

# Trends in Maritime Spatial Planning in Europe: An Approach to Governance Models

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## Abstract

Maritime spatial planning is considered a key instrument for the success of integrated maritime policy. MSP is therefore an integrated approach to address the conflicting and competing uses of ocean resources and spaces in order to achieve the sustainable development of seas. This paper aims to access how governance models have been evolving with the implementation of MSP in Europe. The study compares institutional and legal frameworks in a North-South context, based on the case studies of Norway, Netherlands, England, Germany and Portugal and concludes that, although there are similarities in the legal frameworks developed to implement MSP, more profound differences arise on marine governance models and institutional frameworks, reflecting different political approaches and regional contexts.

## Keywords

Maritime Spatial Planning, Marine Governance, Institutional Framework

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## 1. Introduction

Maritime Spatial Planning (MSP) is viewed as a global major policy tool to ensure integrated and holistic management of oceans and seas. It has been pointed out as the way to improve the decision making regarding ocean sustainability and as a way to achieve more effective implementation of the ecosystem-based management approach in the marine environment [1]. MSP was developed in Western Europe, North America and Australia, and the concept spread all over the world [2].

What originally started as a management approach to achieve nature conservation applying the ecosystem base management, has recently become a management tool used to achieve not only ecological objectives but also economic

and social objectives in several countries across the world [3] [4].

At a time when the oceans are regaining their importance as priority for many countries, the MSP emerges as a tool for sustainable marine governance, reducing and resolving possible conflicts between different uses and activities in the maritime space. The stakeholders have an important role in the MSP policy development, in order to achieve its goals [5] [6].

The European Union (EU) recognizes the MSP as an important tool for the development and implementation of the EU integrated maritime policy, as stated in various policy documents of the EU. The Blue Growth Communication (COM 494 final) released in 2012 can be considered the booster for the MSP in Europe [7]. In this document, MSP is considered as one of the crucial tools for the development of the integrated maritime policy, responsible for organizing the different uses of the oceans, to minimize its impacts on each other while, simultaneously, protecting the ecological and biological characteristics of the seas [8] [9]. This communication actually launched the process that placed blue economy and blue growth on the agenda of member states.

As a “*cross-cutting policy tool*” [10] MSP needs a coordinated and integrated collaboration between different stakeholders in order to achieve its goals: the sustainable development and growth of the maritime and coastal economies as well as the sustainable use of marine and coastal resources [10] [11]. On the other hand, MSP revealed to strongly impact on the political and institutional frameworks, which had to adapt to this new maritime governance model, often causing conflicts among agencies or even structural changes in governments. Nevertheless, the way institutions and governments adapted to accommodate both the Integrated Maritime Policy, Blue Growth and its instrument MSP is scarcely addressed in bibliography. This article intends precisely to approach this issue, by comparing different EU country governance models and institutional frameworks following the development of MSP.

## 2. Objectives and Methodology

This article main goal is to analyse the trends on governance models adopted following the implementation and development of MSP by several European countries in a North-South context, using the Portuguese case-study as south reference.

Norway, England, the Netherlands, Germany and Portugal were chosen as cases for MSP since they represent a diversity in Europe regarding MSP. We chose to analyze countries that have a strong maritime economy and a historical approach to the management of seas and, at the same time, were already in an advanced state towards accomplishing the process of MSP.

Information on the state of the art of MSP implementation, governance models and institutional frameworks in each country, was obtained both by specific questionnaires addressed to national authorities through the Portuguese National Council for Environment and Sustainable Development and its homologs, as

well as available web information.

We analysed the institutional and legal frameworks related to the implementation of MSP, how that process influenced marine governance models and impacted on the institutional frameworks. Government structure and competences of the different ministries, legal support developed to embrace MSP, institutional framework and mandates to implement MSP, were analysed and options compared.

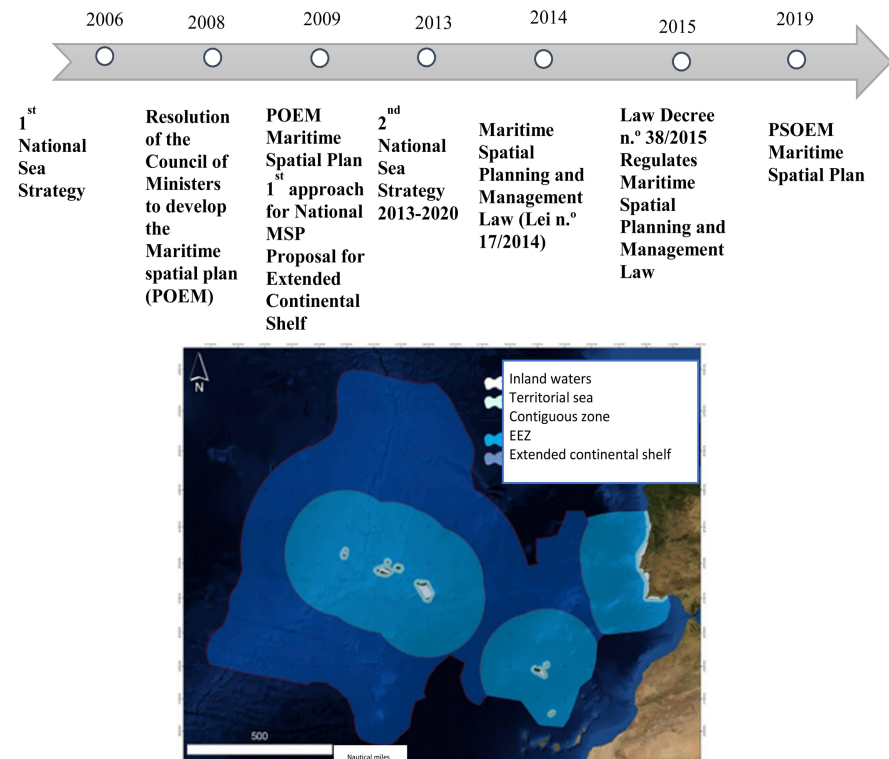
### 3. Results

#### 3.1. Portugal Case Study

Portugal has one of the largest maritime national jurisdictions in Europe, representing 1,727,408 square kilometers, an area 18 times the country's terrestrial area [12] [13]. If the request for the extension of the continental shelf is approved, Portugal will reach a territory around 4,000,000 km<sup>2</sup> (Figure 1).

Latest data on GDP shows that blue economy accounts for 3.4% with an estimate of 50% growth until 2020 [14]. Furthermore, 76% of the Portuguese population lives in the coastal area, where some of the most important sectors of maritime activities (coastal tourism, ports and leisure) occur. This reality has dramatically contributed to a political priority in the development of the Portuguese maritime legislation and planning [13].

Portugal, since early and following the 1998 International Year of the Oceans,



**Figure 1.** Time line for MSP in Portugal and maritime space including the proposal for extended continental shelf. Source: authors. Map adapted from <https://www.emepc.pt/>.

promoted by the United Nations and held in Lisbon, began to draw an integrated national policy for the sea, involving several entities and stakeholders. That leads to the approval, in 2006, of one of the very first National Sea Strategy (ENM) within the EU, already paving the way for MSP. That strategy aimed to promote an integrated coastal and maritime policy, following the principles of ecosystem base management, precaution and sustainable development [15] [16]. In 2007 the Interministerial Commission for Maritime Affairs (CIAM) was established, with the main goals of ensuring interministerial coordination, adequate monitoring and coordination of cross-cutting policies and to oversee the implementation of the National Sea Strategy<sup>1</sup>.

The first approach for a Portuguese Maritime Spatial Plan (POEM) was launched in 2009, together with the request delivered at the UN for the extended Continental Shelf [17]. This route for MSP was accomplished on the 10<sup>th</sup> October 2019 with the formal approval of the national MSP, following a time line showed in **Figure 1**.

In 2013, the national sea strategy was reviewed, in order to incorporate the guidelines of the European Marine Strategy Framework Directive [18] and a new National Sea Strategy 2013-2020 (ENM) [14] was approved. ENM 2013-2020 focus on the Blue Growth communication of the European Union [8] and tries to integrate the different sectorial policies related to maritime affairs, defining the principles for MSP and ICZM [12] [19].

Along with this process, the political and institutional framework for the marine governance suffered a dramatic change to adapt political structures: the XIX Government (2011-2015) included, from the very beginning, a Ministry for the Sea and two new governmental agencies were created: the Directorate General for Maritime Policy and the Directorate General of Natural Resources, Security and Maritime Services (**Table 1**).

The MSP and Management Law was approved in 2014 (Law No. 17/2014) aiming to “*foster economic exploitation of marine resources and ecosystems services, while ensuring the compatibility and sustainability of different maritime uses and activities, accounting for intergenerational responsibility in the spatial use of national maritime space and aiming at job creation*” [20]. The Law also determines that the National MSP will consider three sub regions: the area between the baseline and the outer limit of the continental shelf beyond 200 nautical miles, the maritime space adjacent to the Madeira archipelago, and the maritime space adjacent to Azores archipelago [21].

The management system for maritime spatial planning considers two instruments: the *Situation Plan* and the *Allocation Plans*. The situation plan identifies the areas reserved for the protection and preservation of the marine environment,

<sup>1</sup>CIAM is chaired by the Prime Minister, and it integrates the Minister of Finance, the Minister of Foreign Affairs, the Minister of National Defense, the Minister of Internal Affairs, the Minister of Economy, the Minister of the Sea, the Minister for Environment, the Minister of Health and the Ministers of Education and Science and the members of the Regional Government of Azores and Madeira, responsible for maritime affairs. Since 2011 the CIAM is co-chaired by the Minister of the Sea.

**Table 1.** Portugal's Institutional framework for the governance of the sea.

Ministry of the Sea	
○ DGPM (Directorate General for Maritime Policy)	Responsible for MSP policies.
○ DGRM (Directorate General of Natural Resources, Security and Maritime Services)	Responsible for the implementation of MSP
○ IPMA (Portuguese Institute of the Sea and Atmosphere)	Responsible for research projects reverting to direct applications to use in operational activity. Searches for a progressive improvement of information provided to users, with the concern oriented to safeguarding people and property.
CIAM (Interministerial Commission for Maritime Affairs)	Coordination and monitoring of cross-cutting policies. Responsible to oversee the correct implementation of the National Sea Strategy.
Ministry of Environment and Climate Action	EIA national Authority; Regulates coastal zone planning and management
○ Portuguese Environment Agency (APA)	
Ministry of National Defense	Maritime security and national defense.

and the spatial and temporal distribution of, existing and potential uses and activities, occurring in the maritime area [20]. The allocation plan allocates areas and volumes of the national maritime space, to uses and activities unidentified in the situation plan. Once the approval of one allocation plan is completed, this plan is automatically integrated into the situation plan.

The financial and economic regime applied to the private use of marine space and the evaluation system of MSP, was also considered in the Law 17/2014 and developed in the regulatory decree of the Law No. 17/2014 [22]. The private use of the Portuguese maritime space is allowed, by licence (25 yrs.), authorization (10 yrs.) or a concession (until 50 yrs., mainly for heavy uses such as oil, gas and minerals exploitation). The payment of a user fee (TUEM) is determined aiming a public compensation for the private use, supporting administrative costs of planning, management, maritime safety, surveillance and to feed a Blue Fund to promoting scientific research and blue entrepreneurship. The DGRM is responsible for maritime licensing and APA for the process of environmental licensing through EIA.

One of the most critical areas for MSP is the articulation with existing ICZM, highlighted in the EU MSP Directive. The Portuguese legal maritime framework does take into account the need and basic principles for this articulation, however, the law is very clear stating that the national maritime spatial planning instruments, although taking into account the pre-existing plans and programs, namely POOC (special coastal zone management plans) and special management plans for protected areas (POAP), will prevail if incompatible norms are identified [22]. This highlights a clear prevalence of the maritime planning instruments over the terrestrial instruments [23]. This option, which differs from

other case studies, showed to be quite critical as those plans range the 30 m bathymetric. With the approval of PSOEM in 2019, the solution found to avoid this conflict, was to elaborate specific regulations for that area and for coastal MPA's, incorporating specific norms, particularly related with coastal protection and nature conservation.

### 3.2. The Netherlands Case Study

The North Sea is one of the busiest seas in the world with 7 bordering countries (some being members of EU and others that are not). The Dutch part of the North Sea represents 10% of the sea surface (about 58,000 km<sup>2</sup>) and it is 1.5 times its land surface. The authority of the national government starts 1km out of the coast while the first km is shared with municipal and provincial authorities. Among the economic activities in the North Sea, some are most important for Netherlands: shipping, sand extraction for beach nourishment, gas and oil extraction, military zones, coastal tourism, fisheries and offshore wind energy. Nature conservation is also a priority with 5 marine protected areas, accounting for almost 20% of Dutch sea area.

Netherlands has historically a special focus on the efficient use of the sea and, accordingly, developed a strong legal framework based on the water law, spatial planning law and environmental law. At the same time, policies and strategies regarding MSP, such as the “Dutch maritime strategy (2015-2025)” and the “Policy Document on the North Sea 2016-2021”, following a 1st version (2009-2015) were developed and are in course, as shown in the timeline in **Figure 2**.

Netherlands also constituted an interministerial body gathering all ministries with sectorial responsibilities in the North Sea: the IDON (Interdepartmental Directors North Sea Consultative Body) which is the structure where sectoral polices are coordinated and has the responsibility to develop maritime policies. The IDON is coordinated by the Ministry of infrastructure and Water management, and integrates the Ministry of Infrastructure and Water management, the Ministry of Economic Affairs and Climate, the Ministry of Agriculture, Nature and Food Quality, the Ministry of Interior and Kingdom Affairs, the Ministry of Defence, the Ministry of Finance, the Ministry of Culture Affairs and Education and executive organizations such as the Coast Guard (**Table 2**).

The Dutch EEZ does not extend up to 200 nautical miles, due to its proximity to other states of the North Sea. The outer limit of the Dutch EEZ corresponds to the limit of the Dutch continental shelf, which was defined by treaties with



**Figure 2.** Timeline for Netherlands MSP. Source: the authors.

**Table 2.** Dutch Institutional framework for the governance of the sea.

Ministry of Infrastructure and Water management -Rijkswaterstaat	Responsible for drafting the Water Policy and for overseeing the implementation of laws, regulations and conventions, such as the OSPAR Convention. Coordinator of IDON, which supports the elaboration and evaluation of the integrated North Sea Policy. Rijkswaterstaat (the Dutch maritime and marine management organisation) is the maritime coordinating management authority with licensing competences.
Ministry of Economic Affairs and Climate	Responsible for licensing gas and oil exploration activities, for monitoring the compliance of legal regulations for the detection and extraction of mineral resources. Involved in large-scale wind power developments, among other responsibilities regarding the environmental safety of the sea.
Ministry of Defence	Responsible for water data mapping, and the development of activities related to the security and defence of the country.
Ministry of Finance	Responsible for customs, and for taxation.

Belgium, Germany and the UK (**Figure 3**). The maritime area under Dutch jurisdiction is divided into two zones, regarding legal frameworks: the territorial sea (up to 12 nautical miles) where all legal instruments are in place and the exclusive economic zone (EEZ), in which area only certain laws and regulations are in force (e.g. the fauna and flora act).

### 3.3. England Case Study

Before 2009, the UK marine legislation was based on a sectorial approach with an inherent complexity and overlapping responsibilities between different agencies and government departments [24]. The need for a more holistic and integrated approach to the marine governance brought the development of new law, the Marine and Coastal Access Act (MCAA) approved by the government in 2009 (England and Wales), the Marine Act 2010 (Scotland) and the UK Marine Policy Statement (MPS) 2011 [25] [26]. The MPS provides the framework for maritime management plans, marine licensing system and for marine ecosystems. The declaration was signed by the English Secretary of State, the Scottish Ministers, the Welsh Ministers and the Northern Ireland Environment Department, symbolizing a very important step to the integrated management of the maritime space. The MSP of the maritime space under the UK jurisdiction is accomplished through the Marine Policy Statement (MPS) and maritime plans. The MCAA established a new institution, the Marine Management Organization (MMO) [27] responsible for the development of marine polices for English waters. MMO is the regulator for most activities in the marine environment, controls marine licenses and permits and manages maritime fisheries [25]. MMO is

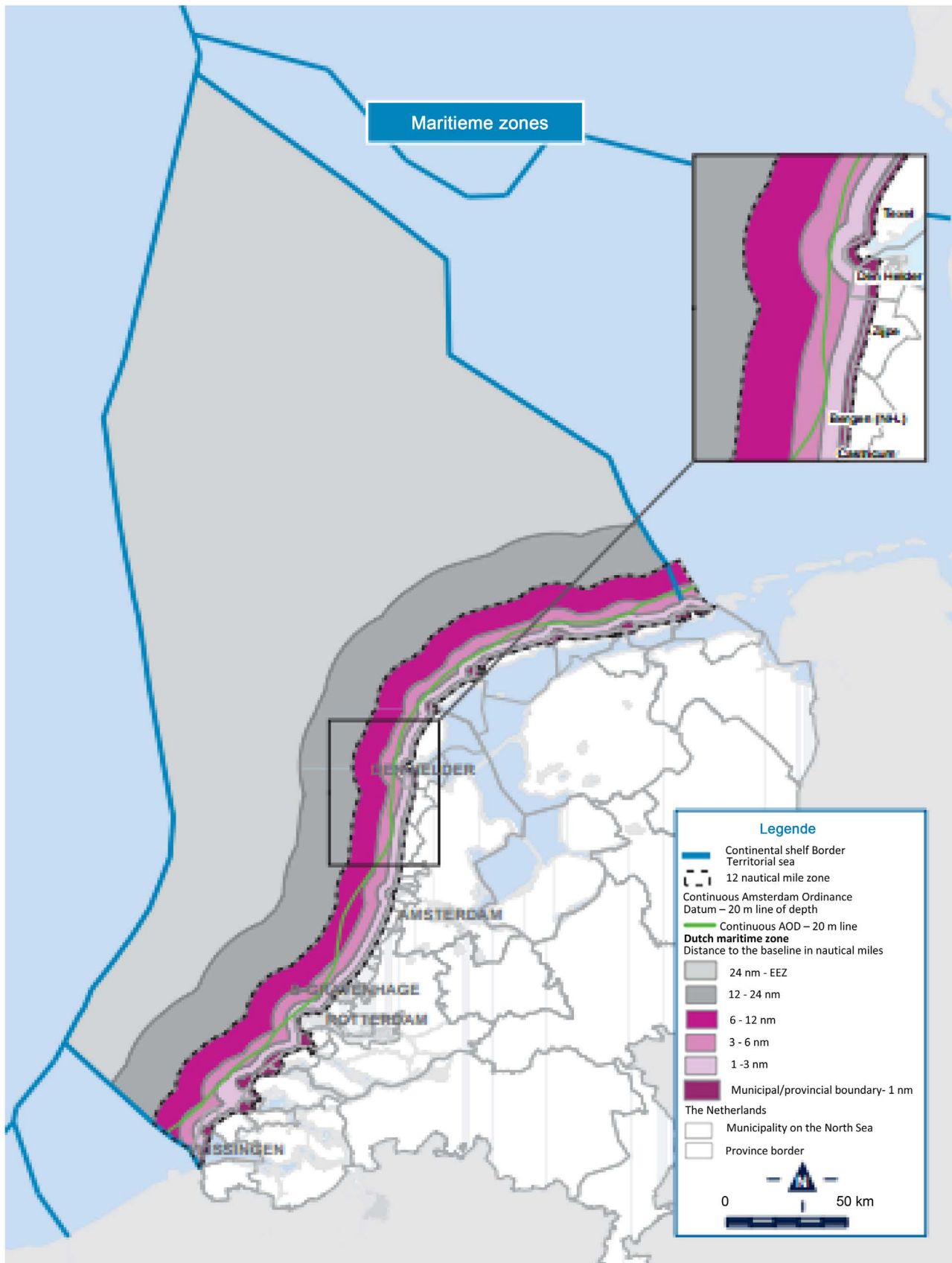


Figure 3. Netherlands maritime space. Source: <https://www.noordzeeloket.nl/en/management/maritieme-zones/>.



also responsible for the establishment of a network of marine conservation zones (Marine Conservation Zones, MCZ) and is legally enforced to monitor compliance with legislation on environmental protection. Despite the intention of simplifying the maritime governance system, the management of maritime space engages various sectors, sectoral, national and international policies and, therefore, various government departments are involved [25]. However, the key institution for MSP is the Marine Management Organization (MMO), under the Ministry for the Environment, Food and Rural Affairs (Table 3). A total of 11 Maritime Spatial Plans (Figure 4) were defined by MMO being the first to be developed the East Zone plans (inshore and offshore).

The MCAA and the MPS consider the terrestrial planning system which might affect, direct or indirectly, the maritime space. The two planning systems overlap, since marine plans have jurisdiction until the Mean High Water Spring Tide (MHWS), and terrestrial plans have jurisdiction until the Mean Low Water Spring Tide (MLWS). The MPS states that the overlap will cause the two management systems to assume full management of the area in question, not being restricted to artificial limits on the coast [28]. The geographical overlap will encourage the authorities to cooperate for the management of space, seeking the harmonization between the plans must be achieved, and in case of incompatibility, the land plans should prevail [29].

### 3.4. Norway Case Study

Norway's economy is dominated by the weight of oil exploitation and exportation, together with shipping, fisheries, aquaculture and nautical tourism, with almost 80% of Norwegian living in the coastal zone.

The MSP for Norwegian maritime areas and the elaboration of the management plans are coordinated by an Inter-Ministerial Steering Committee, chaired by the Minister for Environment and Climate Change. However, several ministries and government agencies are also involved in the Norwegian marine governance system, with different responsibilities (Table 4). The Management plans provide the framework for the regulation of human activities permitted in the maritime area, leaving the responsibility of licensing on the relevant authorities in each sector as Norway did not develop a dedicated licensing regime for maritime activities.

The planning system and management of the maritime area in Norway are achieved through a set of authorizations and parliamentary resolutions, commonly known as "white papers" which set the goals and targets for MSP. The resolution of the Norwegian Parliament "Protecting the Riches of the sea" 2002 announced the development of the first maritime spatial management plan for the area of the Barents-Lofoten Sea, due to the natural richness of the area and its growth potential. The Norwegian maritime space was divided into three areas, according to geographical characteristics: 1) Barents-Lofoten Sea, 2) Norwegian Sea and 3) North Sea and Skagerrak (Figure 5).

**Table 3.** UK (England) institutional framework for the governance of the sea.

Ministry for the Environment, Food and Rural Affairs Department for Environment, Food and Rural Affairs (DEFRA)	
○ Natural England	Government statutory conservation body responsible for advising the government and industry, regarding environmental conservation, biodiversity and seascapes in the territorial waters (up to 12 nautical miles). Also responsible for the recommendation of marine areas to consider and include in the national network of Marine Protected Areas.
○ Joint Nature Conservation Committee	Advises the government regarding the conservation of nature in the offshore maritime space (between 12 and 200 nautical miles), considering the national and international legislation for the protection and conservation of biodiversity and marine environment.
○ Environment Agency	Responsible for the implementation of the Water Framework Directive in order to achieve good ecological status for water. Responsible for the prevention of coastal erosion, pollution, the monitoring of bathing water, the environmental licensing up to 12 nautical miles.
○ Marine Management Organization (MMO)	Responsible for Maritime Spatial Planning, for marine licensing and maritime conservation zones. It is the main government regulator for the territorial waters and sea areas in the high seas.
○ Inshore Fisheries Conservation Authorities (IFCAs)	Responsible for the management of coastal fisheries and for compliance with local laws up to 6 nautical miles.
Ministry of Housing, Communities and Local Government	Advises the government regarding the conservation of nature in the offshore maritime space (between 12 and 200 nautical miles), considering the national and international legislation for the protection and conservation of biodiversity and marine environment.
Ministry of Defence (MOD)	Responsible for the prevention of coastal erosion, pollution, the monitoring of bathing water, the environmental licensing up to 12 nautical miles.
Department of Energy & Climate Change (DECC)	Co-responsible for Maritime Spatial Planning, for marine licensing and maritime conservation zones. It is the main government regulator for the territorial waters and sea areas in the high seas.
Department for Transport (DfT)	Co-responsible for the management of coastal fisheries and for compliance with local laws up to 6 nautical miles.
Department for Digital, Culture, Media and Sport	Through <i>English Heritage</i> , is responsible for the protection and preservation of wrecks, and the protection of marine historical and archaeological environment.

**Table 4.** Norway Institutional framework for the governance of the sea.

Ministry of Environment and Climate Change	Coordinates MSP. Responsible for environmental policies, including conservation and protection of ecosystems and marine biodiversity policies. Coordinates the implementation of environmental policies in different sectors through intersectoral environmental policy instruments. Controls polluting activities, develops municipal and private environmental contingency plans and deals with environmental issues related to shipping. Responsible for the good environmental status of sea waters.
Ministry of Trade, Industries and Fisheries <ul style="list-style-type: none"> <li>○ Department for fisheries and Aquaculture</li> <li>○ The institute of Marine research</li> <li>○ The Norwegian maritime Authority</li> </ul>	Responsible for the management of marine living resources and the government policy for fishing industry, aquaculture industry, food safety marine products, maritime safety, maritime transport and response system to severe pollution emergencies. Responsible for monitoring and research on marine ecosystems. Responsible for maritime safety within the framework of the International Maritime Organization (IMO).
Ministry of Petroleum and Energy	Responsible for the management of oil resources, including licensing and for the integration of environmental policies in the management of oil and gas industry.
Ministry of Labour and Social Affairs	Responsible for developing accident contingency plans in oil industry and for the emergency response system.

The maritime area management plans cover all maritime areas, from baseline to the limit of the EEZ. The marine area that extends beyond the line of 125,000 km<sup>2</sup> is governed by the Planning and Building Act 2008, which also covers terrestrial planning. There is an overlap of 1 nautical mile between the two planning systems but, in case of overlap the competent authority must ensure the prevalence of pre-existing policies. The differences in regulation are due to a number of reasons: differences in scale and geography (existence of large areas of open water outside the baseline, compared to smaller areas and enclosed within the baseline); property regimes (areas outside the baseline are managed by the government, while the areas covered by the Planning and Building Act can be managed by the state, by municipalities or private); type of management regimes (the maritime space is managed by the state through management plans, whereas the terrestrial space is managed by the Planning and Building Act; state management vs municipal/local management), number of stakeholders (the maritime areas have few, but powerful stakeholders, compared to terrestrial areas, that have a greater number of stakeholders and sectors). In this overlap area, in order to achieve the articulation between the two regimes, the collaboration between land authorities and maritime authorities, is strongly encouraged.



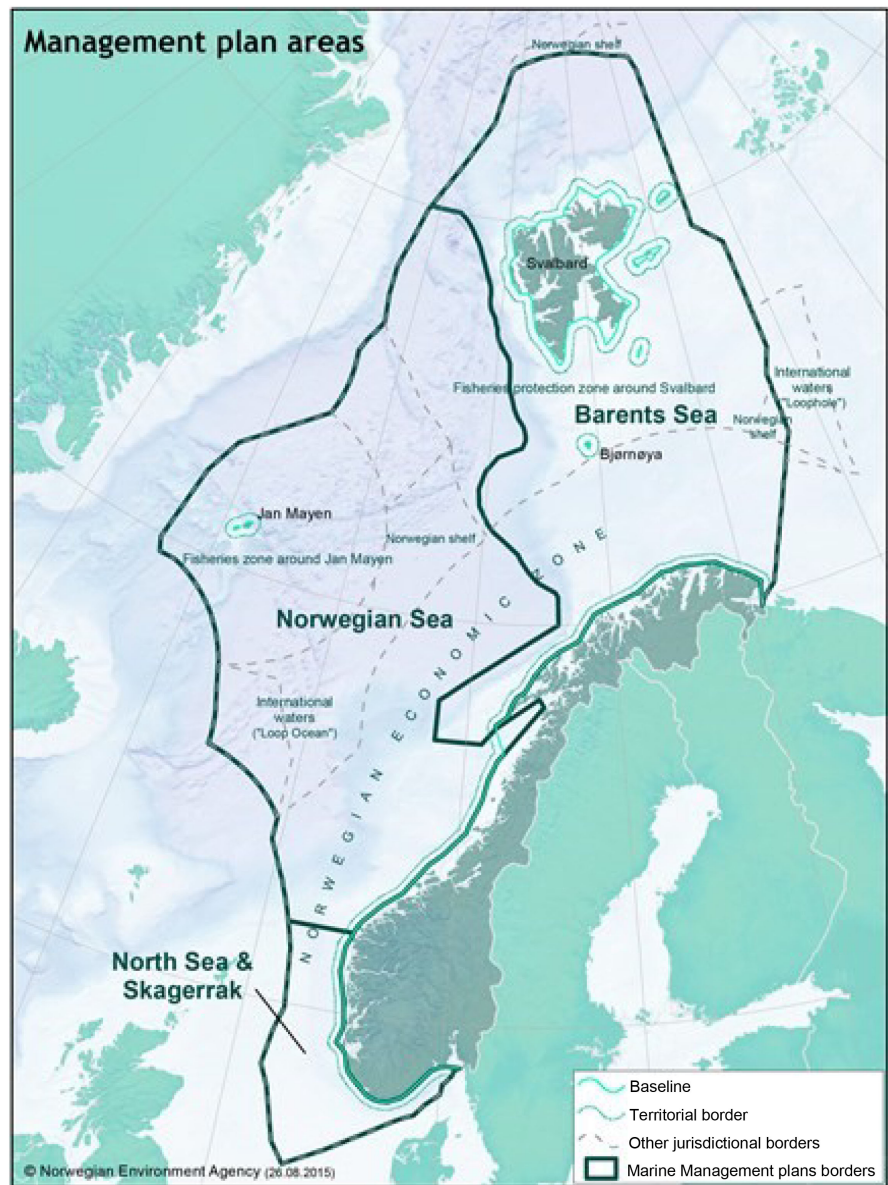
**Figure 4.** England areas for MSP's plans. Source:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/325688/marine\\_plan\\_areas.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325688/marine_plan_areas.pdf).

The resolution “Integrated Management of the Marine Environment of the Norwegian Sea” published in 2009, approved the management plan for the area of the Norwegian Sea, followed in 2011 by the management plan for the Barents-Lofoten sea area and, in 2013, the North Sea and Skagerrak plan.

### 3.5. Germany Case Study

Germany has two main maritime areas, one in the Baltic Sea and the other in the North Sea. The size of internal waters (to the baseline) and territorial sea (12-nm zone from the baseline) in the Baltic Sea is approximately 10,900 km<sup>2</sup> and the exclusive economic zone (EEZ) in the Baltic Sea is about 4,500 km<sup>2</sup>. In the case of the North Sea, the size of internal waters (to the baseline) and territorial sea (12-nm zone from the baseline) is approximately 12,500 km<sup>2</sup> and the EEZ is about 28,500 km<sup>2</sup>. The Federal states have responsibilities out to the limits of



**Figure 5.** Norway areas for MSP's plans. Source: <http://msp.ioc-unesco.org/world-applications/europe/norway/>.

territorial waters at least since 2001. The Spatial Planning Act 2017 attributes to the Federal Government the responsibility for MSP in the EEZ [30].

The maritime industry is a very important sector for the German economy. Estimations place the annual turnover at up to 50 billion euros and the number of jobs which are directly or indirectly dependent on the maritime industry at up to 400,000 [31].

Germany developed a maritime spatial plan for the EEZ of the North Sea and Baltic Sea and one for the territorial sea areas under jurisdiction of the three coastal federal states: Lower Saxony, Schleswig-Holstein, and Mecklenburg-Vorpommern (Figure 6). The national legal basis for MSP is the Federal Spatial Planning Act (ROG), in force since 2004 which was amended in 2017, in



**Figure 6.** Germany areas for MSP's plan. Source: <https://www.msp-platform.eu/countries/germany>.

order to comply with the EU MSP Directive. According to this Act, the Federal Government is responsible for the MSP in the German EEZ being the Federal Ministry of the Interior, Building and Community responsible for MSP (**Table 5**). As Germany is a Federal State the territorial sea of Germany includes spatial plans of the coastal federal states under the specific legislation of each state, such as:

- Schleswig Holstein: The State Development Plan for the Schleswig Holstein area (last amended in 2015). The plan sets binding rules and regulations for authorities, mainly regarding the licensing regime for the use of space.
- Mecklenburg Vorpommern: This was the first coastal federal state of Germany that integrated designations for single use in the 12-nm zone into its regional development program. The Spatial Development Plan of Mecklenburg Vorpommern was adopted in 2005, between 2013-2015 it was updated and became a legally binding act in 2016.
- Lower Saxony: The Spatial Planning Programme of Lower Saxony (LROP) has been revised and amended in 2008 and 2012. This plan includes provisions concerning wind power production and nature conservation, offshore electricity transmission and shipping. The programme covers both sea and land (*i.e.* the whole territory of Lower Saxony, including shares of inland waters, the islands of Ostfriesland and territorial sea within the 12 nm zone in the North Sea).

Mostly, the activities considered for the implementation of MSP in Germany were: renewable energy production, shipbuilding, shipping, fisheries, nature conservation, tourism, ports, aquaculture, maritime safety and security, submarine cables and pipes and mineral exploitation.

In order to co-ordinate the growing conflicts of maritime uses, particularly regarding offshore wind farms vs. marine environmental protection goals, as well as traditional maritime uses, Germany opted for an integrative and sustainable

**Table 5.** Germany institutional framework for the governance of the sea.

<p>Federal Ministry of Interior, Building and Community (BMIBH)</p> <ul style="list-style-type: none"> <li>○ Federal Maritime and Hydrographic Agency</li> </ul>	<p>The BSH is the Federal agency responsible for the development of the MSP policies and the management plans for the maritime space. BSH as a partner for maritime shipping, protection of the environment and uses of the sea, promotes a sustainable use of the sea, provides current information about the North and Baltic sea, consolidates the safety and protection of the environment and supports the maritime economy.</p>
<p>Federal Minister for Economic Affairs and Energy</p> <ul style="list-style-type: none"> <li>○ Federal Institute for Geosciences and Natural Resources (BGR)</li> </ul>	<p>Responsible for Maritime Economy. The Federal Institute for Geosciences and Natural Resources (BGR) is the geoscientific center of excellence within the federal government and part of its scientific and technical infrastructure. BGR is a federal institute accountable to the Federal Ministry for Economic Affairs and Energy (BMWi). Provides advice and information about all geoscientific and natural resource issues (that includes oil, gas, minerals).</p>
<p>Federal Minister of Transport and Digital Infrastructure</p> <ul style="list-style-type: none"> <li>○ Waterways and Shipping Directorate-General</li> </ul>	<p>Responsible for Shipping and waterways. The Waterways and Shipping Directorate-General is the highest federal authority of the Federal Waterways and Shipping Administration, which is responsible for the maintenance and upgrading of the waterways.</p>
<p>Federal Ministry of Food and Agriculture (BMEL)</p>	<p>Responsible for fishing industry and quality of marine ecosystems. Responsible for the management of the German MPA's.</p>
<p>Federal Minister for the Environment, Nature Conservation and Nuclear Safety</p>	<p>Responsible for strategic and Cross-sectoral aspects of Environmental Policy, Sustainable Development.</p>
<ul style="list-style-type: none"> <li>○ Directorate-General G</li> </ul>	<p>International and European Policy, Climate Policy</p>
<ul style="list-style-type: none"> <li>○ Directorate-General IK</li> </ul>	<p>Water Management, Resource Conservation</p>
<ul style="list-style-type: none"> <li>○ Directorate-General WR</li> </ul>	<p>Nature Conservation and Sustainable Use of Natural Resources</p>
<ul style="list-style-type: none"> <li>○ Directorate-General N</li> </ul>	<p>The German Federal Agency for Nature Conservation (BfN) is the German government's scientific authority with responsibility for nature conservation.</p>
<ul style="list-style-type: none"> <li>○ The Federal Agency for Nature Conservation</li> </ul>	

approach for the Exclusive Economic Zones (EEZ). Maritime Spatial Plans for the EEZ of the Baltic Sea and North Sea consider designated priority and restricted areas for those sectors. For the North Sea, priority areas are shipping,

cables/pipelines and offshore wind farms and for the Baltic Sea the priority areas are shipping and offshore wind farms.

The institutional framework in Germany [32], regarding MSP is:

#### 4. Discussion

The analysis of MSP processes in Portugal, England, Netherlands, Norway and Germany showed a diversity of political choices, particularly at the institutional level while legal frameworks, although showing different approaches regarding planning and management models, in the end, followed the main guidelines of MSP EU Directive (Table 6). This is a feature of the MSP concept itself: the

**Table 6.** Comparative analysis of the countries, regarding the governance model, MSP instruments and the articulation at the coastal zone.

	Governance	Management Tools	Articulation at the Coastal Zone
<b>Portugal</b>	Ministry for the Sea DGPM <sup>1</sup> DGRM <sup>2</sup> APA <sup>3</sup>	Situation Plan Allocation Plan	Prevalence of the Maritime Space Plans
<b>England</b>	Ministry for the Environment, Food and Rural Affairs MMO <sup>5</sup>	Spatial Plans	Articulation through cooperation between local and maritime authorities. Prevalence of pre-existing policies and plans at coastal zone
<b>Netherlands</b>	Ministry of Infrastructure and Water management IDON <sup>6</sup>	North Sea Management Plan	The land spatial plans are in force until 1 km after the baseline
<b>Norway</b>	Ministry of Environment and Climate Change Interministerial Committee	Barents-Lofoten Sea Management Plan; Norway Sea Management Plan; North-Skagerrak Sea Management Plan	Articulation through cooperation between local and maritime authorities. Prevalence of pre-existing policies
<b>Germany</b>	Federal Ministry of Interior, Building and Community (BMIBH)	Maritime spatial plan for the EEZ of the North Sea and Baltic Sea Maritime spatial plan Schleswig Holstein Maritime spatial plan Mecklenburg Vorpommern Maritime spatial plan Lower Saxony	Articulation through specific plans at the federal states level

<sup>1</sup>DGPM: Directorate General for Marine Policy; <sup>2</sup>DGRM: Directorate General of Natural Resources, Security and Maritime Services; <sup>3</sup>APA: Portuguese Environment Agency; <sup>4</sup>TUEM: Maritime Space User Fee; <sup>5</sup>MMO: Marine Management Organization; <sup>6</sup>IDON: Interdepartmental Directors North Sea Consultative Body.



freedom of choice regarding the MSP processes [6] [33]. The fact that there is a wide variety of solutions for implementing MSP does not mean that processes are more or less accurate; instead, it means that each country is developing the MSP process according to the geopolitical, ecological, economic and social features of each area. Furthermore, it reflects the geographical circumstance of each country as it is the case of Germany, obliged to follow regional commitments, both at the Baltic Sea as well as at North Sea, such as Helsinki and OSPAR Conventions, both with a strong ecosystem management approach [34], which also imply transboundary approaches. In the same way UK, Netherlands and Norway had to develop their MSP processes taking into account transboundary approaches, as well as they are also part of OSPAR convention. Actually Regional Sea Conventions played more and more a significant role in MSP cross-border coordination particularly regarding major maritime economic activities [35]. On the other hand, Portugal, although a member of OSPAR convention, has a completely different geopolitical situation, with cross border interactions reduced to a simple maritime border with Spain, showing little influence on the global process of MSP and thus having more degrees of freedom to develop MSP.

The institutional framework of authorities involved in MSP differs between the countries. Portugal is the only country which decided, at the political level, to create a Ministry of the Sea fully empowered to coordinate and develop maritime policies, although the articulation of sectoral policies is supposed to occur at the Interministerial Commission for Maritime Affairs (CIAM). The other countries analysed, although having designated a ministry responsible for the coordination of MSP process, opted to maintain the sectoral responsibilities among several ministries, balanced between maritime economic domains and environmental protection. On the other hand, all these countries rely on Interministerial Commissions in order to articulate sectoral policies or, even, MSP process.

However, at the institutional/agency level, the adjustment to MSP demands is still in course and revealed not to be always an easy task. England has shown a willingness to simplify the number of parties involved in the process, through the creation of MMO and the transfer of responsibilities from different government agencies and departments to MMO. Despite the attempt to simplify, there are still several entities involved in MSP in England, and the government had to opt for Memorandums of Understanding (MoU) between the entities, to facilitate the articulation of responsibilities. In the Netherlands, the responsibility for MSP is also, in a way, simplified, since it is assigned to a consultative inter-ministerial body, the IDON. However, the licensing and management of activities and maritime uses is distributed by the various ministries with responsibilities in the maritime space and, consequently, involves various governmental agencies. Similarly, Norway has created an Inter-ministerial Committee, responsible for the integrated management of maritime space and the development of management plans, where all ministries with responsibilities in the maritime sector are represented, as well as some government agencies, namely Environ-

ment Agency and the Institute of Marine Research, among others. Germany has several ministries involved in MSP, reflecting economic activities and nature conservation, although they identified the Federal Ministry of Interior, Building and Community (BMIBH) as the cabinet member responsible for the MSP in the country; nevertheless, at the agencies level, competences are divided and inter-agency-tensions often arise [32]. In Portugal, the responsibility of maritime spatial planning policies lies with the DGPM, and the licensing responsibility is divided between DGRM and APA. Portugal does not attribute any competence for MSP to the CIAM (inter-ministerial committee), thus diverging from the other countries.

Thus, in countries that did not establish an agency with a clear mandate on Maritime Policy, the trend at institutional level has shown that there is a conflict of competences among the governmental agencies, which States tried to solve attributing more responsibilities to intersectoral commissions or even establishing MoU's among agencies.

In general, all countries analysed have chosen to develop specific marine spatial plans to implement MSP, although legal frameworks and territorial management instruments differ in their type and scope. Actually, Portugal and England chose to develop a new legal framework for MSP while Netherlands opted for the preparation of policy documents directed to the strategic vision of maritime space, having also opted for the development of integrated management plans. Norway did not develop a specific legal framework for maritime spatial planning, drawing up a set of white papers and management plans with the guidelines for MSP, differentiating from the other countries studied.

The articulation with coastal management differs among the studied countries and is a quite sensitive issue, as MSP should match integrated coastal zone management instruments [36]. Actually, most of the legal frameworks for the coastal zones fall under the jurisdiction of national land policies and, in the case of Norway, England and Portugal, there is an overlap between land and maritime planning instruments. In order to resolve possible conflicts in these overlapping areas, England's maritime planning policy, clearly indicates that all maritime plans should incorporate the terrestrial legislation, avoiding changing the land planning system. Norway, which has an overlap of 1 nautical mile between the two planning systems, also stresses that marine plans should link with the land plans, and there should be cooperation between land and maritime competent authorities, in order to articulate both regimes. In Portugal, although legal framework favours negotiated articulation among agencies, regarding the integration of coastal instruments in MSP, it also clearly indicates that, in case of conflict of interest, priority will be given to maritime spatial plans. This clear prevalence of maritime planning system, over the land planning system, shows that the country's economic development was prioritized over the protection of coastal and natural values, failing somehow for a fair articulation of both planning systems.

The Netherlands presents a clear articulation between the two spatial planning systems, showing no discontinuity or fragmentation between them. The planning policies of the Dutch maritime space aim to prevent fragmentation and to promote efficient use of space [37]. By extending the jurisdiction of national land laws and policies within the limits of the territorial sea, the Netherlands prevented the disarticulation in the coastal area. Thus, two trends regarding integration of coastal management into MSP can be found: 1) the “negotiated approach” trying a consensus to be established among systems and agencies and 2) the “determinist approach” simply incorporating coastal management instruments into MSP.

Successful MSP depends largely from stakeholder involvement in the process particularly when multilateral transboundary issues are also in place, which is the case of northern countries. In general, all countries demonstrate willingness to involve various stakeholders in the MSP process, following international guidelines, although at different stages of the process. Of the countries analysed, Portugal has the longest way to go [38], with regard to public participation and stakeholder involvement, which despite being held, takes place only in the later stages of the MSP development process, with no involvement at the stage of preparation of plans, as recommended by several authors [5] [19].

## 5. Conclusions

The analysis carried out for MSP governance models adopted by England, Netherlands, Norway, Germany and Portugal, allowed to identify both similarities and differences in strategic choices for the implementation and development of MSP. The option to create two separate planning systems, both for land and sea space, is the dominating trend in these countries, showing slight variations, but mainly following EU MSP Directive approach. At the political and institutional level, approaches are similar, attributing to an existing ministry and agency the leading role to develop MSP, but maintaining competences on maritime policy distributed by several agencies, often generating inter-agencies conflicts. The exception is Portugal that clearly developed a dedicated governmental and institutional new framework.

MSP is still a going on process and, if it is clear, the road to establish Maritime Spatial Plans within the EU, the path to adapt governmental and institutional frameworks, towards a new model of marine governance, is still under construction and politics still fail to understand the evolutionary impact on the governance model that Blue Economy and Blue Growth really has. Actually, with the approval of an Integrated Maritime Policy within EU, governments, with the exception of Portugal, opted mainly to maintain the “old sectoral” structure of marine governance, just attributing the responsibility of MSP to one of the ministries and agency, relying major decisions of maritime policy to sectoral ministries, expecting that crosscutting policies are to be coordinated through inter-sectoral commissions and interagency dialogue. Identified tensions among gov-

environmental agencies are a sign that there is a need to rethink the institutional framework, as well as there was the need for new legal frameworks regarding marine governance. This rethinking of both institutional and legal frameworks for marine governance is still in its infancy and will involve transformative change of institution values and practices [33].

MSP is in an early stage and there is still a long way to go, for all countries to achieve the desired sustainability and integrated management for the maritime space. There are no incorrect approaches, but rather a variety of approaches and strategic options, which depend greatly on geopolitical circumstances, regional commitments and domestic policies which, when analysed and compared, can contribute to finding solutions and to the continuous improvement of MSP systems worldwide.

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### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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