010-788 of 12 July 2010 on national commitment for the environment, sea basin strategy documents aim to specify, develop and supplement the objectives of the national strategy for the sea and coast, taking into account the specific economic, social and ecological issues of each French sea basin.

In mainland France, four sea basin are considered: East Channel – North Sea, North Atlantic – West Channel, South Atlantic and Mediterranean.

Through the law n°2016-1087 of 8 August 2016 for the reconquest of biodiversity, nature and landscapes and the subsequent decree n°2017-724 of 3rd May 2017, which transposed into French legislation the MSP Directive, France have made the choice to use the sea basin strategy documents as the main tools for a joint implementation of MSPD and MSFD and to merge both in a single process.

The sea basin strategy documents include two main phases and four parts developed in stages and adopted in successive decisions in line with the MSFD second 6-years cycle implementation timetable:

- ➔ a strategic phase which is to be adopted by 2019 and includes:
 - an initial assessment, including the MSFD initial assessment of the current environmental status of the marine waters concerned and the environmental impact of human activities, identification of key issues and challenges and the setting of a vision for the sea basin at 2030,
 - the definition of economic, social and environmental strategic objectives and associated indicators, including MSFD environmental targets. They are accompanied by a vocation map which defines maritime areas that are coherent from the standpoint of the general challenges and objectives assigned to them.
- ➔ an operational phase which includes:
 - the establishment and implementation of a monitoring programme, including the MSFD monitoring programme (to be adopted by 2020),
 - the definition of an action plan including the MSFD programme of measures (to be adopted by 2021).

Pursuant to the directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, an environmental assessment shall be carried out for the sea basin strategy documents at each phase.

► Figure 30 – Sea basin strategy documents



At national level, the French Ministry for an Ecological and Solidary Transition is the authority in charge of the overall maritime spatial planning process.

At the local level, sea basin strategy documents are established under the responsibility and the authority of two "*préfets coordonnateurs*", i.e. a maritime prefect and a regional prefect nominated for that purpose.

The first two parts of the sea basin strategy documents are currently being developed in association with sea basin maritime councils, advisory committees made-up of elected officials, representatives of civil society and different stakeholders.

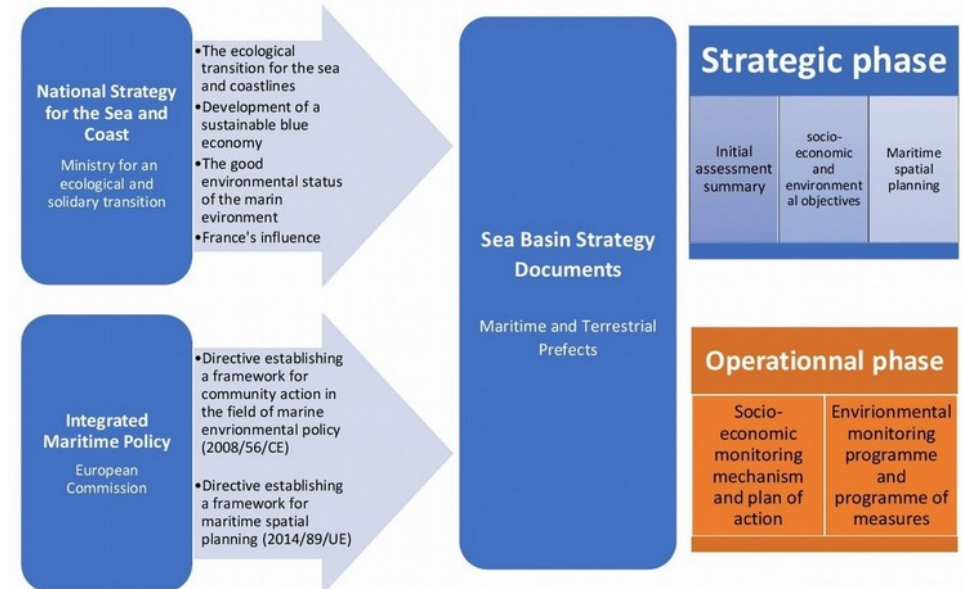
A preliminary public consultation have been held between 26 January and 25 March 2018 under the auspices of the National Commission for Public Debate. It was structured around two modalities:

- an online participatory platform – #MerLittoral2030, aimed at allowing the public to learn more about the planning and objectives and to submit comments on the proposed future visions at 2030 for French sea basins. Participants have also had the possibility to interact and exchange along themselves.
- some citizen workshops organized in several coastal cities.

Feedback results were integrated in a report by the National Commission for Public Debate and a report on how stakeholder opinions were considered will be annexed to the draft sea basin strategic documents.

The draft sea basin strategy documents and environmental assessment reports have been sent to the environmental authority in November 2018. Once its opinion issued, they will be subject to a final official consultation, including public, consultative bodies and France's neighbouring countries. Sea basin strategy documents are foreseen to be adopted in 2019.

► Figure 31 – Sea basin strategy documents' process



2.2.2 – Maritime spatial planning in Spain

In Spain, the MSP Directive have been transposed into Spanish legislation by the Royal Decree 363/2017, of April 8.

This Royal Decree has been issued in application of the provisions of the law 41/2010, of December 29, on the protection of the marine environment, which transposed MFSD in the national legal framework. The article 4.2 of Law 41/2010 establishes that the Government may approve common guidelines to all marine strategies in order to ensure the coherence of their objectives, in such aspects as the management of the activities that are carried out or may affect the marine environment.

One maritime spatial plan (*POEM – Plan de Ordenación del Espacio Marítimo*) will be developed for each of the five Spanish marine demarcations defined for the MSFD implementation: Northern Atlantic, Southern Atlantic, Canary basin, Strait and Alboran, Levantine and Balearic. As stated in article 5 of the Royal Decree 363/2017, the objectives of maritime spatial planning will be determined in the respective maritime spatial plans:

- A set of specific planning objectives will be defined for each of the five marine subdivisions, taking into account the environmental objectives of the marine strategies, and the sectorial planning objectives.
- When establishing and implementing maritime spatial planning, economic, social and environmental aspects shall be considered, to support sustainable development and growth in the maritime sector, applying an ecosystem- based approach, and to promote the coexistence of relevant activities and uses.
- The maritime spatial plans shall aim to contribute to the sustainable development of energy sectors at sea, of maritime transport, and of the fisheries and aquaculture sectors, and to the preservation, protection and improvement of the environment, including resilience to climate change impacts.

Pursuant to the law 21/2013, of December 9, the plans will be subject to strategic environmental assessment. Maritime spatial planning plans will be reviewed at least every ten years, taking into account relevant updates of marine strategies.

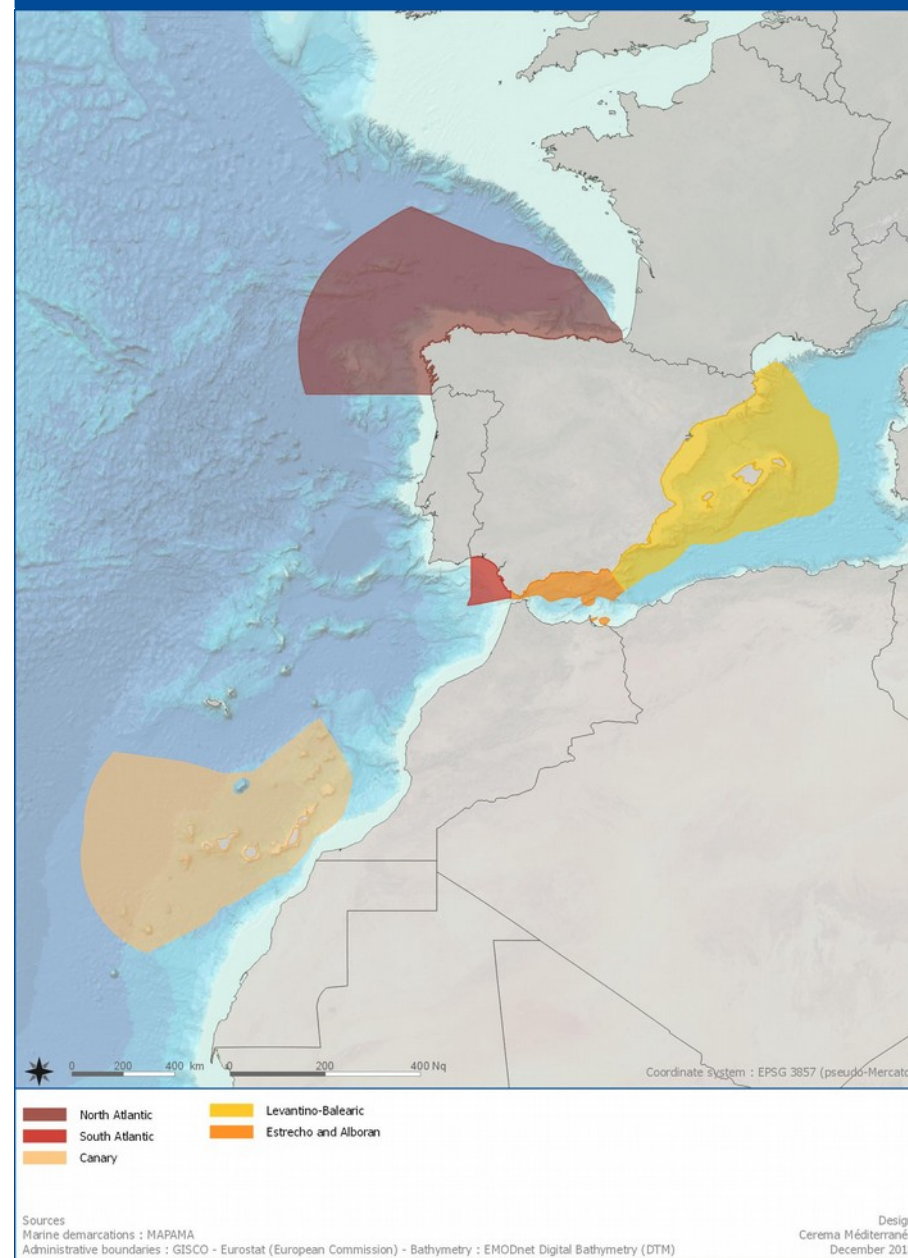
The national authority in charge of MSP is the Ministry for the Ecological Transition, General Directorate for the Sustainability of the Coast and the Sea.

In Spain, maritime spatial planning is at an early stage and works have just been undertaken. A national working group has been set up in March 2017 (*GT-OEM – Grupo de Trabajo de Ordenación del Espacio Marítimo*) under the auspices of the Inter-Ministerial Commission on Marine Strategies (*CIEM – Comisión Interministerial de Estrategias Marinas*) created by the Royal Decree 715/2012, of April 20, for coordinating the drafting, application and monitoring of marine environmental planning.

One of the first tasks of this working group was to elaborate a roadmap of those works that were necessary to be developed at national level for elaborate the plans. This roadmap, which has been approved by CIEM at its meeting of 7 June 2018, includes the main milestones in the marine spatial planning process, a detailed calendar and, in addition of the uses mentioned in the Royal Decree 363/2017, identifies other activities that have been considered necessary to take into account in the plans.

The GT-OEM working group has also advanced in proposal for planning objectives. In order to involve stakeholders in this earliest phase of the maritime spatial planning process, a consultation on these draft objectives is expected to be opened soon.

► Figure 32 – Marine demarcations



2.2.3 – Maritime spatial planning in Portugal

From the National Ocean Strategy...

In Portugal, the National Ocean Strategy is the political and strategic reference framework for the economic, social and environmental enhancement and development of the national maritime space,

The first Portuguese National Ocean Strategy was approved in 2006 (NOS 2006-2016 – Resolution of Council of Ministers n°163/2006, of December 12). In response to several European and national initiatives concerning maritime issues, it was revised in 2013 after an extensive public debate (NOS 2013-2020 – Resolution of Council of Ministers n°12/2014, of February 12).

The NOS 2013-2020 fits the "Blue Growth" paradigm and presents a new model of development of ocean and coastal areas that aim to allow Portugal to meet the challenges for the promotion, growth and competitiveness of the maritime economy.

Based on the vision that "*Mar-Portugal is a national designium 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*", the NOS 2013-2020 and its action plan, the Mar-Portugal 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 economic, 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.

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 identified as 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.

...to the situation plan

In 2014, the law n°17/2014, of April 10 (*LBOGEM – Lei de Bases do ordenamento e Gestão do Espaço Marítimo Nacional*) established the basis of planning and management policy of the national maritime space and created two specific instruments for maritime spatial planning:

- the situation plan (*PSOEM – Plano de Situação do Ordenamento do Espaço Marítimo Nacional*) which identifies and represents areas of protection and preservation of the marine environment and the temporal and spatial distribution of current and potential uses and activities throughout the national maritime space,
- the allocation plans for the private use of some areas or volume of the maritime space not considered in the situation plan.

In 2015, its provisions were further developed by the decree-law n°38/2015, of March 12, which transposed into Portuguese legislation the MSP Directive, and the order n°11494/2015, of October 1st, established the beginning of the development of the situation plan, designing the competent authorities for preparation and support of the process.

The situation plan is not a strategic document and do not aim to define strategies, policies or specific objectives for the development of the blue economy or and the conservation of the marine environment. It's a tool which allow the various strategies which cover the national maritime space, especially the National Ocean Strategy 2013-2020, to become more effective.

If there is only one single plan for the whole Portuguese maritime space, including the extended continental shelf, four subdivisions are nevertheless considered in line with areas and competencies defined for the MSFD implementation: Mainland, Azores, Madeira and extended continental shelf. Three functional units are also defined for each subdivision: territorial sea and inland waters, EEZ and continental shelf.

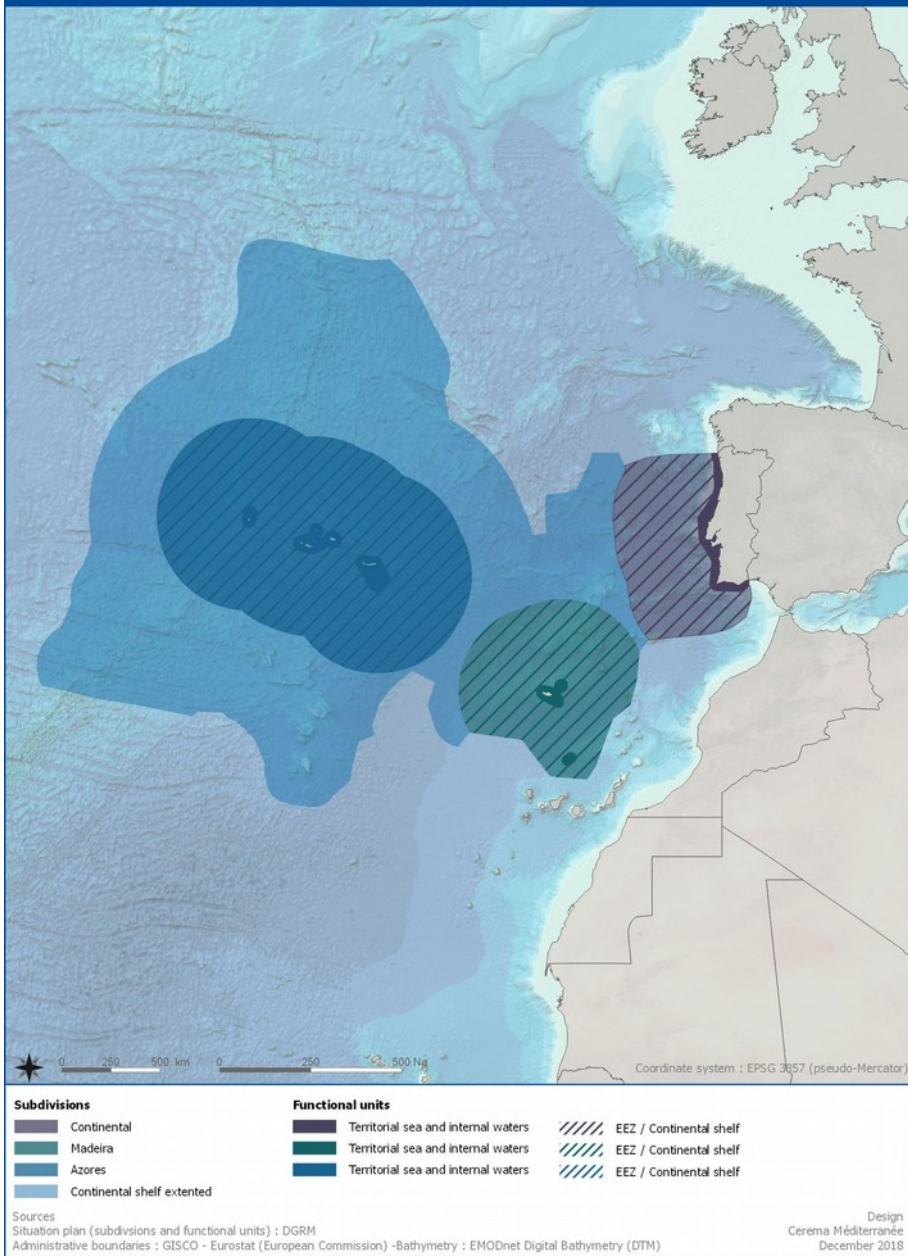
In addition to the cartographic representation of current and potential uses and activities, servitudes and administrative and regulatory restrictions, and areas for safeguarding and protecting natural and cultural resources, the situation plan will also identifies norms and rules associated with public utility restrictions and good practices in the use and management of the national maritime space.

It is accompanied by a characterization report for each of the subdivisions and by the environmental report under the legislation applicable to the environmental assessment of plans and programs.

The situation plan aim to be a dynamic document as changes can occur at any time either through the approval of allocation plans, either through the revision of the territorial programs and plans that affect the national maritime space, or from the needs arising from changes in environmental conditions, maritime safety or economic and social development prospects.

In particular, allocation plans, from public or private initiative, can allot unplanned uses to areas of the national maritime space and, once approved by the Council of Ministers, are integrated into the situation plan which is automatically altered.

► **Figure 33 – Situation plan: subdivisions and functional units**



A revision of the situation plan is planned five years after its adoption if it appears necessary to adapt it to the evolution of economic, social, cultural, and environmental conditions.

At national level, the Directorate General for Natural Resources, Safety and Maritime Services (DGRM) is responsible for the coordination of the overall process and for preparation and development of the situation plan for the continental and extended continental shelf subdivisions.

At regional level, the Regional Directorate for Spatial Planning and Environment (DROTA) of the Madeira Regional Government and the Regional Directorate for Maritime Affairs (DRAM) of the Azores Regional Government are responsible for the preparation and development of the situation plan for their respective subdivisions.

The situation plan is currently being developed. For the mainland subdivision, works are followed and supported by an Advisory Committee chaired by the Directorate General for Marine Policy (DGPM) and composed of representatives of ministries and public bodies with responsibility in the areas of the sea, the environment, the conservation of nature and the sectors of use or activities developed in the national maritime space, as well as representatives of municipalities and autonomous regions of Azores and Madeira.

Six Working Groups (Wgs) coordinated by DGRM have been formed to identify the spatial and temporal distribution of existing and potential uses and activities for the next 10 or 20 years: "Defense, security and navigation", "Marine aquaculture and biotechnology", "Nature conservation and scientific research", "Marine mineral resources, energy resources and renewable energies, infrastructures, and other uses or activities of an industrial nature", "Recreation, sport, tourism, underwater cultural heritage", "Dredged material disposals and marine aggregates".

Several meetings and workshops have been organized with environmental NGOs and economics sectors, especially with the fishing sector.

To allow all interested parties to have access to information and the right to participate, the situation plan website was made available in June 2016. On this website, in addition to information related to the legal aspects of the preparation and approval of the plan, there are also, in relation to the mainland subdivision, the meetings' minutes of the Advisory Committee and the various WGs, private use titles of maritime space already attributed, among other relevant subjects. The interested parties were thus able to follow the various stages of the preparation of the plan, in addition to being given the possibility of requesting clarifications or making suggestions through an e-mail address.

A first version of the draft situation plan for the mainland, Madeira and extended continental shelf subdivisions has been subject to a public consultation from 30 April to 31 July 2018.

For the mainland subdivision, six public disclosure sessions have been organized : three sessions for the general public and three sessions addressed to the fishing sector.

As a result of the contributions from the public discussion, of the opinions of the regional coordination and development commissions and of the consultation process with the Portuguese environmental agency (APA) and the Nature Institute for Nature Conservation and Forests institute (ICNF), the situation plan and the cartography of the Geoportal have been reviewed, amended and consolidated for the mainland subdivision.

A new public consultation on this second version of the draft situation plan has been launched from 12 December 2018 to 31 January 2019.

The situation plan is foreseen to be adopted by the Council of Ministers in 2019.

Box 10 – From POEM to PSOEM

In 2008, in accordance with the NOS 2006-2016 objectives, the Portuguese government established the need to develop a marine spatial plan for all the maritime space under its jurisdiction or sovereignty. This initiative was entitled "Plano de Ordenamento do Espaço Marítimo" (POEM) and it was designed to analyse the existing and future uses/activities in the Portuguese maritime space according to seven major goals. To develop POEM a multidisciplinary team was appointed – consisting of representatives from various ministries, all belonging to the Portuguese Inter-ministerial Commission for Sea Affairs (CIAM) – and the Portuguese Water Institute (INAG) was designated as the responsible coordinating entity.

Between 2008 and 2010, the multidisciplinary team developed the POEM's documents which were subjected to a public consultation process between November 2010 and February 2011. In the beginning of 2012, following a government change, the Directorate General for Maritime Policy (DGPM) was created and assumed the coordination of POEM's multidisciplinary team.

Finally, order n°14 449/2012, of November 8, determined that POEM's final documents were to be published on the DGPM website, however without granting POEM the status of a planning/management instrument but only of a study on the uses and activities that take place in the Portuguese maritime space.

Box 11 – TUPEM and situation plan

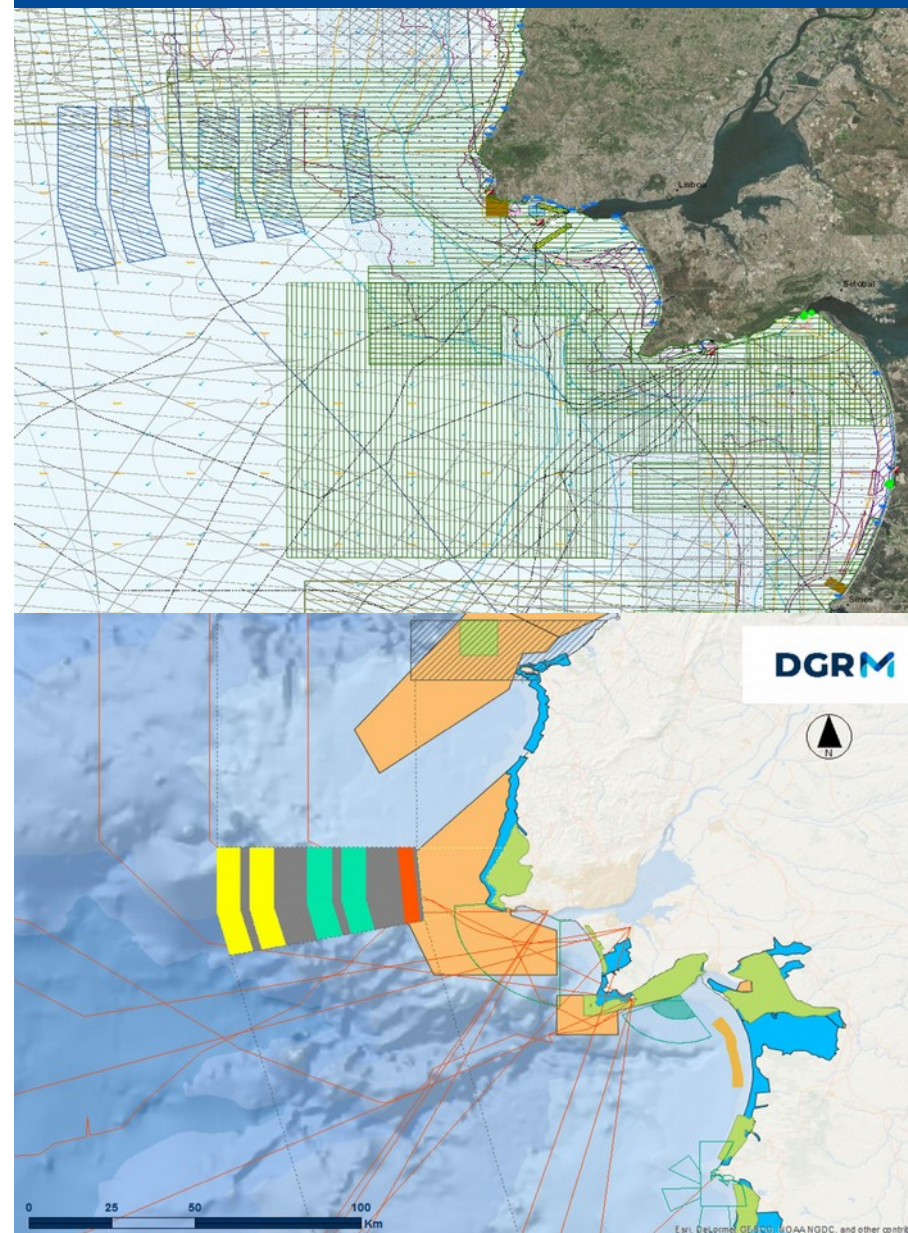
The LBOGEM and the decree-law n°38/2015 establish that any private use of the maritime space is subject to a private use title (TUPEM: título de utilização privativa do espaço marítimo nacional) which shall be granted by the Directorate General for Natural Resources, Safety and Maritime Services (DGRM) except in the case of autonomous regions of Azores and Madeira, where the private use title shall be issued by their respective competent bodies.

Three types of private use titles are set depending on the duration of the activity, namely, a "concession", for those prolonged and uninterrupted uses exceeding twelve months, a "licence", for those interrupted or seasonal temporary uses, and an "authorization", for those pilot projects on non-commercial activities. The main differences among concessions, licences, and authorisations are their maximum durations (50, 25, and 10 years, respectively) and the tax exemption of those activities which are subject to authorisation

In the case of the area to be occupied is already foreseen in the situation plan, the proposal of obtaining a TUPEM is analysed directly by DGRM and the emission of the title depends on the compliance of the necessary elements to the consent process.

If the area to be occupied is not designated to the activity, the promoter can propose the change of the situation plan upon the submission of a proposal of an allocation plan, duly substantiated, that will change automatically the situation plan if approved by the Council of Ministers. With the approval of the allocation plan, conditions then will be met to the issue of the TUPEM.

► Figure 34 – From the POEM's cartography to the PSOEM digital portal



2.3 – Previous and current transboundary MSP-related projects

2.3.1 – TPEA – Transboundary Planning in the European Atlantic

TPEA – Transboundary Planning in the European Atlantic was a project co-funded by the European Commission (DG MARE) which ran from December 2012 to May 2014.

The aim of the project was to demonstrate approaches to transboundary maritime spatial planning (MSP) in the European Atlantic region. It was one of a series of projects exploring the opportunities and challenges of carrying out cross-border MSP in Europe's regional seas.

What sets transboundary MSP apart from national approaches? What are the added dimensions that need to be considered during the cross-border MSP process? How can ICM be taken into account? What are the barriers to transboundary MSP, and how can these be overcome? How can transboundary MSP be delivered in practice with limited available resources, and how can we be sure of its effectiveness?

To address these questions, the project brought together, under the coordination of University of Liverpool, ten governmental and research partners from Ireland, Portugal, Spain and the United Kingdom and expert advisors from the five European Atlantic nations, including France. It examined critical elements of the transboundary planning process in the context of legal and policy frameworks, participatory approaches and technical considerations.

The project focused on two pilot areas:

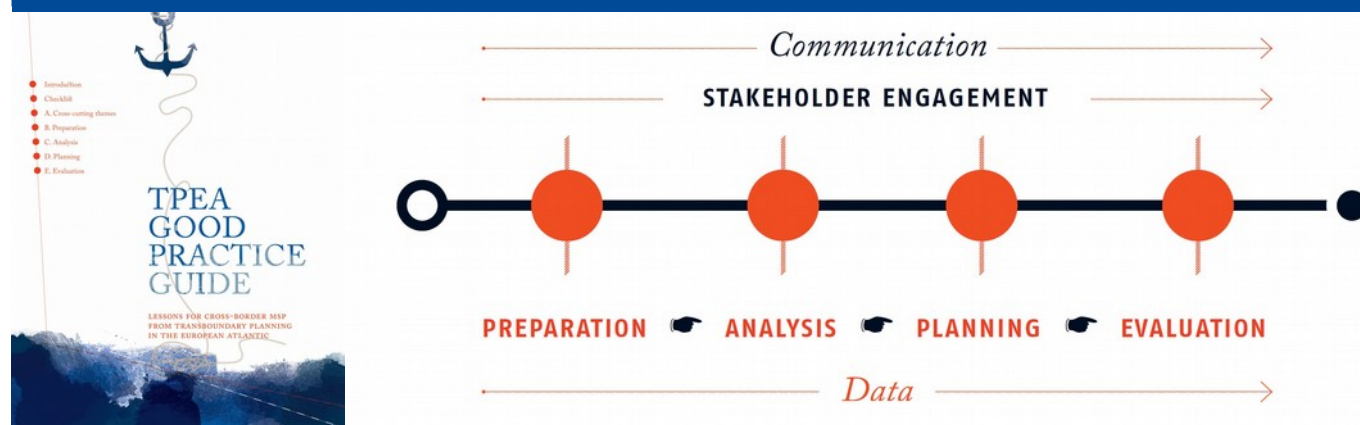
- the Portuguese and Spanish partners based their pilot area around the nations' southern national borders: Algarve – Gulf of Cadiz,
- the Irish and UK partners based their pilot area around Ireland and Northern Ireland's eastern national borders: East Coast – Irish Sea

Despite distinct identities in the region relating to different traditions of planning and stages of MSP implementation, TPEA worked towards a commonly-agreed approach to transboundary MSP and developed principles of cross-border working.

Lessons learned was summarised through a Good Practice Guide intended to contribute to cross-border MSP in Europe and beyond.

Attention was given to the following stages: preparation, analysis, planning, evaluation. Importance was also given to the following aspects, which ran alongside the previous stages throughout the process: stakeholder engagement, communication and data.

► Figure 35 – The TPEA Good Practice Guide



► Figure 36 – The TPEA pilot areas



2.3.2 – MAIA – Marine protected areas in the Atlantic arc

MAIA – Marine protected areas in the Atlantic Arc was an Interreg project which ran from 2010 to 2012 under the coordination of the French *Agence des Aires Marines Protégées* (AAMP).

Its purpose was to set up a network for exchanges and discussion between the managers of marine protected areas in the Atlantic Arc. Four countries were involved: Portugal, Spain, France and the United Kingdom. One of the tools put in place during the project was the MAIA database.

The aim of this database was to share official and updated information of international and national MPAs but also support the ecological coherence assessment of the existing network. Based on the WDPA (World Database on Protected Areas) standards, the database contains geographic boundaries of MPAs, standard attributes and attributes fields on species, habitats, activities, management method, protection measures, etc.

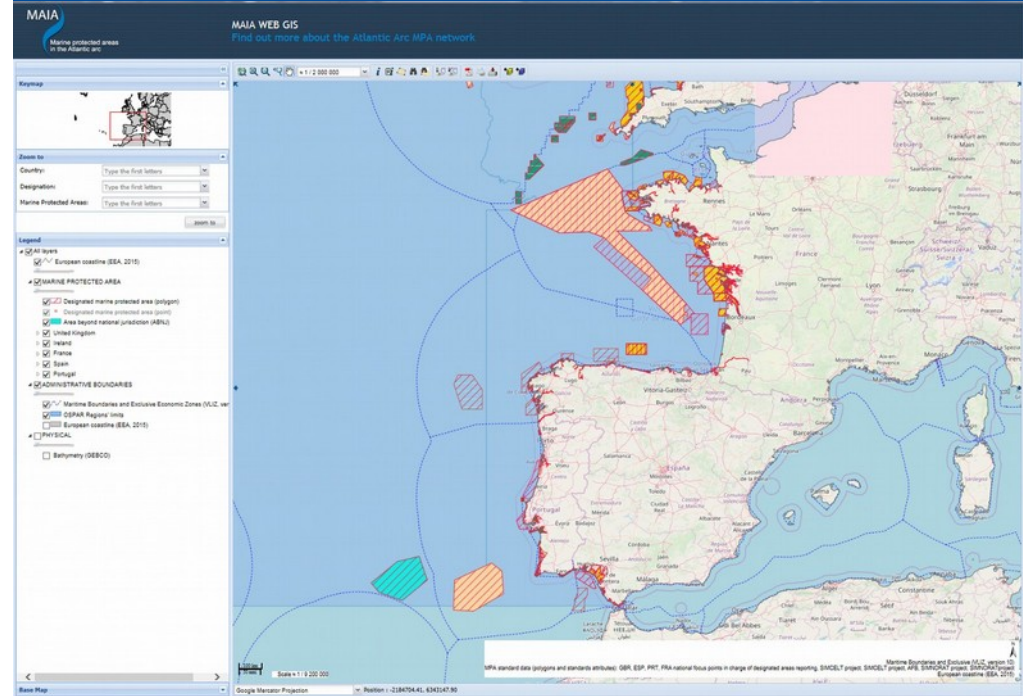
In 2013, the MAIA database became the NEA (North-East Atlantic) database to meet the needs of the PANACHE (Protected area network across the Channel ecosystem) Interreg project, the counterpart of MAIA for the English Channel, also coordinated by AAMP from 2013 to 2015. As the geographic scope of the database was extended to include the Channel, several fields and values in the attribute data were added.

Furthermore, as part of French Biodiversity Agency's cooperation with the OSPAR Commission, decision was made to make the MAIA/PANACHE database the reference database for compiling information on the network of marine protected areas designated by the OSPAR Commission in Europe. Fields and values specific to OSPAR were therefore added to the database.

In 2016 and 2017, the database was completed in the Celtic Sea region (France, United Kingdom, and Ireland) through the SIMCelt project. During this project, the MPA database was updated to integrate the missing boundaries of MPAs in the region of interest but also to complete attributes of species, habitats and activities.

All information contained in the database is displayed online via four geography portals: [MAIA](#), [PANACHE](#), [OSPAR](#) and [FAB](#). MPAs of the OSPAR IV region are displayed through the MAIA portal (and through the OSPAR portal only for OSPAR MPAs). These portals allow download of the MPAs geographic layers containing their standard attributes and use of WMS and WFS flows.

► Figure 37 – The MAIA WEB GIS portal



2.3.3 – MUSES – Multi-Use in European Seas

MUSES – Multi-Use in European Seas is a Horizon 2020 project running from November 2016 to October 2018.

The project focuses on the following key objectives:

- explore the opportunities for multi-use in European seas across five sea basins (Baltic Sea, North Sea, Mediterranean Sea, Black Sea and Eastern Atlantic), including the scope for innovation and Blue Growth potential,
- provide an understanding of environmental, spatial, economic & societal benefits of co-location,
- highlight inappropriate regulatory, operational, environmental, societal and legal aspects,
- present practical solutions on how to overcome existing barriers and minimise risks associated with multi-use development whilst maximising local benefits.

Led by Marine Scotland, the MUSES consortium bring together 10 partners from seven countries with a mix of consultancies, academia and government bodies.

The project has three main pillars:

- regional overviews in the five sea basins to facilitate adoption of a common approach across the sea basins,
- a set of 7 case studies within sea basins that will provide an in-depth analysis of advantages, barriers and solutions for combining different uses of the sea in specific locations,
- an Action Plan to address the challenges and opportunities for the development of multi-use of oceans identified in the regional overviews and case studies.

The Action Plan will be one of the main deliverable of MUSES project. It aims to provide orientations and recommendations of what should be done, by whom and where in order to further develop the multi-use concept. It will focus on nine multi-use combinations found to be of high relevance across the EU sea basins:

1. Tourism, fisheries and environmental protection
2. Tourism and aquaculture
3. Tourism, underwater cultural heritage and environmental protection
4. Offshore wind farm and tourism
5. Offshore wind farm and aquaculture
6. Offshore wind farm and fisheries
7. Oil & Gas Decommissioning – Repurposing
8. Offshore wave energy and aquaculture
9. Offshore wind and marine renewable energy

► Figure 38 – The MUSES case studies



Box 12 – The MUSES multi-use definition

As defined within the MUSES project, multi-use is an intentional joint use of resources in close geographic proximity. This can involve either a single user or multiple users performing multiple uses. It is an umbrella term that covers a multitude of use combinations and represents a radical change from the concept of exclusive resource rights to the inclusive sharing of resources by one or more users.

A user is understood as the individual, group or entity that intentionally benefits from a given resource. If a business creates a separate legal entity to exploit an additional resource, this entity is then considered another user.

A use is understood as a distinct and intentional activity through which a direct (e.g. profit) or indirect (e.g. nature conservation) benefit is drawn by one or more users. For the purpose of this definition, a clear distinction is made between different types of uses.

A resource is understood as a good or service that represents a value to one or more users. Such a resource can be biotic (e.g. fish stocks) or abiotic (e.g. ocean space) and can be exploited through either direct (e.g. fishing) or indirect (e.g. nature conservation) uses.

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1.2 – Maritime delimitations

For France

Décret n°2015-958 du 31 juillet 2015 définissant les lignes de base à partir desquelles est mesurée la largeur de la mer territoriale française adjacente au territoire de la France métropolitaine et de la Corse.

Ordonnance n°2016-1687 du 8 décembre 2016 relative aux espaces maritimes relevant de la souveraineté ou de la juridiction de la République française.

Décret n°2018-681 du 30 juillet 2018 établissant la limite extérieure de la mer territoriale au large du territoire métropolitain de la France.

For Spain

Ley 10/1977, de 4 de enero, sobre mar territorial.

Real Decreto 2510/1977, de 5 de agosto, sobre trazado de líneas de base rectas en desarrollo de la Ley 20/1967, de 8 de abril, sobre extensión de las aguas jurisdiccionales españolas a 12 millas, a efectos de pesca.

Ley 15/1978, de 20 de febrero, sobre zona económica.

For Portugal

Decreto-Lei n.º495/85 de 29 de Novembro – Redefine as linhas de fecho e de base rectas estabelecidas pelo Decreto-Lei n.º47771, de 27 de Junho de 1967, nas costas do continente e das ilhas dos arquipélagos da Madeira e dos Açores.

Lei n.º34/2006 de 28 de Julho – Determina a extensão das zonas marítimas sob soberania ou jurisdição nacional e os poderes que o Estado Português nelas exerce, bem como os poderes exercidos no alto mar.

On maritime boundaries agreements

Convention between France and Spain on the delimitation of the territorial sea and the contiguous zone in the Bay of Biscay (Golfe de Gascogne/Golfo de Vizcaya), 29 January 1974.

Convention between the Government of the French Republic and the Government of the Spanish State on the Delimitation of the Continental Shelves of the two States in the Bay of Biscay (Golfe de Gascogne/Golfo de Vizcaya), 29 January 1974.

On the limits of the continentals shelves

Recommendations adopted by the Commission on the Limits of the Continental Shelf on 24 March 2009 on the limits of the continental shelf in regard to the Joint Submission made by France, Ireland, Spain and the United Kingdom of Great Britain and Northern Ireland in respect of the area of the Celtic Sea and the Bay of Biscay on 19 May 2006.

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2.2.1 – Maritime spatial planning in France

Legal framework

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Legal framework

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2.2.3 – Maritime spatial planning in Portugal

Legal framework

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