PERMAGOV

UNDERSTANDING EU POLICIES AND THE EU GREEN DEAL

A policy mapping and scoping of institutional barriers within EU governance

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ACRONYMS

Abbreviation	Definition
AFIR	Alternative Fuels Infrastructure Regulation
ALDFG	Abandoned, Lost or Otherwise Discarded Fishing Gear
BSAP	Baltic Sea Action Plan
CBAM	Carbon Border Adjustment Mechanism
CEF	Connecting Europe Facility
CESNI	European Committee for drawing up standards in the field of inland navigation
DG ENV	Directorate-General for the Environment
DG MARE	Directorate-General for Maritime Affairs and Fisheries
DG MOVE	Directorate-General for Mobility and Transport
DINA	Digital Inland Navigation Area
DTLF	Digital Transport and Logistics Forum
EAP	Environmental Action Programme
EcAp	Ecosystem Approach
EEA	European Environment Agency
EGD	European Green Deal
EMSA	European Maritime Safety Agency
EMSWe	European Maritime Single Window environment
ETS	Emissions Trading System
EU	European Union
EU ETS	European Union Emissions Trading System
EUSAIR	European Union Strategy for the Adriatic and Ionian Region
GFCM	General Fisheries Commission for the Mediterranean
HELCOM	Helsinki Commission - Baltic Marine Environment Protection Commission
ICES	International Council for the Exploration of the Sea
IMO	International Maritime Organization
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
MedPAN	Network of Mediterranean Marine Protected Area Managers
MoS	Motorways of the Sea
MPA	Marine Protected Area
MS	Member States
NGO	Non-Governmental Organization
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
SEA	Strategic Environmental Assessment
SEIS	Shared Environmental Information System
SET Plan	Strategic Energy Technology Plan
STECF	Scientific, Technical and Economic Committee for Fisheries
TEN-T	Trans-European Transport Network
UNEP	United Nations Environment Programme

EXECUTIVE SUMMARY

The PermaGov Deliverable focuses on exploring the EU policy landscape within the context of the European Green Deal (EGD), structured around four regime complexes: marine life, marine plastics, marine energy, and maritime transport. These complexes provide a framework for analysing the EU's approach to achieving the EGD's vision for sustainable marine governance. This report aims to offer a descriptive overview of marine EU policies relevant to the PermaGov project, focusing on policies identified as relevant to the overarching goals set forth in the EGD. It also considers relevant initiatives at global and regional levels.

The marine life regime sees the EU Biodiversity Strategy for 2030 as its overarching strategy, essential for the EGD's element of preserving and restoring ecosystems and biodiversity. Tackling the challenges of marine waste pollution, the marine plastics regime is guided by the EU Circular Economy Action Plan and the EU Action Plan: Towards Zero Pollution for Air, Water, and Soil, targeting the EGD's elements of a mobilising industry for a clean and circular economy and a zero-pollution ambition for a toxic-free environment. The marine energy regime is shaped by the European Climate Law and the Offshore Renewable Energy Strategy, which are the overarching instruments that contribute to the EGD's elements of increase the EU's climate ambition for 2030 and 2050 and ensure the supply of clean, affordable, and secure energy. Lastly, the maritime transport regime sees the 'Fit for 55' Package and the 'Sustainable and Smart Mobility Strategy' as the two main instruments to achieve the EGD's elements of increase the EU's climate ambition for 2030 and 2050 and Accelerating the Shift to Sustainable and Smart Mobility.

An additional aspect of this report is an initial screening of institutional barriers through the lens of policy documents. This is intended to be a starting point for the case studies of the PermaGov project, which will be further investigated in more depth later in the project. Institutional barriers are understood as obstacles within the structure and processes of governance systems that hamper decision-making processes and policy implementation. These barriers often arise from established rules, norms, and practices. The report considers the analytical framework developed by Oberlack (2017), focusing on attributes of institutions such as actor eligibility, responsibility, control, social connectivity, conflict, social learning, accountability, temporal and spatial scale, adaptiveness, and formality. These attributes describe the characteristics of how institutions are organised and operate, providing insights into potential challenges in policy design and implementation.

The report provides a mapping of instruments relevant to the PermaGov four regime complexes and concludes by identifying potential institutional barriers, underlining the importance of conducting further detailed research in upcoming tasks of the PermaGov projects to effectively address the challenges of sustainable marine governance in line with the EGD's ambitions.

1. INTRODUCTION

The planet faces a triple environmental crisis – climate change, pollution, and biodiversity loss. This encompasses marine and coastal areas and includes Europe's seas. These pressures continue to reach new levels, with global climate change acting as a catalyst that intensifies the impacts on pollution and biodiversity loss, further threatening the planet and all its species (IPBES, 2019; IPCC, 2019). The root cause of this triple crisis is the adverse impacts of human activities both on land and at sea (UNEP, 2021). Consequently, political attention on reversing biodiversity loss, ocean conservation and management efforts has reached a new high (Blythe et al., 2021). In response to these challenges, there is a need for a new system of governance that not only addresses these pressures but also recognises the ocean as a shared global common (Rudolph et al., 2020).

Governance can be understood as the rules of collective decision-making in contexts where multiple actors interact, and where no single formal control system can dictate the terms of their relationships (Chhotray & Stoker (2009). This definition highlights the complexity and collaborative nature of governance, especially in settings characterized by a diversity of stakeholders and the absence of overarching authority.

Marine governance, as defined by Van Tatenhove (2013), is the capacity of various stakeholders, including state actors, representatives from maritime industries, and civil society groups such as NGOs and coastal communities, to govern maritime activities and their impacts. Stakeholders can include formally established organisations which are mandated to manage specific resources and conserve ocean species, habitats, and ecosystems as well as those participate in governance at the global, EU, regional (i.e., sea basin), national (i.e., Member State) and local as well as across sectors.

Effective marine governance is essential for the successful conservation of ocean ecosystems and sustainable management of human activities which exploit or impact marine resources and ecosystems. A number of challenges face marine governance and are well known, including incoherent and competing governance objectives resulting from the intensity and diversity of ocean interests (e.g., economic, social, environmental) that create inconsistent obligations amongst and between regulatory processes; jurisdictional complexity due to e.g. multi-layered governance of marine spaces involving multiple countries and regions, each with its own governance and legal framework; often lacking or insufficient coordination mechanisms to boost collaboration among organisations and stakeholders; low stakeholder awareness or capacity, reduces the ability of actors to effectively engage in governance; and finally missing or insufficient mechanisms to foster knowledge-based decision making, such as through effective science-society-policy interface (Ryabinin et al., 2019; Berkowitz et al., 2020).

The EGD emerged in 2019 and aims to 'transform the EU into a modern, resource-efficient and competitive economy' (European Commission, 2019). The EGD establishes the EU's long-term vision to 2050 to ensure no net emissions of greenhouse gases by 2050, economic growth is decoupled from resource use, and no person and no place is left behind. The EGD is therefore implemented in response to the triple planetary crisis. However, its ambitious vision requires that EU governance is considered from a new perspective – one that merges previously established and stand-alone policy domains and governance frameworks. This includes the marine realm and the policies that it includes. This integration process encompasses the various marine regime complexes, along with the diverse policies governing them, highlighting the need for a cohesive strategy that aligns marine conservation and management efforts with the broader objectives of the EGD.

1.1. THE GREEN DEAL AND EU POLICIES

Within the marine realm, the PermaGov project focuses on four ‘regime complexes’, namely marine life, marine plastics, marine energy, and maritime transport, which provide the framework by which to explore the interplay between EU policies and marine governance in the context of the EGD. Each of these regime complexes include a variety of policies ranging from the global to local level, which are tasked with achieving the EGD vision of no net emissions of greenhouse gases by 2050, economic growth being decoupled from resource use, and no person and no place is left behind. Together, the diverse array of policies forms an interconnected web of targets, measures, instruments, and mechanisms which aim to steer activities within these regime complexes towards this goal. In addition, some policies might be considered cross-cutting in that the instruments they establish or the goals they seek to achieve are relevant to multiple regime complexes. It is therefore important to understand these policies both as single initiatives within a regime complex but also within the broader context of the EGD and governance frameworks within which they interact.

At the EU level, different legal instruments are available and contribute to the creation, coordination, and implementation of policies, as well as in providing guidance to Member States. These instruments can be categorised into binding and non-binding. Binding instruments include e.g. directives, regulations, and decisions and are essential for establishing rules and obligations within the EU and its Member States. Non-binding instruments, on the other hand, such as opinions, guidelines, or strategies offer a broad framework for action and future development. In the context of the EGD and the four PermaGov regime complexes, a broad variety of binding and non-binding instruments interact to form the backbone of the policy and governance framework by which the vision of the EGD is to be achieved. Furthermore, it is important to acknowledge that the EU's efforts to realise the EGD's objectives are not isolated but are interdependent with regional sea conventions and other policymaking institutions (European Parliament, 2022). Regional sea conventions, for instance, contribute to adapting EU law standards to local needs and conditions while international instruments like the United Nations Convention on the Law of the Sea (UNCLOS) provide a legal framework that complements EU efforts in marine governance. This interaction creates a dynamic framework where EU directives and regional sea agreements reinforce each other, enhancing the obligations of EU Member States in the regulation of offshore energy production activities (Giannopoulos, 2022).

1.2. INSTITUTIONAL BARRIERS

Institutional barriers can be understood as obstacles or impediments within the structure and processes of organisations and governance systems hampering decision making processes and policy implementation. These barriers often arise from the established rules, norms, and practices that govern how decisions are made and how policies are implemented. Institutional barriers can be structural, such as outdated regulations that no longer align with current realities, or procedural such as bureaucratic processes that delay action or change. In the realm of environmental policy and the implementation of the EGD, recognising and addressing these barriers is fundamental to achieving policy goals.

Institutional barriers, at their core, are impasses in governance processes rooted in the institutional context of a policy domain that they impede actions aimed at instigating change (Oberlack, 2017). Frey-Heger et al. (2021) highlight the criticality of understanding these barriers at the regime level, particularly when tackling persistent global challenges such as climate change. These barriers are shaped by the legal, cultural, and normative 'rules of the game', influencing the behaviour of individuals and organisations and thus creating both opportunities and impediments to innovation (Hacker & Binz, 2021). Oberlack (2017) highlights the role of institutions as coordination mechanisms, crucial for communities and societies to develop and exploit resources for adaptation. These barriers are linked to the

properties of institutions, extending beyond simple classification into ideal types to focus on rule sets and governance functions.

Nielsen et al. (2023) point out how institutional barriers pose significant obstacles to policy implementation in the context of marine governance in the EU. Institutional barriers frequently lead to the ineffective realisation of policies. The diverse nature of these barriers, as noted by Nielsen et al. (2023), suggests that a specific issue can often be attributed to various types of barriers. These barriers can substantially affect the achievement of policy objectives. The presence of institutional barriers can lead to a divergence between policy intent and outcome, i.e. whether the objectives of strategies such as the EGD are fully realised in practice. They can result in inefficiencies and inconsistencies in the implementation of policies, obstruct the coordination and integration across different policy domains, and cause delays in the achievement of the EGD's objectives. This reinforces the necessity of recognising and addressing these barriers.

1.3. OBJECTIVE OF THIS REPORT

The primary objective of this report is to create a broad overview of marine EU policies relevant to the PermaGov project. This review focuses on identifying and mapping policies relevant to and within the four PermaGov regime complexes: marine life, marine plastics, marine energy, and maritime transport. The mapping exercise primarily aims to select policies identified as essential to the overarching goals set forth in the EGD but also considers relevant initiatives at the global and regional level as well as other guiding or strategic initiatives.

In addition, through the review of the various policy documents, this report aims to conduct an initial screening of the institutional barriers as a starting point for the case studies of the PermaGov project, which will be further investigated in more depth. Through this exploration, this report aims to contribute to the broader discourse on sustainable marine governance, offering insights and recommendations for policymakers, stakeholders, and the community at large. This introduction sets the stage for a deeper dive into marine governance and the PermaGov regime complexes.

1.4. ABOUT THIS REPORT

This report is an output of the PermaGov project, a four-year project funded by the EU with the overarching aim to improve the implementation and performance of EU marine policies to reach the goals set out in the EGD. PermaGov pilots a novel multi-level, collaborative governance approach for selected regional seas and national waters around Europe, targeting four marine regime complexes of key importance. This report falls under Work Package 2 of the project which aims to create a broad understanding of how marine related EU policies deliver the EGD, identify challenges for PermaGov case-studies, as well as explore marine governance.

After this introductory chapter, Chapter 2 provides an overview of the approach and methodology applied to develop this work, Chapter 3 presents a comprehensive mapping of the EU policy landscape that supports the EGD, which constitutes the core focus of the report. Chapter 4 introduces a preliminary discussion on institutional barriers related to the EGD's objectives, while Chapter 5 provides a brief conclusion and outlook.

2. APPROACH AND METHODOLOGY

This report was developed through the collaborative efforts of the consortium partners. As a first step, an initial exercise was conducted amongst partners to identify key policies considered relevant to the PermaGov regime complexes of marine life, marine plastics, marine energy, and maritime transport. This resulted in an overview of policies at the regional, EU and global level considered significant to the aims of PermaGov. In parallel, a review of the EGD communication and associated annexes was conducted to identify the objectives and goals set forth by the EGD which are associated with the four regime complexes. In a next step, a template was developed to guide project partners through a review and data collection exercise focused on the identified policies. The template focused on collecting information towards the overarching ambitions of the review, namely:

- What means (e.g., specific policy goals and measures) are applied through EU policies to achieve the goals set out in the EGD?
- What, if any, potential institutional barriers can be identified in the EU policy documents?

The templates were completed primarily through desk-based research focusing on key policy documents. Academic literature was used to complement findings regarding the institutional barriers and support a brief discussion on the findings. The completed templates were synthesised and merged, constituting the findings presented in Chapter 3. These findings are what is deemed a ‘map’ of the objectives and policies which make up the EGD and allow for 1) a simple understanding what the EGD aims to achieve 2) the creation of a ‘hierarchy’ of goals and objectives and 3) offer a consideration of potential synergies and trade-offs between the objectives of different parts of the EGD. More detail regarding the specific steps is provided below.

2.1. POLICY IDENTIFICATION

As part of the PermaGov kick-off meeting a Work Package 2 (WP2) session took place with participating partners to identify relevant policies. Partners separated into four groups related to the PermaGov regime complexes. The groups then identified and wrote down policies which were considered relevant to the respective regime complexes as well as respective Case Studies within PermaGov (see Table 1). Furthermore, an additional group was created for cross-cutting policies. The goal of the exercise was to develop an initial list of policies relevant for the respective regime complexes, as well as foster dialogue and exchange amongst project partners.

Regime Complex	Case Studies
 Marine Life	• **Seabed Integrity in the Baltic Sea** – explores seabed loss and disturbance in the Baltic Sea caused by human activities that inflict permanent changes or temporary disruptions to the physical habitat, resulting in threats and alterations to marine biodiversity and to the seabed habitats' capacity to store carbon. • **Sustainable Fisheries in the Italian MPAs** – focuses on Italy where current projects (e.g. of the network of Mediterranean Marine Protected Area managers, or MedPAN) aim to stimulate co-management of MPAs in territorial waters through engagement with small-scale and artisanal fishers.
 Marine Plastics	• **Marine Litter in the Baltic Sea** – explores marine litter from the fisheries sector (abandoned, lost or otherwise discarded fishing gear, or ALDFG) considers efforts across different governance layers to operationalise concrete actions such as the marking and reporting of lost fishing gear. • **Marine Litter in the Mediterranean Sea** – explores the governance of marine microplastics and considers how coordination and cooperation occurs between and across regional and local efforts to promote contextually relevant but regionally harmonised approaches to understanding and tackling this source of marine pollution.
 Marine Energy	• **Floating Wind in the Celtic Sea** – investigates floating offshore capacity and recently announced UK and Irish floating wind developments in the Celtic Sea. • **Energy Islands Denmark** – explores the world's first energy islands planned for construction in Denmark, specifically, in the North Sea and one in the Baltic Sea, by 2030. • **Offshore Wind Norway** – investigates barriers and pathways to offshore wind energy development in Norway; although Norway is not an EU member state, substantial parts of the legislative proposals on the EGD fall within the scope of the EEA Agreement
 Maritime Transport	• **Decarbonising Shipping** – examines carbon emissions from global shipping, which emits 2.8-3.0% of all greenhouse gas (GHG) emissions, while the sector is not included in the Kyoto Protocol and Paris Agreement. • **Motorways of the Seas** – focuses on understanding the role of North Adriatic Sea ports in improving the Motorways of the Sea (MoS) programme, which is part of the trans-European Transport Network (TEN-T); the goal of the European Commission is to transfer 30% of road traffic over 300 km to sea and rail by 2030 and 50 percent by 2050.

TABLE 1 PERMAGOV REGIME COMPLEXES AND CASE STUDIES[1].

2.2. REVIEW OF THE EU GREEN DEAL

A review of the EGD Communication and associated Annex was carried out to identify the specific goals and objectives set forth in the EGD and associated with the four regime complexes. To do this, the proposed actions set forth in the EGD and its Annex were identified based on a simple check of the relevance to the work programme of PermaGov

[1] Marine energy icon created Hexagon075 – Flaticon; Maritime transport icon created by Kalashnyk - Flaticon; Marine plastic icon created by cube29 – Flaticon; Marine life icon created by dr.iconsart – Flaticon; CC – Cross Cutting.

and the regime complexes. Proposed actions stemming from the EGD were then selected and included in an overview table linked to the associated regime complex (see Table 2).

2.3. DATA COLLECTION

The mapping of policies and core elements was divided across the four regime complexes – and the templates collected information covered in Table 2 and Table 3. For this purpose, templates were devised to capture the details of the policies identified as pertinent by the consortium partners. Each partner organisation was then requested to complete the templates related to their domain of expertise.

2.3.1. POLICY MAPPING

The templates were designed to gather information about the policy elements and institutional barriers. Furthermore, they aimed to establish whether the policy was considered a key component in the implementation of the EGD, whether it was targeted towards a specific PermaGov regime complex or had cross-cutting impacts across different sectors. The templates were then systematically reviewed, and the information were transposed into this report.

Policy element	Description
Policy name	Full policy name
Main objective	Main objective(s) as stated in the policy
Target(s) related to the policy objective	Target(s) of the policy to achieve stated objective(s)
Delivery mechanism(s)	The method by which the policy is implemented. To explain (e.g. ban, protected area, output control, etc.)
Main EU Green Deal goal	EU Green Deal goal(s) the policy relates to
Green Deal implementation	Is the policy considered a key implementing component of the Green Deal?
Regime complex vs cross-cutting	Is policy targeted towards a PermaGov regime complex or is it cross-cutting, impacting different sectors
Key actors	The actors responsible for and involved in implementation
Legal scope	The legal scope of the policy (based on EurLex i.e. legal act, regulation, directive, decision, recommendations and opinions, legislative acts, delegated acts, implementing acts) (see list below)
Entry into force	Year of entry into force (or under revision)

TABLE 2: ELEMENTS FOR POLICY MAPPING EXERCISE.

2.3.2. REVIEW OF INSTITUTIONAL BARRIERS

To review the institutional barriers, this report applies the analytical framework developed by Oberlack (2017), focusing on attributes of institutions that can be identified within policy

design. Such attributes include actor eligibility; responsibility; control; social connectivity; conflict; social learning; accountability; temporal and spatial scale; adaptiveness; and formality. These attributes describe the characteristics of how an institution is organised and operates. They encompass the rules, processes, and structures that define the institution and shape its actions. When these attributes are functioning effectively, they enable the institution to achieve its objectives. However, if these attributes are flawed, they can lead to problems and negatively impact policy implementation. The templates included a section on the institutional barriers where different questions were asked for each of the institutional attribute (see Table 3).

For instance, actor eligibility rules may limit the engagement of key stakeholders in policymaking, thus impeding the incorporation of diverse perspectives and local knowledge. Responsibility allocation is another critical attribute, where unclear or overlapping responsibilities can lead to inefficiencies and reduced policy effectiveness. Control mechanisms refers to rules that regulate actor's control over outcomes. Social connectivity, vital for collaborative policy approaches, can become a barrier if siloed institutions impede effective communication and joint action. Conflict resolution mechanisms within policies are important to address the diverse interests and potential disputes that arise from the varied uses of marine resources. Social learning refers to attributes that dictate how information and knowledge is integrate in policy-making processes and becomes a barrier when policies do not facilitate the integration of new scientific-based knowledge or stakeholder experiences. Accountability refers to monitoring, evaluation and enforcing responsibilities. The temporal and spatial scales of institutions should preferably align with ecological realities. The adaptiveness of institutions is particularly crucial for the EGD, as it requires policies that are flexible and capable of evolving in response to new information and changing conditions (e.g., plastic pollution, climate change, increase in shipping or energy demand). Lastly, the formality of institutions, while providing necessary legitimacy, can also lead to rigidity.

Institutional attribute	Key question for each policy
Actor eligibility	Are there boundary rules that regulate the set of eligible actors in an action situation?
Responsibility	Are there rules that regulate the positions available to participants and the set of required, prohibited and allowed actions assigned to positions?
Control	Are there rules that establish the kind of control actors have over outcomes of action situations?
Social connectivity	Are there procedures and network structures that connect actors within and across multiple tiers of social organization?
Conflict	Are there institutional provisions for regulating, preventing or resolving conflicting values, preferences and actions among actors?
Social learning	Do institutional attributes that shape how information, knowledge claims and values are constructed, communicated, and accepted among participants?
Accountability	Do institutional provisions for monitoring, evaluating, rewarding and enforcing responsibilities exist?
Temporal and spatial scale of institutions	Are spatial boundaries and temporal incentive implications of institutions established?
Adaptiveness of institutions	What is the extent to which change in the rules-in-use is constrained by higher-order rules, transaction costs and path dependence?
Formality of institutions	To what degree are the rules-in-use embedded in written laws, plans, documents?

TABLE 3: INSTITUTIONAL BARRIERS BASED ON OBERLACK (2017).

3. UNDERSTANDING THE GREEN DEAL AND EU POLICIES

3.1. THE GREEN DEAL

When considering the complexities of marine governance under the EGD, it is possible to distinguish between EGD 'elements', ''high-level' strategies and specific implementing policies and other supporting policies. The EGD elements are the overarching aims communicated within the EGD. Six EGD elements as well as a seventh cross-cutting element were identified as relevant to PermaGov and the targeted regime complexes and include.

- Increasing EU's climate ambition for 2030 and 2050
- Supplying clean, affordable, and secure energy
- Mobilising industry for a clean and circular economy
- A zero pollution ambition for a toxic-free environment
- Preserving and restoring ecosystems and biodiversity
- Accelerating the shift to sustainable and smart mobility
- Working together – a European Climate Pact

'High-level' strategies are those policies which aim to indicate the direction and priorities of the EU, in this case within the context of marine governance, regarding how the EGD elements are to be achieved. In many cases, they are non-binding and captured in strategies or communications. For each of the PermaGov marine regime complexes – marine life, marine plastics, marine energy, and maritime transport – there are one or more 'high-level' strategies which are relevant (see Table 1), which provide a framework within which to investigate policies, how they are designed and implemented.

Relevant implementing and supporting policies include both binding and non-binding instruments, which often span governance levels. They may target specific sectors, stakeholders, activities, or pressures on the environment, while some may be considered narrow in focus e.g., targeting one sector, others might be broader or cross-cutting e.g., targeting numerous sectors. By considering them in relation to the regime complexes, it is possible to identify groups or mixes of policies which fall under the 'high-level' strategies and relate to specific EGD elements. It is important to note that many policies may be relevant to one or more regime complex, depending on its objectives or focus.

This distinction between EGD elements, 'high-level' strategies, and policies helps to build an understanding of the EU's approach to marine governance and how the EGD vision is implemented. However, this distinction is only intended to provide a framework for discussion and further analysis – from a legal perspective, no hierarchy exists suggesting one target or one policy is more important than another.

Table 4: Overview of EGD Elements, corresponding high-level strategies, and their targets relevant to the PermaGov regime complexes, including release year, type, and legal status.presents an overview of the EGD elements and high-level strategies identified as relevant to PermaGov and the four regime complexes, serving as a reference for developing groups or policy mixes for further assessment.

Green Deal Element	'High-Level Strategies'	Targets relevant to PermaGov	PermaGov Regime Complex	Release Year	Type	Legally binding (Y/N)
Increasing EU's climate ambition for 2030 and 2050	European Climate Law	• A legal objective for the EU to reach climate neutrality by 2050. • An ambitious 2030 climate target of at least 55% reduction of net emissions of greenhouse gases as compared to 1990.		2021	Regulation	Y
	'Fit for 55' Package	The EU Emissions Trading System (EU ETS) • The new rules increase the overall ambition of emissions reductions by 2030 in the sectors covered by the EU ETS to 62% compared to 2005 levels. • Emissions from shipping will be included within the scope of the EU ETS and introduced gradually: 40% for verified emissions from 2024, 70% from 2025 and 100% from 2026. Most large vessels will be included within the scope of the EU ETS from the start.		2023	Directive	Y
		FuelEU Maritime Regulation • The main objective is to increase the demand for and consistent use of renewable and low-carbon fuels and reduce the greenhouse gas emissions from the maritime sector, while ensuring the smooth operation of maritime traffic and avoiding distortions in the internal market.		2023	Regulation	Y
Supplying clean, affordable, and secure energy	Offshore Renewable Energy Strategy	• Increase Europe's offshore wind capacity from its current level of 12 GW to at least 60 GW by 2030 and to 300 GW by 2050. • At least 1 GW of ocean energy by 2030 and 40 GW by 2050.		2020	Communication	N
Mobilising industry for a clean and circular economy	Circular Economy Action Plan	• Ensure the timely implementation of the new Directive on Single Use Plastic Products and fishing gear to address the problem of marine plastic pollution while safeguarding the single market. • Aims to establish a coherent product policy framework that will make sustainable products, services and		2020	Communication	N

Green Deal Element	'High-Level Strategies'	Targets relevant to PermaGov	PermaGov Regime Complex	Release Year	Type	Legally binding (Y/N)
		business models the norm and transform consumption patterns to reduce waste.				
A zero pollution ambition for a toxic-free environment	Action Plan: Towards Zero Pollution for Air, Water, and Soil	• Reducing the health impacts of air pollution by more than 55% by 2030. • Reducing the share of people disturbed by transport noise by 30%. • Reducing the EU ecosystems where air pollution threatens biodiversity by 25% before 2030. • Reducing by 50% nutrient losses, the use and risk of chemical pesticides, the use of the more hazardous ones, and the sale of antimicrobials for farmed animals and in aquaculture before 2030. • Reducing plastic litter at sea by 50% and microplastics released into the environment by 30%. • Reducing total waste generation and residual municipal waste by 50%.		2021	Communication	N
Preserving and restoring ecosystems and biodiversity	EU Biodiversity Strategy 2030	• Establishing a larger EU-wide network of protected areas (in land and seas). • The EU will enlarge existing Natura 2000 areas, with strict protection for areas of very high biodiversity and climate value. • Launching an EU nature restoration law (proposal)		2020	Communication	N
Accelerating the shift to sustainable and smart mobility	Sustainable and Smart Mobility Strategy	• By 2030 zero-emission marine vessels will be market-ready. • By 2035 boosting the uptake of zero-emission vehicles, vessels, and airplanes, renewable & low-carbon fuels and related infrastructure – for instance by installing 3 million public charging points by 2030. • By 2035 Creating zero-emission airports and ports – for instance through new initiatives to promote sustainable aviation and maritime fuels.		2021	Communication	N
Working together – a	8th Environment	There are six priority objectives to 2030: • Achieving the 2030 GHG reduction target and climate	CC	2022	Decision	Y

Green Deal Element	'High-Level Strategies'	Targets relevant to PermaGov	PermaGov Regime Complex	Release Year	Type	Legally binding (Y/N)
European Climate Pact	Action Plan	neutrality by 2050. • Enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change. • Advancing towards a regenerative growth model, decoupling economic growth from resource use and environmental degradation, and accelerating the transition to a circular economy. • Pursuing a zero-pollution ambition, including for air, water and soil, and protecting the health and well-being of Europeans. • Protecting, preserving, and restoring biodiversity, and natural capital.				

TABLE 4: OVERVIEW OF EGD ELEMENTS, CORRESPONDING HIGH-LEVEL STRATEGIES, AND THEIR TARGETS RELEVANT TO THE PERMAGOV REGIME COMPLEXES, INCLUDING RELEASE YEAR, TYPE, AND LEGAL STATUS.

3.2. MARINE LIFE

Within the marine life regime complex, the **EU Biodiversity Strategy for 2030** sets out the 'high-level strategy' (see Table 4) to safeguard and restore marine biodiversity in Europe. It reflects the broader objectives of the EGD, particularly focusing on the EGD element **Preserving and restoring ecosystems and biodiversity**.

The responsibility for implementing the EU Biodiversity Strategy for 2030 falls to the EU and its institutions as well as the MS (see Table 5). The European Commission (EC) provides guidance, sets criteria, and helps to ensure that targeted goals, such as achieving the 30% protected area target, are met. The Strategy also aims to enhance environmental justice in national courts for individuals and civil society, thus supporting civil society's watchdog role over compliance. This approach also includes broadening the involvement of NGOs and launching new initiatives focused on sustainable corporate governance with industry.

Regime Complex		**Legal scope**	Communication	**Year**	2020
Objective	Address the loss of biodiversity and reverse the degradation of ecosystems across the EU.				
Targets	• Conserving and restoring nature • Maintaining and enhancing ecosystem services • Ensuring the sustainability of agriculture and forestry • Ensuring sustainable use of fisheries resources • Combating invasive alien species • Addressing the global biodiversity crisis				
Key actors	• The EC (DG ENV) designed the strategy • The European Environment Agency (EEA) provides assessments on biodiversity • MS transpose EU biodiversity-related directives into national law • Civil society • Industry				

TABLE 5: OVERVIEW OF THE EU BIODIVERSITY STRATEGY FOR 2030.

Central to the realisation of the EU Biodiversity Strategy for 2030 are five key instruments, identified through the mapping exercise2. These include the Habitats Directive and Birds Directive, which form the foundation of the EU's nature conservation policy; the Marine Strategy Framework Directive (MSFD), which sets a framework for marine environmental protection; the Common Fisheries Policy (CFP), which governs sustainable fishing; and the EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries, which outlines specific actions for sustainable fisheries. These instruments collectively represent an approach to marine life conservation and address a range of challenges from habitat protection to sustainable fishing practices.

[2] The Nature Restoration Law has not been included among the key instruments as it has not yet been published at the time of writing.

3.2.1. IMPLEMENTING POLICIES

THE HABITATS DIRECTIVE

Directive 92/43/EEC, known as the Habitats Directive, established in 1992, is a key policy for conserving natural habitats and wild fauna and flora across the EU. Its main goal is to ensure biodiversity by maintaining or restoring species and habitats to a favourable conservation status, aiming to halt their decline and promote recovery.

The Directive protects over 10.000 species and 230 habitat types, integral to the Natura 2000 network, a European ecological conservation initiative. The Directive regulates human impact on these species and habitats, listed in its annexes, with specific prohibitions and protections. MS are primarily responsible for implementing the Directive, including designating and managing protected areas. Its implementation is supported by the European Red List of Species and Habitats, providing a scientific basis for conservation efforts.

Significantly, the Habitats Directive acts as a strategic pillar supporting the EU Biodiversity Strategy for 2030. By securing the favourable conservation status of habitats and species, the Directive contributes directly to the EU Biodiversity Strategy's targets, such as expanding protected areas and restoring degraded ecosystems.

Reflecting the EGD ambition to enhance biodiversity and reduce pollution, the Habitats Directive functions as a critical mechanism for preserving Europe's natural heritage. Through regulatory measures, strategic planning, and stakeholder cooperation, it seeks to embed biodiversity considerations across policy-making and land-use planning. This Directive, while precedent to the EGD, reflects its vision, promoting the restoration of biodiversity and the utilisation of natural solutions to address climate change and environmental degradation. The Directive mandates MSs to report every six years on progress in implementation and the conservation status of species and habitats.

Regime Complex		**Legal scope**	Directive	**Year**	1992
Objective	Contribute towards ensuring biodiversity in the EU territory.				
Targets	Maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.				
Key actors	• The **EC** oversees the implementation of the Directive, reviews progress, and helps establish the list of Sites of Community Importance • **MS** are responsible for designating Special Areas of Conservation and ensuring the necessary conservation measures are applied • **Committee** assists the EC in adapting the Annexes to technical and scientific progress • **Civil society**'s opinion may be sought, especially when a plan or project is likely to have a significant effect on a conservation site • **Environmental NGOs** may be involved in surveillance and monitoring, and they play a role in the protection of habitats and species • **Scientific community** is involved in research and providing the scientific data necessary for the implementation of the Directive • **Landowners and users** are concerned particularly in cases where private land is included within the designated Special Areas of Conservation • **Council of the European Union** acts on proposals from the EC for amendments to the Directive's annexes and on certain decisions				

TABLE 6: OVERVIEW OF THE HABITAT DIRECTIVE.

THE MARINE STRATEGY FRAMEWORK DIRECTIVE

Directive 2008/56/EC, known as the Marine Strategy Framework Directive (MSFD), in force since 2008, is a key policy for conservation and sustainable management in Europe. Its primary goal is to achieve Good Environmental Status (GES) of the EU's marine waters, essential for sustaining the resource base of marine-related economic and social activities. Implemented in six-year cycles, the MSFD requires MS to assess the marine environment, determine the GES, and develop measures to maintain or restore this status.

The Directive includes eleven qualitative descriptors for a healthy marine environment, ranging from biodiversity maintenance to reducing marine litter and pollution. The MSFD's implementation is coordinated by the EC (DG ENV) and involves MS setting up competent authorities and reporting progress. Article 23 of the Directive required the EC to review the MSFD by mid-2023 although the outcome of the review has not been published yet. The review is expected to enhance its provisions for more effective and efficient protection of the marine environment in line with the goals of the EGD. By striving for GES, the MSFD directly contributes to the EU Biodiversity Strategy for 2030. It supports the efforts to preserve and restore marine ecosystems and biodiversity, thereby playing a critical role in supporting the Strategy's objectives of protecting the marine environment.

Regime Complex		**Legal scope**	Directive	**Year**	2008
Objective	Protect the marine environment and biodiversity upon which marine-related economic and social activities depend.				
Targets	The Directive includes the following 11 descriptors: 1. Biodiversity is maintained 2. Non-indigenous species do not adversely alter ecosystems 3. Populations of commercial fish and shellfish species are healthy 4. Food webs ensure long-term abundance and reproduction of species 5. Eutrophication is reduced 6. Sea floor integrity ensures the proper functioning of ecosystems 7. Permanent alteration of hydrographical conditions does not adversely affect ecosystems 8. Concentrations of contaminants give no pollution effects 9. Contaminants in seafood are at safe levels 10. Marine litter does not cause harm to the coastal and marine environment 11. Introduction of energy (including underwater noise) does not adversely affect the ecosystem				
Key actors	• **MS** bear the primary responsibility for preparing, implementing, monitoring, and updating marine strategies • The **EC** (DG ENV) assesses the MS's marine strategies and may provide guidance or propose modifications • **European Parliament and the Council of the European Union** are the legislative bodies that, along with the EC, have established the Directive • **Competent authorities** designated by the MS are involved in the implementation of the Directive • **Regional Sea Conventions**: the Directive encourages MS to work within existing regional institutional cooperation structures for the development and implementation of marine strategies • **International bodies** as MS are encouraged to cooperate with third countries sharing the same marine region or subregion • **Scientific Advisory Bodies and Regional Advisory Councils** may be involved in the process due to their expertise and relevance				

TABLE 7: OVERVIEW OF THE MARINE STRATEGY FRAMEWORK DIRECTIVE.

THE BIRDS DIRECTIVE

The Birds Directive (Directive 2009/147/EC), effective from 2010, sets forth comprehensive measures for the conservation of wild bird species across the European MS. It mandates the safeguarding, management, and regulation of birds and their environments to preserve biodiversity and ensure that species are sustained or restored to a favourable conservation status. The Directive is particularly prescriptive about the conservation of species listed in Annex I, obliging MS to designate Special Protection Areas (SPAs) for their habitat needs. Beyond these protected areas, the Directive requires MS to uphold a wide-ranging protection regime for all wild birds, banning activities that would significantly disturb these species. In support of these goals, the Directive promotes research and the collation of scientific data to inform protective measures, management, and utilisation of the bird populations.

The Birds Directive functions as a strategic pillar within the broader context of the EU Biodiversity Strategy for 2030, significantly contributing to the Strategy's objectives of expanding protected areas and rehabilitating degraded ecosystems. It resonates with the ambitions of the EGD, particularly its biodiversity preservation and restoration goals, although the Directive precedes the EGD. The MS carry the primary responsibility for the Directive's implementation, while the EC plays an essential role in monitoring, coordinating, and offering implementation guidance. Through its cross-sectoral reach, the Directive impacts various regimes, notably influencing marine life.

Regime Complex		**Legal scope**	Directive	**Year**	2010
Objective	Conserve all species of naturally occurring birds in the wild state in EU.				
Targets	Conservation is aimed at the long-term protection and management of natural resources as an integral part of the heritage of the EU population.				
Key actors	• **MS** must ensure the protection, management, and control of wild bird species, including establishing a general system of protection and special conservation measures • The **EC** (DG ENV) plays a role in overseeing the implementation of the Directive, assessing MS' reports, and ensuring that derogations are not incompatible with the Directive's aims • **Competent authorities** are designated by the MS and are responsible for ensuring the protection of birds, including the granting of any derogations from the Directive's provisions • **Scientific Advisory Bodies**: the Directive encourages research and work required for the protection, management, and sustainable use of bird species, implying the involvement of scientific experts and bodies in the process				

TABLE 8: OVERVIEW OF THE BIRDS DIRECTIVE.

THE COMMON FISHERIES POLICY

The Common Fisheries Policy (CFP), currently with the basic framework outlined in Regulation 1380/2013, was originally designed in 1983 and most recently reformed in 2013 (in force since January 2014).In its current manifestation it aims to ensure that fishing and aquaculture activities are sustainable in the long-term within the EU for which the policy employs various measures like multiannual plans, allocation of fishing efforts, and adaptation of fishing capacity. This policy is implemented across the EU's marine territories, with MS

bearing the primary responsibility for execution. The EC plays a crucial role in the overall coordination and monitoring of the CFP, ensuring that its measures are effectively enforced and contribute to achieving the objectives of the EGD, notably those related to preserving and restoring biodiversity.

In particular, the CFP's commitment to managing fish stocks sustainably directly supports the EU Biodiversity Strategy for 2030's targets. By striving towards the maximum sustainable yield exploitation rate, regulating fishing gear, and the implementation of an ecosystem-based approach to fisheries management, the CFP could be vital in promoting marine biodiversity and the resilience of marine ecosystems.

Regime Complex		**Legal scope**	Regulation	**Year**	2014 (updated)
Objective	Ensure sustainable fishing and aquaculture with the aim to achieve economic, social and employment benefits and food availability.				
Targets	Achieve the maximum sustainable yield exploitation rate by 2015; implementing ecosystem-based approach to fisheries; elimination of discards.				
Key actors	• **Fisheries and aquaculture operators** are directly involved in the fishing industry and are represented within Advisory Councils • **MS** manage national fleets, decide on principles for the allocation of fishing opportunities nationally, enforce fisheries control, and implement conservation measures, among other responsibilities • The **EC** has the authority to adopt measures for the CFP's implementation and to ensure MS' compliance • European Parliament and Council of Ministers in general act as co-legislators; Council of Ministers decides on overall Total Allowable Catches alone;**11 Advisory Councils** (composed of stakeholders such as industry representatives and environmental organisations, and for the most part defined by regional seas) contribute to CFP development and implementation • **Scientific bodies** (in particular **ICES and GFCM**) provide scientific data and advice fisheries management • Interests of **Environmental NGOs and consumer groups** etc. are also affected by the CFP • **Regional Fisheries Management Organisations (RFMO), in which the EU is active on behalf of its MS,** manage fishery resources in international waters • The **STECF** provides scientific assessments and advice • **European Fisheries Control Agency** organises coordination and cooperation between MS control and inspection activities				

TABLE 9: OVERVIEW OF THE COMMON FISHERIES POLICY.

THE EU ACTION PLAN: PROTECTING AND RESTORING MARINE ECOSYSTEMS FOR SUSTAINABLE AND RESILIENT FISHERIES

The EU Action Plan: Protecting and Restoring Marine Ecosystems for Sustainable and Resilient Fisheries stands as a decisive EU initiative to reinforce the health of marine ecosystems and underpin the sustainability of fisheries. Launched in 2023 the plan guides MS in planning national measures for protecting sensitive species, seabeds, and in improving fishing selectivity.

Supported by funding from key EU programmes such as the European Maritime, Fisheries and Aquaculture Fund (EMFAF) and the LIFE programme, the Action Plan contributes to the EU's commitment to sustainable fisheries and marine conservation. As part of the broader

EU Biodiversity Strategy for 2030, the Action Plan plays a key role in promoting the protection and regeneration of marine biodiversity. It reflects the EU's strategic approach to achieving sustainable food systems and preserving biodiversity, key aspects of the EGD's environmental agenda. The plan represents a concerted EU effort to integrate environmental concerns in fisheries management within the marine life regime, reinforcing the EU's commitment to sustainable and resilient marine ecosystems.

Regime Complex		**Legal scope**	Communication	**Year**	2023
Objective	To safeguard the sustainability of the marine-based food systems and achieve a healthy marine environment (healthy fish stocks and biodiversity).				
Targets	The action plan includes (verifiable) targets related to improving fishing selectivity, reduce impact of fishing on the seabed, improve knowledge, research, and innovation, and secure a just transition for all.				
Key actors	• **Fisheries and coastal communities** implement practices, local stewardship; • **Scientific bodies** such as the STECF and the ICES provide scientific data and carry out assessments • **Regional MS groups** integrate measures and are involved in regional cooperation • **Advisory Councils** • The **EC** (DG MARE) monitors the plan's implementation, reviews progress • The **MS** are involved in the national execution of the measures • The **European Parliament and the Council** provides legislative support • The **European Fisheries Control Agency (EFCA)** for enforcement • The **EEA** for assessment support and environmental reporting • **Fisheries organisations and Environmental NGOs** have interest in shaping the efforts arising from the Action Plan				

TABLE 10: OVERVIEW OF THE EU ACTION PLAN: PROTECTING AND RESTORING MARINE ECOSYSTEMS FOR SUSTAINABLE AND RESILIENT FISHERIES.

3.2.2. SUPPORTING POLICIES

CONVENTION ON BIOLOGICAL DIVERSITY

The Convention on Biological Diversity (CBD) is an international agreement focused on the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from genetic resources. Ratified by 196 nations, the CBD addresses conservation efforts across ecosystems, species, and genetic variability, while also embracing the challenges and opportunities presented by biotechnology, as delineated in the Cartagena Protocol on Biosafety. The CBD amplifies the objectives of the EU Biodiversity Strategy for 2030, providing a global framework that reinforces the Strategy's goals of protecting nature and reversing the degradation of ecosystems.

Regime Complex		**Legal scope**	International convention	**Year**	1993
Objective	The conservation of biological diversity; the sustainable use of the components of biological diversity; the fair and equitable sharing of the benefits from using genetic resources.				
Targets	• Manage areas for to reduce biodiversity loss • Restore 30% of all degraded ecosystems • Conserve 30% of land and seas • Halt species extinction • Ensure sustainable use of wild species • Reduce introduction of invasive species by 50% • Reduce pollution to levels not harmful to biodiversity • Minimise climate impacts on biodiversity • Sustainable management of species to benefit people • Enhance sustainable agriculture, fisheries and forestry • Enhance ecosystem contributions to people • Improve urban biodiversity in urban spaces for human well-being • Increase benefit-sharing of genetic resources • Integrate biodiversity in decision-making • Business assess, disclose and reduce biodiversity related risks • Enable sustainable consumption • Strengthen biosafety • Reduce harmful incentives by at least $500 billion per year • Mobilise $200 billion per year for biodiversity • Strengthen capacity-building for biodiversity • Endure that knowledge is available to guide biodiversity action • Ensure participation in decision-making and access to justice • Endure gender equality for biodiversity action				
Target actors	• **National governments** are responsible for creating and enforcing measures to meet the CBD's commitments • **Regional Fisheries Bodies** manage fish stocks and marine ecosystems beyond national jurisdictions • **Environmental NGOs** are influential in advocacy contributing to the conservation efforts • **Private sector** operations can affect marine biodiversity and are crucial for implementing sustainable practices				

TABLE 11: OVERVIEW OF THE CONVENTION ON BIOLOGICAL DIVERSITY (CBD).

The described instruments within the marine life regime complex of relevance to the PermaGov project outlines the EU's efforts to conserve marine biodiversity, led by the EU Biodiversity Strategy for 2030. Figure 1 below shows a timeline of the instruments, indicating that the majority of the assessed instruments were in place before the EGD, with only two launched afterwards.

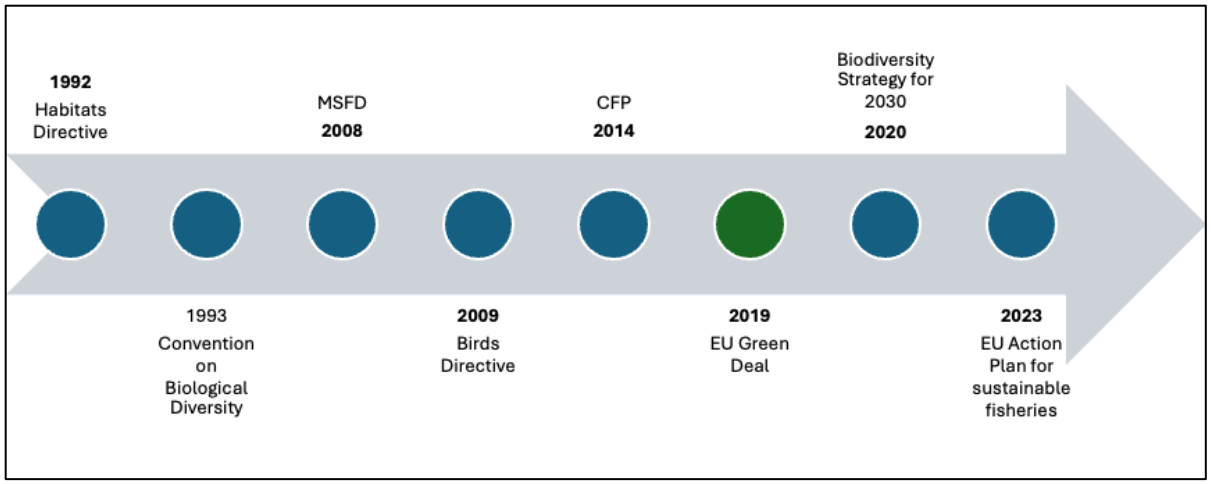

FIGURE 1: TIMELINE OF THE MARINE LIFE REGIME COMPLEX RELATED INSTRUMENTS IN RELATION TO THE EGD (FOR THE CFP, THE INDICATED YEAR REPRESENTS LATEST MAJOR REFORM).

3.3. MARINE PLASTICS

The marine plastics regime complex relates to two EGD elements, **Mobilising industry for a clean and circular economy** and **A zero pollution ambition for a toxic-free environment**. Two 'high-level' strategies support these elements, respectively the **EU Circular Economy Action Plan** (which aims to improve the lifecycle of materials to ensure sustainability from production to disposal) and the **EU Action Plan: Towards Zero Pollution for Air, Water and Soil** (which broadens the scope of the initiative to encompass all forms of pollution, setting ambitious targets for reducing contaminants and preserving ecosystem health).

A NEW CIRCULAR ECONOMY ACTION PLAN

The new Circular Economy Action Plan (CEAP) for a cleaner and more competitive Europe, entered into force in 2020 and updated the first EU Circular Economy Action Plan that entered into force in 2015. It aims to transform the EU's economy into a circular model, maximise the lifecycle of resources and minimise waste. To fulfil its main objective, the plan encompasses sub-objectives like designing sustainable products, empowering consumers, fostering circularity in production, improving waste management, and promoting a toxic-free environment. It targets key sectors by enhancing the sustainability of electronics, vehicles, and packaging, and by advocating for a comprehensive approach to plastic use, including a significant reduction in microplastics.

Implemented through regulatory measures, incentives, and stakeholder engagement, it is an important component of the EGD, aimed at driving industry towards a clean, circular economy and reinforcing the zero-pollution ambition. Key to the CEAP is the Directive on Single-Use Plastics which sets rules and standards, provides economic incentives for companies to develop sustainable alternatives, and encouraging businesses, NGOs, and consumers to foster a collective movement towards circularity. Furthermore, the CEAP seeks to create a unified product policy framework that promotes sustainable products, services, and business models, ultimately reshaping consumption habits to minimise waste. This framework encompasses eco-design measures, mandates the presence of recycled content, and encourages market innovation for alternative materials with the aim to reduce single-use plastics.

Regime Complex		**Legal scope**	Communication	**Year**	2020
Objective	Promote a sustainable economic model by ensuring that resources are used efficiently, and that waste is minimised.				
Targets	Various targets related to product value chains, packaging, plastic, and circularity.				
Key actors	• The **EC** ensures the implementation of the EU policies and the Action Plan • **MS** are responsible for transposing EU directives into national laws • The European Parliament and the Council, and other relevant EU institutions approve the regulatory framework ensuring the plan is in line with the Eu overall policy objectives • **Industry** (small and medium enterprises - SMEs), consumers, citizens as they adopt circular business models, drive demand for sustainable transformations • **Civil society organisations** promote awareness and influence consume behaviours • **Public authorities** are responsible for local governance and enforcements of regulations supporting circular economy initiatives • **International partners** facilitate cross-border collaboration and share best practices • The plan also references the need for cooperation with EU institutions, member states, regions, and cities				

TABLE 12: OVERVIEW OF THE NEW CIRCULAR ECONOMY ACTION PLAN: FOR A CLEANER AND MORE COMPETITIVE EUROPE.

EU ACTION PLAN: TOWARDS ZERO POLLUTION FOR AIR, WATER AND SOIL

The EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil' is an integral component of the EGD, serving as a strategic guide to incorporate pollution prevention into all relevant EU policies. Launched in 2021, the plan aims to direct the EU towards a 2050 vision of a Healthy Planet for All.

The Action Plan employs a variety of mechanisms for implementation, such as inspections, compliance checks, promoting advanced monitoring technologies, and regulatory alignment with stronger provisions for tackling pollution sources across sectors like agriculture, industry, transport, and energy.

Regime Complex		**Legal scope**	Communication	**Year**	2021
Objective	Reduce air, water, and soil pollution to levels no longer considered harmful to health and natural ecosystems.				
Targets	• A reduction of over 55% in the health impacts from air pollution • 30% decrease in the population chronically disturbed by transport noise • 25% reduction in EU ecosystems affected by air pollution • Halve nutrient losses and the use of pesticides and antimicrobials in farming • Reduce plastic litter at sea and microplastics in the environment by 50% and reduce by 30% microplastics released into the environment • Cut both total waste generation and residual municipal waste by half				
Key actors	• The **EC** drives the initiative and crafted the policy				

	• The **European Parliament and the Council** • the **European Economic and Social Committee, the Committee of the Regions** advise social and regional impacts • **MS** are responsible for implementing the action plan at the national level • **Local authorities** can contribute to enforce policies at local level • **Private sector** (especially those causing significant pollution like agriculture, transport, and energy) can provide innovation and cleaner technologies in line with the plan • **NGOs** drive advocacy and awareness about environmental protection • Academia provides research and scientific evidence to inform policy • **EU agencies** like the EEA, ECHA, EFSA, and EMSA as contribute expert knowledge and support to implement the action plan

TABLE 13: OVERVIEW OF THE EU ACTION PLAN: TOWARDS ZERO POLLUTION FOR AIR, WATER AND SOIL.

In addition to these two main overarching instruments, there are diverse EU and non-EU supporting instrument as well as regional instruments, which contribute to these strategies and towards the achievement of the two EGD's elements and are described below.

3.3.1. IMPLEMENTING POLICIES

PROPOSAL FOR A REGULATION ON THE PACKAGING AND PACKAGING WASTE

The Proposal for a Regulation on Packaging and Packaging Waste (PPWR) published in 2022, represents a transformative step in mobilising industry towards a clean and circular economy. This policy aims to harmonise standards across EU MS, thereby eliminating disparities in packaging regulations and facilitating industry-wide adjustments to more sustainable practices. By setting ambitious targets for the recyclability of packaging by 2030 and the incorporation of recycled content by 2040, the proposal supports recycling but also encourages the industry to innovate in packaging design that minimises waste and maximises reusability. These measures are designed to reduce the dependency on virgin materials, curb pollution, and stimulate the market for secondary raw materials, thus driving the industry towards a closed-loop economy.

In addition to its primary goals, the PPWR plays a role in mitigating the marine plastic pollution crisis, reflecting the marine plastic regime complex objectives. Furthermore, it is consistent with existing policy provisions and is expected to contribute to cut down the volume of plastic waste that ends up in our oceans, thus contributing to the health and resilience of marine ecosystems. By establishing clear rules and targets, it aims to incentivise stakeholders across the packaging value chain to adopt practices that are not only environmentally sustainable but also economically viable.

Regime Complex		**Legal scope**	Proposal for a Regulation	**Year**	2022
Objective	Harmonise packaging and packaging waste standards across EU MS, thereby eliminating disparities in packaging regulations and facilitating industry-wide adjustments to more sustainable practices.				
Targets	• All packaging to be recyclable by 2030 and meet recyclability at scale requirements by 2035 • Mandatory targets for recycled content in plastic packaging by 2030 and 2040				

	• Reduction of packaging waste and the promotion of closed-loop recycling
Key actors	• The **EC** initiated the drafts of the regulatory framework • **MS** implement and enforce the regulation • The **EEA** provides data and support evidence-based policy advice • **Manufacturers, importers, producers, economic operators, suppliers, and authorised representatives** are responsible for compliance with standards and reducing packaging waste • **Consumers** drive demand for sustainable packaging and participate in recycling practices • **Competent national authorities** monitor and regulate packaging sector

TABLE 14: OVERVIEW OF THE PROPOSAL FOR A REGULATION ON PACKAGING AND PACKAGING WASTE.

DIRECTIVE ON THE REDUCTION OF THE IMPACT OF CERTAIN PLASTIC PRODUCTS ON THE ENVIRONMENT (SINGLE USE PLASTICS DIRECTIVE)

The Directive 2019/904 on the reduction of the impact of certain plastic products on the environment (Single Use Plastics Directive) adopted in June 2019, aims to mitigate the environmental impact of certain plastic products, particularly on marine ecosystems and human health. It highlights the transition to a circular economy, contributing to the efficient functioning of the EU's internal market. This Directive targets a significant reduction in the consumption of single-use plastics and ensures that by 2030, all plastic packaging in the EU market is reusable or easily recyclable. The Directive is legally binding, with MS required to transpose its provisions into national law, including establishing penalties for non-compliance. While the Directive precedes the EGD, it aligns with its objectives on biodiversity and pollution.

Regime Complex		**Legal scope**	Directive	**Year**	2019
Objective	Reduce the impact of certain plastic products on the environment, in particular on the aquatic environment and on human health, as well as to promote the transition to a circular economy.				
Targets	Key targets include reducing the consumption of listed single-use plastics by 2026, incorporating 25% recycled content in PET bottles by 2025, and 30% in all plastic bottles by 2030. It also mandates that by 2024, caps and lids should remain attached to containers to prevent littering.				
Key actors	• The **EC** develops implementing acts and guidelines, monitors and reviews the Directive • **MS** enforce the Directive, establish measures for consumption reduction, collection, and recycling, and report data to the EC • **Producers** fulfil extended producer responsibility, including covering costs for waste management. They are responsible for compliance with product requirements, extended producer responsibility, and covering related costs • **Consumers** are targeted for awareness-raising measures • **Public authorities** manage waste collection systems, including port reception facilities for fishing gear				

TABLE 15: OVERVIEW OF THE SINGLE-USE PLASTICS DIRECTIVE.

DIRECTIVE ON THE PORT RECEPTION FACILITIES

The Directive on Port Reception Facilities (EU) 2019/883, adopted by the EC, is a pivotal measure aimed at mitigating marine pollution by ensuring the proper management and delivery of waste from ships to port facilities within the EU. This directive is integral to the EU's broader environmental and maritime strategy, complementing the new Circular Economy Action Plan and the Single-Use Plastics (SUP) Directive by enhancing the collection capabilities of port facilities for ship-generated waste and thus limiting illegal disposal into the marine environment.

It applies universally to all ships visiting EU ports, irrespective of their flags, and mandates Member States to collect and report data on the volume and type of passively fished waste, including abandoned, lost, or otherwise discarded fishing gear (ALDFG), to improve monitoring and compliance efforts. The directive obliges ships to deliver their waste to these facilities, aiming to reduce discharges of waste from ships and prevent marine pollution. It introduces a comprehensive fee system designed to discourage the discharge of waste at sea by ensuring that the costs of operating port reception facilities for the reception and treatment of waste from ships are covered through the collection of fees from ships. This system includes provisions for reduced fees for ships that demonstrate reduced waste production and sustainable waste management practices.

By requiring Member States to ensure the availability of adequate port reception facilities and by obliging ships to deliver their waste at these facilities, the directive seeks to protect marine environments against the negative effects of ship-generated waste, ensuring the smooth operation of maritime traffic and supporting the EU's commitment to a sustainable and circular economy.

Regime Complex		**Legal scope**	Directive	**Year**	2019
Objective	Protect the marine environment by reducing the discharge of waste from ships into the sea.				
Targets	Protect the marine environment by reducing illegal discharges, improving waste collection and management, improve data collection and reporting, implement a fee system that discourages ships from discharging waste at sea.				
Key actors	• The EC: Guides and monitors Directive implementation • MS: Enforce the Directive, ensuring ports have adequate waste facilities • Port authorities: Manage waste reception and disposal • Ship operators: Comply with waste delivery and reporting requirements				

TABLE 16: OVERVIEW OF THE DIRECTIVE ON THE PORT RECEPTION FACILITIES.

3.3.2. SUPPORTING POLICIES

FAO VOLUNTARY GUIDELINES ON THE MARKING OF FISHING GEAR

The Voluntary Guidelines on the Marking of Fishing Gear developed by the Food and Agriculture Organisation of the United Nations (FAO) aim to enhance the sustainability of fisheries and the marine environment. The guidelines address Abandoned, lost or otherwise discarded fishing gear (ALDFG), proposing a system for marking fishing gear to aid in its identification and recovery. These guidelines suggest practical methods for locating gear, risk assessment frameworks for marking appropriateness, and recommendations for minimising gear abandonment and promoting recovery.

The guidelines encourage voluntary adherence and provide a comprehensive approach to responsible fisheries management. They consider a multitude of international documents, such as the Code of Conduct for Responsible Fisheries and various UN resolutions, integrating them within a broader, concerted effort to protect marine biodiversity and combat pollution. While the guidelines were established in 2019 and are globally scoped, their implementation relies on the actions of individual states and regional fisheries bodies. No specific timeline for implementation is provided, reflecting the voluntary nature of these measures.

Regime Complex		**Legal scope**	Guidelines (non-binding)	**Year**	2019
Objective	Contribute to sustainable fisheries, to improve the state of the marine environment, and to enhance safety at sea by combatting, ALDFG.				
Targets	n.a.				
Key actors	• **Participating nations** adopt and implement the FAO guidelines • **Governmental agencies** related to fisheries enforce the guidelines • The **FAO** develops and disseminates the guidelines • **Regional Fisheries Management Organisations (RFMOs)** align their regulations with the guidelines • **NGOs** support awareness of the guidelines and monitor implementation • **Fishers and fishing companies** implement the guidelines • **Port authorities** enforce guidelines • **Gear manufacturers** produce and design gears in line with the guidelines • **Consumers** support responsible seafood choices				

TABLE 17: OVERVIEW OF THE FAO VOLUNTARY GUIDELINES ON THE MARKING OF FISHING GEAR.

HELCOM'S REVISED REGIONAL ACTION PLAN ON MARINE LITTER

The HELCOM Revised Regional Action Plan on Marine Litter published in 2021 aims to reduce plastic waste and its discharge into the Baltic Sea. This initiative forms part of the broader Baltic Sea Action Plan, with a focus on public awareness, sustainable consumption, and integration of marine litter management within solid waste frameworks. It emphasises the importance of adopting the EU waste hierarchy, prioritising prevention, and recycling of marine litter.

The Action Plan delineates specific measures to address both land-based and sea-based sources of marine litter, including guidelines for efficient waste management in maritime activities and strategies to minimise the loss of fishing gear. While not directly mentioning the EGD, this policy aligns with its objectives, particularly in promoting a zero-pollution environment and enhancing biodiversity in the marine ecosystem. The Plan's implementation leverages a combination of legal regulations, voluntary commitments, and incentives, highlighting a collaborative approach to achieving its goals.

Regime Complex		**Legal scope**	Action plan	**Year**	2021
Objective	Reduce plastic waste and its discharge into the Baltic Sea.				
Targets	Different actions are included in the documents related to waste prevention and management, microplastics, single-use plastics, shipping activities, and ALDFG.				
Key actors	• **HELCOM**, its Contracting Parties and their authorities are responsible for the implementation of the plan • **Municipalities, national authorities, river basin authorities** enforce and regulate the plan • **Maritime stakeholders** play a role in reducing marine litter • **Fishermen** (both recreational and commercial) implement fishing practices that do not cause marine litter • **Regional authorities** such as UNEP, OSPAR, Barcelona Convention, Black Sea Commission collaborate with HELCOM • The **International Maritime Organisation (IMO), the Convention on Biological Diversity, the Baltic Sea Advisory Council, and River Basin Commissions** coordinate efforts, share best practices, and contribute to global and regional initiatives, complementing the goals of the HELCOM Plan				

TABLE 18: OVERVIEW OF THE HELCOM REVISED REGIONAL ACTION PLAN ON MARINE LITTER.

INTEGRATED MONITORING AND ASSESSMENT PROGRAMME OF THE MEDITERRANEAN SEA AND COAST AND RELATED ASSESSMENT CRITERIA (IMAP)

The Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria, in force since 2016 (UNEP⁄MAP CoP Decision IG 22/7), sets out to assess the status of the Mediterranean Sea and coast. Its main objective is to establish a coordinated and standardised approach to monitoring and assessment across the basin. In addition, it is based on the definition and application of Good Environmental Status (GES) thresholds that fosters harmonised national and regional ecological objectives, including on anthropogenic pressures such as plastic pollution. While the policy itself does not set specific targets, it the IMAP decision is in support of and related to the achievement of GES thresholds (UNEP⁄MAP CoP Decision IG. 21/3) as defined within the EcAp process (UNEP⁄MAP CoP Decision IG.20/4). Contracting Parties of the Barcelona Convention are required to design and execute national integrated monitoring programs and collaborate within the UNEP/MAP framework to produce consistent regional assessments based on common indicators.

This programme, although not a direct component of the EGD, aligns with its zero-pollution goal especially in the context of marine plastics. Moreover, it is specifically referenced for the IMAP to coordinate with the EU to promote harmonisation with its monitoring activities, such as the Marine Strategy Framework Directive. The policy references several other decisions and protocols, emphasising the ecosystem approach and the conservation of marine biodiversity, showing its broad, cross-cutting nature affecting various economic sectors related to marine and coastal environments.

The IMAP can contribute to the overall objectives of the EU Circular Economy Action Plan and the EU Action Plan: Towards Zero Pollution by providing a structured approach to monitoring and assessment that aligns with their sustainability and pollution reduction goals. Through its integrated environmental assessments (such as the MEDQSR 2023) based on

common indicators, the IMAP can supply essential data on the status of the Mediterranean, identifying pollution sources, and tracking progress towards a healthier marine environment.

Regime Complex		**Legal scope**	Decision	**Year**	2016
Objective	The IMAP information system will ensure the establishment of the regional pool of data based on Shared Environmental Information System (SEIS) principles that will allow the production of common indicator assessment reports in an integrated manner, following the monitoring specifics and data provided, which ensures comparability across the Mediterranean region.				
Targets	Good Environmental Status targets related to each IMAP common indicator established during first phase of IMAP implementation.				
Key actors	• **Contracting Parties of the Barcelona Convention, the UNEP/MAP** are responsible for monitoring the implementation the protocol; • **Correspondence Groups on Good Environmental Status (COR GEST) and Monitoring (COR MON) and Economic and socio analysis (COR ESA), and the EcAp Coordination Group** are the governance pillars of EcAp process and contribute to the development and execution of monitoring programmes; • General Fisheries Commission for the Mediterranean (GFCM) and the Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS) collaborate on marine conservation efforts; • **Regional bodies and international organisation** support and coordinate regional marine assessments; • **Scientific community** contributes to develop knowledge and research.				

TABLE 19: OVERVIEW OF THE DECISION INTEGRATED MONITORING AND ASSESSMENT PROGRAMME OF THE MEDITERRANEAN SEA AND COAST AND RELATED ASSESSMENT CRITERIA.

PROTOCOL FOR THE PROTECTION OF THE MEDITERRANEAN SEA FROM LAND-BASED SOURCES

The Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (Land-Based Sources Protocol) is a critical part of the Barcelona Convention. It was adopted in 1980, amended in 1996, and entered into force in 2006. It is dedicated to protecting the Mediterranean Sea from pollution emanating from various terrestrial sources, including industrial and urban discharge, with an aim to conserve marine biodiversity. The protocol calls for the development and execution of national and regional action plans to phase out pollutants with a significant focus on adaptive monitoring and risk-based approaches to pollution management. While no explicit targets are outlined, the protocol emphasises the application of the precautionary and polluter pays principles, environmental impact assessments, and the best available techniques and practices, including clean production technologies.

The protocol's implementation relies on reporting systems where contracting parties must detail the measures they have adopted and their effectiveness every two years. Its objectives align with the EGD’s zero-pollution ambition. It is a cross-cutting policy that impacts multiple sectors, particularly addressing the issue of marine plastics, and operates under the wider umbrella of the Barcelona Convention.

Regime Complex		**Legal scope**	Protocol (binding)	**Year**	1983
Objective	To prevent, abate, combat, and eliminate pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources and activities within the Mediterranean.				
Targets	Targets are defined by countries in National Action Plans (NAP) based on their priorities and concerns. It exists 11 NAPs (in 2024).				
Key actors	• **Contracting Parties of the Barcelona Convention** are responsible for following the implementation and enforcing the Protocol within their national boundaries • The **UNEP/MAP Secretariat, specifically MED POL,** provides guidance and support for the Protocol's implementation including assessments and capacity building • **Regional or international organisations** collaborate with the Protocol's objectives, contributing to a coordinated approach to pollution prevention and management in the Mediterranean region • **Developing countries** within the Mediterranean region receive assistance and capacity-building support to meet their obligations under the Protocol				

TABLE 20: OVERVIEW OF THE PROTOCOL FOR THE PROTECTION OF THE MEDITERRANEAN SEA AGAINST POLLUTION FROM LAND-BASED SOURCES AND ACTIVITIES.

REGIONAL PLAN ON MARINE LITTER MANAGEMENT IN THE MEDITERRANEAN IN THE FRAMEWORK OF ARTICLE 15 OF THE LAND BASED SOURCES PROTOCOL

The Regional Plan on Marine Litter Management in the Mediterranean within the Land-Based Sources Protocol in place since 2013, updated biannually, aims to significantly reduce marine litter pollution and its socioeconomic and environmental impacts. It calls for environmentally sound removal methods for existing litter and promotes harmonisation with international standards and regional organisations. The plan supports the development and coordination of National Action Plans to effectively manage marine litter, with a focus on enhancing knowledge about marine litter and its consequences.

The implementation of this plan involves mandatory adoption of necessary legislation and/or institutional arrangements by Contracting Parties, potentially including economic instruments, bans, and design requirements. The plan's objectives align with the EGD's zero-pollution goal and the ecosystem approach (EcAp).

Regime Complex		**Legal scope**	Protocol (binding)	**Year**	2013
Objective	Prevent and reduce marine litter pollution in the Mediterranean and its impact on ecosystem, as well as reduction of socioeconomic costs it causes.				
Targets	Contracting Parties are required within their National Action Plans to establishes measures and targets to achieve Good Environmental Status (GES) and relevant targets in relation to marine litter. This policy also contains specific time-limited objectives to prevent marine litter from land, and sea-based sources which Contracting Parties are required to adhere to.				

Target actors	• **Contracting Parties of the Barcelona Convention** are responsible for implementing and enforcing the Protocol • The **UNEP/MAP** provides guidance and support for the Protocol's implementation • **MEDPOL** supports the Regional Plan's implementation • **The Regional Activity Centre for Cleaner Production (CP/RAC)** contributes to the development and execution of the Plan • **REMPEC** (Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea) ensure rapid and effective response to marine pollution incidents aligning with the Plan • **SPA/RAC** (Specially Protected Areas Regional Activity Centre) protects and manages ecologically sensitive areas, collaborating with the Plan to reduce the environmental impact of marine litter • **Civil society** plays a role in advocacy and awareness rising • **Tourism, maritime, and fisheries industries** implement sustainable practice

TABLE 21: OVERVIEW OF THE REGIONAL PLAN ON MARINE LITTER MANAGEMENT IN THE MEDITERRANEAN WITHIN THE LAND-BASED SOURCES PROTOCOL.

The marine plastics regime complex is supported by a mix of longstanding and newly introduced policies, as illustrated in the Figure 2, which outlines the policy timeline. Notably, the majority of these instruments were in place before the introduction of the EGD, with additional measures launched to reinforce the EU's commitment to addressing marine plastics after the EGD was launched.

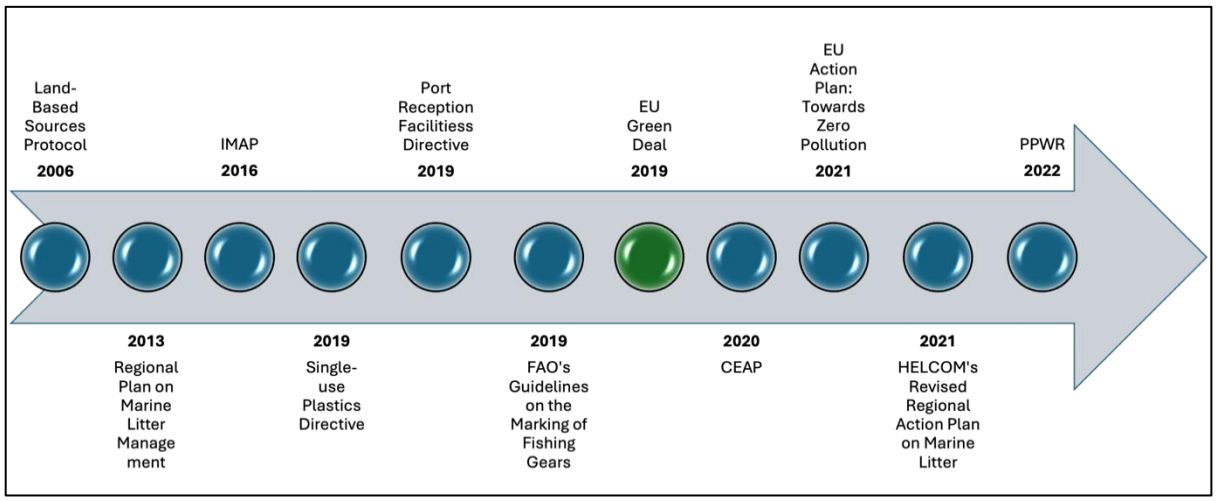

FIGURE 2: TIMELINE OF THE MARINE PLASTICS REGIME COMPLEX RELATED INSTRUMENTS IN RELATION TO THE EGD.

3.4. MARINE ENERGY

Regarding the marine energy regime complex, the **European Climate Law** and the **Offshore Renewable Energy Strategy** are the primary 'high-level strategies' that contribute to achieve EGD elements: **Increase the EU's climate ambitions for 2030 and 2050**, and **Ensure the supply of clean, affordable, and secure energy**.

THE EUROPEAN CLIMATE LAW

The European Climate Law establishes a legislative framework mandating the EU to achieve climate neutrality by 2050. It amplifies the Union's commitment to escalate climate action in alignment with the Paris Agreement and the EGD. The Law specifies the goal of a net-zero greenhouse gas emissions economy, ensuring economic growth is disconnected from resource use. Key objectives include enhancing the adaptive capacity to climate change, fostering just transitions across sectors, and underpinning the EU's aim to be a leader in global climate governance. Implemented primarily through legal regulations, the European Climate Law serves as a critical step in the EU's pursuit of sustainable development and a proactive international climate policy.

The European Climate Law acts as a foundation for sectoral policies, supporting the EGD's objectives. Cross-cutting in nature, it particularly impacts marine energy and transport sectors, focusing on smart mobility and green energy transition, it integrates climate actions across various sectors and governance levels. The law's enforcement will be monitored through a set of indicators and a governance framework, ensuring transparency and accountability in meeting its targets, thus reinforcing its commitment to a sustainable future.

Regime Complex		**Legal scope**	Regulation	**Year**	2021
Objective	Increase efforts to reach the 2050 climate neutrality objective.				
Targets	Target of increasing climate goals for 2030 with a view to achieving the climate-neutrality objective set out in Article 2 of the Regulation, an EU-wide climate target for 2040 shall be set.				
Key actors	• **MS** are responsible for carrying out tasks presented by framework • The **EC** is responsible for reviewing relevant legislation • The **European Scientific Advisory Board on Climate Change** offers expert guidance and scientific recommendations to inform climate policy and actions • The national climate advisory bodies provide input and expertise at the national level, aiding in the development and implementation of climate policies • The **EEA** collects and disseminates environmental data • **Stakeholders** across various economic sectors collaborate with policymakers and regulators, adapting their operations to meet climate target				

TABLE 22: OVERVIEW OF THE EUROPEAN CLIMATE LAW.

EU STRATEGY ON OFFSHORE RENEWABLE ENERGY

The EU Strategy to harness the potential of offshore renewable energy for a climate neutral future (EU Strategy on Offshore Renewable Energy) is a communication that provides a framework for supporting the deployment of offshore renewable energy technologies throughout European waters. Anchored by the ambitious goal to contribute to the EU's climate neutrality by 2050 and the target of reducing emissions by at least 55% by 2030, the Strategy highlights the role of the ORE in advocating for enhanced maritime spatial planning and grid infrastructure. The strategy mentions the deployment of 300-400 GW of offshore renewable energy by 2050, marking a significant step towards a sustainable future. To support this ambitious target, the strategy outlines several delivery mechanisms, including the review of Strategic Energy Technology Plan (SET Plan) targets, researching the socio-economic ecosystems of offshore energy, and revising network codes for offshore grids.

The EC commits to facilitating MS coordination, reviewing SET Plan targets, and integrating technological development sustainably. This strategy is a critical component of the EGD, focusing on energy efficiency, renewable resources in the power sector, securing an affordable energy supply, and creating an interconnected EU energy market. It is largely related to the marine energy regime but has cross-cutting implications, referencing EU environmental legislation, the Integrated Maritime Policy, Biodiversity Strategy for 2030, and Circular Economy Action Plan, among others.

Regime Complex		**Legal scope**	Communication	**Year**	2020
Objective	Scaling-up the deployment of offshore renewable energy in EU				
Targets	A 300- 400 GW deployment of offshore renewable energy across all EU sea basins by 2050				
Key actors	• The **EC**, which is communicating the strategy to other key EU bodies including the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions • **MS** implement the strategy at national level • **National grid transmission system operators** (TSOs) and regulators develop the infrastructure necessary for offshore renewable energy projects, ensuring grid compatibility and regulatory compliance • **Regional organisations** collaborate with the EU and MS to facilitate regional integration of offshore renewable energy • **Stakeholders from the renewable energy industry** drive innovation • Research community provides expertise and research findings • **Businesses and service providers** and investors provide capital for investments • **Civil society, and national and regional authorities** participate in dialogue				

TABLE 23: OVERVIEW OF THE EU STRATEGY ON OFFSHORE RENEWABLE ENERGY.

A diverse range of policies have been identified as central to the realisation of these two instruments. These include the Revised TEN-E Regulation, the Renewable Energy Directive, the Blue Energy Action, which propels the innovation and utilisation of marine-based renewable energies. The Energy Roadmap 2050 and the Revision of the Energy Taxation Directive, which set out strategies for transitioning to a sustainable energy future, the REPowerEU plan, reflecting the EU's rapid response to current global energy challenges, the Governance of the Energy Union and Climate Action, which integrates various energy and climate policies, the 2030 Climate and Energy Framework, and the ambitious 2030 Climate Target Plan. These instruments are described below.

3.4.1. IMPLEMENTING POLICIES

THE GREEN DEAL INDUSTRIAL PLAN

The Green Deal Industrial Plan is introduced by the EC to enhance the competitiveness of Europe's net-zero industry and support a swift transition to climate neutrality. Aimed at scaling up the EU's manufacturing capacity for net-zero technologies and products, the plan builds on the strengths of the EU single market and complements the efforts under the EGD and REPowerEU. The Plan is structured around four key pillars: creating a predictable and simplified regulatory environment, speeding up access to finance, enhancing skills, and

promoting open trade for resilient supply chains. The plan outlines specific actions such as proposing a Net-Zero Industry Act to streamline regulatory processes, a Critical Raw Materials Act to ensure access to essential materials, and reforms to the electricity market to benefit from renewable energy costs. It also focuses on facilitating state aid for green transitions, leveraging EU funds for clean technology, and establishing a European Sovereignty Fund to support investment needs. Additionally, the plan emphasises skill development for the green transition and seeks to strengthen international trade relations to support resilient supply chains, aiming to secure Europe's position as a leader in clean technology and ensure a competitive and sustainable industrial base for the future.

Regime Complex		**Legal scope**	Communication	**Year**	2023
Objective	Establishing a predictable and simplified regulatory framework, ensuring quicker access to adequate financing, improving workforce skills, and promoting open trade to support resilient supply chains.				
Targets	While the plan emphasises actions and strategic directions rather than specific numerical targets, its goals align with the broader objectives of the EGD net-zero related targets.				
Key actors	• The EC (DG ENER): Initiated and coordinates the action plan • MS: Implement the plan's directives nationally • Net-zero technology manufacturers: Drive technological and infrastructural advancements for climate-neutral solutions • Financial institutions: Provide funding and financial support for clean tech initiatives • Relevant stakeholders: Offer research, advocacy, and support for skill development and trade facilitation				

TABLE 24: OVERVIEW OF THE GREEN DEAL INDUSTRIAL PLAN.

THE WIND POWER ACTION PLAN

The European Wind Power Action Plan, detailed in an EC Communication, is designed to expand the EU's wind energy capacity to support the EU's renewable energy targets for 2030. Aimed at increasing wind energy capacity from 204 GW in 2022 to over 500 GW by 2030, the plan addresses the urgent need for renewable energy expansion in light of energy security concerns and environmental goals. It sets out an approach to tackle challenges such as supply chain vulnerabilities, the need for accelerated project deployment, and the development of a skilled workforce within the wind sector.

The Action Plan outlines specific actions across six main areas: acceleration of deployment through increased predictability and faster permitting, optimising auction design, improving access to finance, ensuring international competitiveness, boosting skills development, and strengthening industry engagement and Member States collaboration. These actions are intended to improve the EU's wind energy production capabilities, ensuring the wind sector's contribution to the EU's decarbonisation efforts and the broader objectives of the EGD, while also promoting economic growth and job creation in a sustainable manner.

Regime Complex		**Legal scope**	Communication	**Year**	2023
Objective	Expand the EU's wind energy capacity to support the transition to a clean and sustainable energy system.				
Targets	It priorities actions more than targets, focusing on accelerating deployment, enhancing financing, and ensuring competitiveness to support the EU's broader renewable energy goals.				
Key actors	• The EC: Initiates and coordinates the action plan • MS: Implement the plan's directives nationally • Wind energy sector: Drives technological and infrastructural advancements • Financial institutions: Provide funding and financial support • Relevant stakeholders: Offer research, advocacy				

TABLE 25: OVERVIEW OF THE WIND POWER ACTION PLAN.

RENEWABLE ENERGY DIRECTIVE

The Renewable Energy Directive (EU) 2023/2413 is an essential component of EU legislation designed to increase the use of energy from renewable sources within the EU's various sectors, including marine energy. This directive, revised in 2023, updates previous legislation to set a more ambitious binding goal for the EU: to achieve a minimum of a 42.5% share from renewable energy sources in its total energy consumption by the year 2030, with an aim to reach 45%. Although its primary focus is on land-based energy systems, its reach extends into the marine energy sector by supporting the adoption of renewable energy within maritime transport and offshore energy initiatives. It introduces mechanisms to foster investment and consumer engagement in renewable energy, including simplified administrative procedures and market-based financial incentives.

Additionally, this Directive supports the EGD's vision of "Increasing EU's climate ambition for 2030 and 2050" by setting ambitious renewable energy targets. The Directive also contributes to the "Mobilising industry for a clean and circular economy" element by advocating for the integration of renewable energy, thereby fostering sustainable industrial practices. Finally, by promoting the use of renewables in maritime transport, it further contributes to "accelerating the shift to sustainable and smart mobility".

Regime Complex		**Legal scope**	Directive	**Year**	2023 (revised)
Objective	Advance renewable energy use, aiding climate goals and economic growth.				
Targets	A binding common EU target of 42,5% renewable energy by 2030; financial support for electricity from renewable sources; cooperation mechanisms between MS and non-EU countries to facilitate the achievement of renewable targets.				
Key actors	• The **EC (DG Energy)** proposes and oversees the implementation of the Renewable Energy Directive • The **European Parliament and Council** participate in the legislative process, shaping and approving the Directive • The **MS** translate the Directive in national laws • **Consumers** can benefit from increased access to renewable and shape				

	demand; • Actors including producers of energy from renewable sources, financial support schemes, SMEs, and local authorities drive innovation, capital, and can implement and support local initiatives

TABLE 26: OVERVIEW OF THE RENEWABLE ENERGY DIRECTIVE.

STEPPING UP EUROPE'S 2030 CLIMATE AMBITION INVESTING IN A CLIMATE-NEUTRAL FUTURE FOR THE BENEFIT OF OUR PEOPLE

The "Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people" Communication document from the EC sets forth an ambitious, balanced, and realistic route to achieving climate neutrality by 2050. The document highlights the necessity of revising the current target of a 50% reduction in climate emissions to a 55% reduction by 2030. This recalibration is key for the overarching goals of the EGD, particularly the transition to an integrated renewable energy system by 2030.

The policy's main delivery mechanism involves the strategic review and adaptation of existing legislation, setting the stage for forthcoming legislative proposals aimed at achieving the outlined targets. This systematic approach reflects the communication's role as an integral component of the EGD, specifically addressing clean energy, enhanced climate targets, and sustainable industrial progression.

While the communication serves as a guiding document rather than legislative action, it is instrumental in shaping policy revisions within the marine energy regime complex, affecting sectors such as marine transport and, indirectly, marine life. It complements existing and future EU policies, including the Renewable Energy Directive, Energy Taxation Directive, and initiatives related to biodiversity and mobility.

Regime Complex		**Legal scope**	Communication	**Year**	2020
Objective	Establish a balanced, realistic, and prudent pathway to climate neutrality by 2050.				
Targets	Achieving a 55% reduction in climate emissions by 2030 to align with the 2050 target.				
Key actors	• The **EC** leads the Communication • **MS** can implement and align national strategies with the Communication • The **European Parliament and the Council**, and various EU agencies involved in monitoring and reporting provide support • Industry and power sector installations • All sectors of the EU economy, including buildings, transport, and industry, are mentioned as needing to contribute to the emissions reduction target • Agriculture and land-use sectors can contribute to reduce emissions • Maritime and aviation sectors are mentioned as areas needing urgent action and are regulated in part by the EU ETS • EU citizens are both consulted and are the beneficiaries of the policies • Local and rural communities • Energy intensive industries and sectors with high emissions are regulated and are potential recipients • Private sector and financial Institution				

TABLE 27: OVERVIEW OF STEPPING UP EUROPE'S 2030 CLIMATE AMBITION INVESTING IN A CLIMATE-NEUTRAL FUTURE FOR THE BENEFIT OF OUR PEOPLE.

REVISION OF THE ENERGY TAXATION DIRECTIVE

The Revision of the Energy Taxation Directive (ETD) published in 2021 updates the Directive to align with the rapid changes in EU energy and climate policies. The revision introduces a progressive tax rate structure based on the energy content and environmental performance of fuels, rather than their volume, incentivising a transition towards cleaner energy consumption. This change is particularly significant for conventional fossil fuels, which will be taxed at a higher rate.

A key aspect of the ETD Revision is reflection of the EGD's objectives, particularly the goal to reduce emissions by at least 55% by 2030. It systematically phases out outdated exemptions and rate reductions for fossil fuels, fostering investment in green technologies. The revision addresses the taxation of fuels used in the aviation and maritime sectors, removing full exemptions for intra-EU travels and establishing a gradual increase in tax rates. This is in conjunction with the EU Emissions Trading System (ETS) and the 'Fit for 55' package, ensuring that the directive complements rather than overlaps with other EU climate initiatives.

The Directive is implemented through binding legal regulations and is a key component of the EGD, specifically addressing clean, affordable, and secure energy. It supports the European Climate Law's aim for a climate-neutral continent by 2050, and it is integral to the EU's strategy to provide clean, affordable, and secure energy.

Regime Complex		**Legal scope**	Directive	**Year**	2021
Objective	Recasting the previous Energy Taxation Directive by implementing new rules aimed at addressing the effects of energy tax competition.				
Targets	Support EU 2030 and 2050 climate goals, transitioning from volume based to energy content-based taxation, updating tax structures for the EU market.				
Key actors	• The **MS** as they are responsible for setting their own tax rates in accordance with the Energy Taxation Directive Revision minimum rates • The EC proposed the updates to the ETD • **Businesses** are affected by the taxation changes • **Consumers**; might be affected by taxation changes • Specific sectors such as aviation and maritime transport, which are subject to energy taxation under the ETD				

TABLE 28: OVERVIEW OF THE ENERGY TAXATION DIRECTIVE REVISION.

REPOWER EU

The REPowerEU Plan is an EU Implementing Act in force since 2022 with the aim to diminish the EU's dependency on imported fossil fuels and facilitate the shift towards renewable energy sources. This plan aligns with the objectives of the EGD, particularly focusing on energy conservation, diversifying energy supplies, and rapidly substituting traditional energy sources with greener alternatives. The plan also incorporates a holistic approach to investments and policy reforms to achieve a more robust energy system in EU.

The REPowerEU Plan plays a major role for the Marine Energy regime complex and has implications for the transport sector, advocating for less reliance on fossil fuels. It complements various EGD's actions, including the strategy for smart sector integration and the assessment of the final National Energy and Climate Plan. The Plan is implemented through various legal acts, with the EC supporting MS in pooling resources for the

development of renewable energy and aiding national efforts to transition to sustainable energy practices.

Regime Complex		**Legal scope**	Communication	**Year**	2022
Objective	Ensure a robust and unified energy system across the EU and replace fossil fuels.				
Targets	Increase the renewable energy target to 45% by 2030; promote solar and wind power and enhance energy efficiency and storage systems; create a joint purchasing mechanisms for MS; accelerate hydrogen production; increase support for sustainable biomethane; and the multiply solar and wind power installations.				
Key actors	• The **EC** • **MS** and Energy Platform • **Energy producers and providers** • **Energy consumers**: both households and companies are mentioned as beneficiaries of energy-saving measures • **Industry stakeholders**: these include industries in the renewable energy equipment sector, industrial biogas, and bio-methane production • **Educational and research institutions**: encouraged to develop skills and innovation related to renewable energy • **Financial entities**: highlighted for their role in financing the transition • **Local and regional authorities**: they are tasked with implementing local energy-saving measures and engaging in participatory approaches for permitting processes • **International partners**: for cooperation on diversifying energy imports, and for hydrogen and renewable energy development				

TABLE 29: OVERVIEW OF THE REPOWERED COMMUNICATION.

REVISED TEN-E REGULATION

The Revised Ten-E Regulation establishes guidelines for the development and interoperability of trans-European energy infrastructure. Its core aim is to facilitate the achievement of the EU's 2030 energy and climate targets and to support the objective of climate neutrality by 2050. The regulation's primary focus is on identifying projects of common interest, streamlining permit processes, setting cross-border cost allocation rules, and determining eligibility for EU financial assistance.

The regulation concentrates on prioritising energy infrastructure corridors and areas essential for meeting the EU's climate goals. Its implementation is through legal regulations, with identified projects receiving prioritised treatment and potential EU financial assistance. This policy aligns directly with the EGD, contributing to energy efficiency, renewable resource development, and an integrated energy market. It mainly targets the marine energy regime and references several other EU policies and directives, including those related to carbon capture and storage and the 2030 Climate and Energy strategy.

Regime Complex		**Legal scope**	Regulation	**Year**	2022
Objective	To guide the development of trans-European energy infrastructure supporting climate goals and energy security.				
Targets	n.a.				
Key actors	• The **EC** leads the implementation of the Revised TEN-E Regulation • **MS** implement and align national energy infrastructure plans with the Regulation • **Agency for the Cooperation of Energy Regulators** ensure regulatory cooperation • The **European Network of Transmission System Operators** for Electricity and Gas coordinates electricity and gas transmission • **Project promoters** are responsible for infrastructure projects • **Regional groups** collaborate on regional infrastructure development • **National regulatory authorities** and relevant stakeholders oversee compliance				

TABLE 30: OVERVIEW OF THE REVISED TEN-E REGULATION.

3.4.2. SUPPORTING POLICIES

BLUE ENERGY ACTION

The Blue Energy Action is Communication published by the EC in 2014 focuses on the advancement of ocean energy in European waters. It aims to contribute to employment, innovation, and climate and energy objectives by 2020 and beyond. It highlights the significance of blue energy in achieving a clean, affordable, and secure energy supply, and supports the transition towards a circular economy. The policy outlines a collaborative approach involving the creation of the Ocean Energy Forum, which brings together various stakeholders to address challenges and enhance the blue energy sector. This forum forms a strategic roadmap to guide future development and overcome policy barriers. The Blue Energy Action aligns with the goals of the EGD, particularly those related to clean energy and industrial strategy. It complements other key policies such as the Renewable Energy Directive, the Emissions Trading Scheme, and the Strategic Energy Technology (SET) Plan, all contributing to the broader marine energy regime.

Regime Complex		Legal scope	Communication	Year	2014
Objective	Contribution to employment, innovation, climate and energy objectives; enabling exploration of different energy systems; and addressing policies that hinder progression in blue energy implementation.				
Targets	Generate an Ocean Energy Forum.				
Key actors	• The **EC** leads the Blue Energy Action • **MS** implement and align national strategies with the Action • **Industry stakeholders** play a role in development and deployment of technologies • **Researchers** conduct research and provide expertise • **NGOs** advocate for sustainable and responsible blue energy practices • Interested regional authorities collaborate on regional blue energy initiatives				

TABLE 31: OVERVIEW OF THE BLUE ENERGY ACTION.

GOVERNANCE OF THE ENERGY UNION AND CLIMATE ACTION

The Regulation on the Governance of the Energy Union and Climate Action published in 2018 aims to create a reliable, transparent, and efficient governance mechanism for the EU. This mechanism is designed to ensure the fulfilment of the 2030 and long-term objectives of the Energy Union, aligning with the 2015 Paris Agreement. The Regulation focuses on implementing strategies and measures to meet the objectives of the Energy Union, fostering cooperation among MS, ensuring accurate and transparent reporting to the UNFCCC and Paris Agreement secretariat, and contributing to regulatory and investor certainty. Implemented through legal regulations, this policy plays a role in achieving the EU's clean, affordable, and secure energy goals under the EGD and intersects with various other EU policies and directives.

Regime Complex		Legal scope	Regulation	Year	2018
Objective	It sets out the legislative foundation for reliable, inclusive, cost-efficient, transparent and predictable governance of the Energy Union and Climate Action.				
Targets	Targets aligned with the Paris Agreement, including significant reductions in greenhouse gas emissions and improvements in energy efficiency and renewable energy consumption.				
Key actors	• The **EC** developed the Communication • **MS** as they are responsible for preparing national energy and climate plans • **European Parliament and Council** as they receive reports and are involved in the review process • The **EEA** as it assists the EC in various tasks related to reporting • **Expert consultants** from MS • The **UNFCCC**				

TABLE 32: OVERVIEW OF THE REGULATION ON THE GOVERNANCE OF THE ENERGY UNION AND CLIMATE ACTION.

2030 Climate and Energy Framework

The 2030 Climate and Energy Framework is an EU Conclusion that establishes a plan for the EU's future energy and climate policies. The targets of the Framework are primarily implemented through national plans designed to ensure competitive, secure, and sustainable energy. The objective of the Framework aligns with the EGD's ambitions, particularly in increasing the EU's climate ambitions for 2030 and 2050 and in supplying clean, affordable, and secure energy. This Framework integrates with related EU policies, such as the EU Emissions Trading System, the Effort Sharing Regulation, and the Land Use, Land Use Change, and Forestry Regulation, ensuring all sectors contribute to achieving the 40% target.

Additionally, it references complementary policies like the Transport White Paper, the Common Agricultural Policy, and the Strategic Energy Technology Plan, highlighting the interconnected nature of various EU policies in addressing climate and energy challenges.

Regime Complex		**Legal scope**	Conclusion	**Year**	2014
Objective	Make EU's climate, energy, transport, and taxation policies fit for reducing GHG emissions by at least 55% by 2030 compared to 1990 levels.				
Targets	40% reduction in GHG emissions from 1990 levels; increase renewable energy from 32% to 42.5% share; increase energy efficiency from 32.5% to 36%; increase energy efficiency target to 39%.				
Key actors	• The EC (DG ENER), the Council and the European Parliament, and the European Investment Bank (EIB) • All MS as they contribute to the overall EU reduction in 2030 with targets ranging from 0% to -40% compared to 2005 for the non-ETS sectors • Industries at risk of carbon leakage • Energy sector				

Table 33: Overview of the 2030 Climate and Energy Framework.

The Energy Roadmap 2050

The Energy Roadmap 2050 is a guiding document adopted by the EC in 2011. It outlines a plan to transition Europe to a low-carbon energy system by 2050, ensuring energy security and market competitiveness. This roadmap aims to support MS in identifying actions toward decarbonisation. The roadmap identifies the need for secure, sustainable, and affordable energy as key drivers for this long-term transition, acknowledging the uncertainties in energy planning. It suggests establishing clear targets for 2030 to maintain momentum in renewable energy implementation and facilitate earlier evaluations of the Energy 2020 Strategy's impact.

While not explicitly mentioned in the EGD, the Energy Roadmap 2050 reflects the EGD's goals for clean, affordable, and secure energy, and increased climate ambition. The roadmap highlights the need for collective action across the EU and stresses the importance of technological innovation and investment in smart grid solutions. While the roadmap is not legally binding, it is influential in shaping policy direction and investment priorities across the EU.

Regime Complex		Legal scope	Working paper (non-binding)	Year	2011
Objective	Providing a framework for the agreed policy of the substantial decarbonisation of the energy sector in Europe by 2050.				
Targets	Development of a European Energy Community; establishing targets for 2030 to alleviate long time frame for renewable energy implementation.				
Key actors	• The EC (DG ENER) • MS • Relevant stakeholders				

TABLE 34: OVERVIEW OF THE ENERGY ROADMAP 2050.

This regime complex contains a significant number of instruments, which were introduced following the EGD's launch, as shown in the timeline Figure 3. This shift suggests a strong response to the EGD's call for increased climate ambition and a secure, clean energy supply.

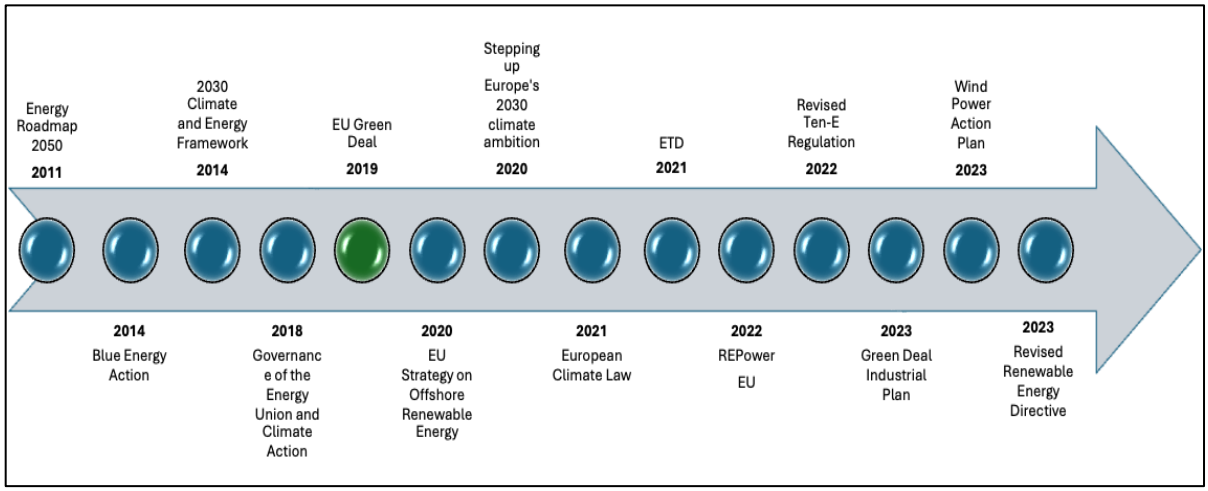

FIGURE 3: TIMELINE OF THE MARINE ENERGY REGIME COMPLEX RELATED INSTRUMENTS IN RELATION TO THE EGD.

3.5. MARITIME TRANSPORT

Regarding the maritime transport regime complex, the EGD highlights the EGD's elements of **Increasing EU's Climate Ambition for 2030 and 2050** and **Accelerating the Shift to Sustainable and Smart Mobility**. These elements are achieved through the 'high-level strategies', the **Fit for 55 Package** and the **Sustainable and Smart Mobility Strategy**.

The 'Fit for 55' Package represents a cornerstone in redefining the EU's maritime transport sector, setting ambitious targets to reduce greenhouse gas emissions and incorporate shipping into the EU Emissions Trading Scheme (ETS). Similarly, the 'Sustainable and Smart Mobility Strategy' is instrumental in maritime transport towards sustainability.

FIT FOR 55 PACKAGE

The Fit for 55 Package is a Communication plan by the EU in place since 2021 and designed to ensure that EU reduces its GHG net emissions by at least 55% by 2030, compared to 1990 levels. This ambitious objective is a central pillar of the EU's roadmap to achieve a climate-neutral EU by 2050.

Encompassing a revision of eight existing policies and the introduction of five new initiatives, the "Fit for 55" plan covers climate, energy, transport, and building sectors, amongst others. It is a step towards reshaping the EU's economy and society to meet the challenges posed by climate change and to facilitate a green recovery post-pandemic.

The plan includes a broad array of legislative proposals and supportive measures to incentivise and guide the transition to a sustainable future. The Fit for 55 plan is connected to the broader EGD's framework and is integral to the EU's efforts to reduce GHG emissions under the Paris Agreement. It also seeks to promote a circular economy, boost industry mobilisation for clean transitions, encourage energy and resource-efficient building and renovation, and foster sustainable and smart mobility. Key to the success of the Fit for 55 Plan will be its cross-sectoral impact, particularly in the shipping industry, where sustainable maritime fuels and the reduction of emissions are vital.

Regime Complex		**Legal scope**	Communication	**Year**	2021
Objective	It aims to deliver the EU's increased emission reductions targets and create opportunities to take part in the transition.				
Targets	Reduce net emissions by 55% by 2030 compared to 1990 levels.				
Key actors	• The EC • MS • The European Council and Parliament • Users, investors, consumers • International partners and non-EU nations • Suppliers • Aviation • Maritime transport sectors				

TABLE 35: OVERVIEW OF THE FIT FOR 55 PACKAGE.

SUSTAINABLE AND SMART MOBILITY STRATEGY

The Sustainable and Smart Mobility Strategy in place since 2020 sets a blueprint for a future-proof transport system in Europe, focusing on sustainability, digitalisation, and resilience. It aims to slash transport-related greenhouse gas emissions by 90% come 2050, ramp up the use of digital solutions like AI and automated mobility, and ensure the transport network can withstand and adapt to crises. Integral to the strategy is the completion of the TEN-T network, ensuring seamless travel and strict safety standards across all transport modes. By deploying regulations, incentivising voluntary commitments, and spearheading research, the strategy directly supports the EGD's ambitions for a climate-neutral, zero-pollution, energy-efficient, and circular economy by 2050. This policy is a cornerstone in the EU's mission to lead globally in transport innovation while securing ecological integrity and economic viability.

Regime Complex		Legal scope	Communication	Year	2020
Objective	To create a sustainable, smart, and resilient mobility system for Europe's future.				
Targets	Achieving a 90% reduction in greenhouse gas emissions from transport by 2050; reducing emissions in the maritime sector by at least 50% by 2050; increasing the deployment of sustainable alternative fuels and charging/refueling infrastructure.				
Key actors	• MS • The EU Parliament • The Council of the European Union • European Economic and Social Committee • Committee of the Regions • Transport stakeholders • Citizens • European Maritime Safety Agency				

TABLE 36: OVERVIEW OF THE SUSTAINABLE AND SMART MOBILITY STRATEGY.

These initiatives collectively aim to improve maritime transport, making it more aligned with the EGD's objectives. In parallel to these strategic frameworks, various other policy instruments and legislative measures contribute to the maritime transport regime complex which are explained in detailed below.

3.5.1. IMPLEMENTING POLICIES

DIRECTIVE ON THE ESTABLISHMENT OF COMMON RULES FOR CERTAIN TYPES OF COMBINED TRANSPORT OF GOODS BETWEEN MEMBER STATES (DIRECTIVE ON COMBINED TRANSPORT)

Council Directive 92/106/EEC in place since 1993 is an EU Directive aimed at encouraging combined transport operations across European Member States, promoting the efficient integration of road, rail, inland waterway, and maritime transportation. It seeks to alleviate road congestion and bolster transport efficiency by liberalising quota systems, standardising documentation, and incentivising tax reductions for road vehicles engaged in multimodal transport. Additionally, the directive advances flexibility in pricing for haulage components of combined transport and mandates biennial reporting on the sector's economic progress. While it does not set quantitative targets, the directive's regulatory mechanisms are geared towards fostering sustainable mobility. Although established prior to the EGD, its objectives harmonise with the EGD's pursuit of sustainable transport solutions, contributing to the reduction of the environmental footprint of goods movement within the EU.

Regime Complex		Legal scope	Directive	Year	1993
Objective	Enhance the efficiency and sustainability of goods transportation in EU.				
Targets	The liberalisation of transport operations from quota systems; the simplification of documentation processes, tax benefits for participating vehicles; and exemption from certain tariff regulations to encourage the shift towards multimodal transport solutions.				

Key actors	• MS • The EC • Transport operators • Transport authorities

TABLE 37: OVERVIEW OF THE DIRECTIVE ON THE ESTABLISHMENT OF COMMON RULES FOR CERTAIN TYPES OF COMBINED TRANSPORT OF GOODS BETWEEN MEMBER STATES.

DIRECTIVE 2023/959 AMENDS DIRECTIVE 2003/87/EC AND DECISION (EU) 2015/1814

Directive 2023/959, effective from June 5, 2023, establishes a system for greenhouse gas emission allowance trading within the Union and concerns the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system. This directive sets a more ambitious emissions reduction target for energy-intensive sectors, including power generation and aviation, aiming for a 62% reduction by 2030 compared to 2005 levels, up from the previous 55% target. It also introduces a phased elimination of free allowances from 2026, requiring all ETS participants to fully account for their emissions by 2034, thereby increasing accountability and incentivising emission reductions.

Significant reforms include strengthening the Market Stability Reserve to better regulate allowance supply and incorporating shipping emissions into the ETS from 2024. Additionally, a separate ETS for construction and road transport is planned for 2027, with a review for including municipal waste incineration emissions by 2028. The directive also introduces the Carbon Border Adjustment Mechanism (CBAM) to mitigate carbon leakage by taxing imports based on their carbon content. Revenue from the sale of allowances will support the Social Climate Fund and the European Innovation Fund, aiding those impacted by energy transitions and promoting climate innovation.

Regime Complex		**Legal scope**	Directive	**Year**	2023
Objective	Enhance the EU Emissions Trading System (ETS) for more ambitious greenhouse gas emissions reduction and to extend accountability across more sectors, including shipping, to support the EU's transition to climate neutrality.				
Targets	• Achieve a 62% reduction in emissions by 2030 compared to 2005 levels for energy-intensive sectors • Phase out free allowances by 2034, starting from 2026 • Incorporate shipping emissions into the ETS from 2024 and establish a parallel ETS for construction and road transport by 2027 • Strengthen the Market Stability Reserve, doubling its input rate to 24% annually				
Key actors	• The EC: Oversees the implementation and enforcement of the directive • MS: Responsible for transposing the directive into national law and ensuring compliance within their jurisdictions • Energy-intensive industries: Including power generation, aviation, and shipping which are directly affected by the emissions reduction targets • Shipping companies: Newly included under the ETS, required to surrender allowances for their emissions starting in 2024 • Financial institutions and Investors: Play a role in financing innovations and technologies that reduce emissions				

TABLE 38: OVERVIEW OF THE DIRECTIVE 2023/959.39

Regulation 2023/957 amends Regulation (EU) 2015/757 to include maritime transport activities in the EU Emission Trading System.

Regulation (EU) 2023/957, effective from June 5, 2023, amends Regulation (EU) 2015/757 to include maritime transport activities in the EU Emissions Trading System. It also provides for the monitoring, reporting, and verification of emissions of additional greenhouse gases and emissions from additional ship types. This amendment aims to extend the EU ETS's coverage to include additional greenhouse gases and ship types, thereby contributing significantly to the EU's climate objectives and the global commitments under the Paris Agreement. The regulation sets forth a more robust framework for maritime emissions, targeting a substantial reduction in greenhouse gases by expanding the scope to methane (CH4) and nitrous oxide (N2O) emissions from 2024 and including smaller general cargo and offshore ships from 2025.

This regulatory update aligns with the EGD's ambition, emphasising the EU's commitment to achieving climate neutrality by 2050 and addressing the urgent need for enhanced emission reductions in line with the Paris Agreement's 1.5 °C goal. It introduces significant updates to the monitoring and reporting mechanisms, ensuring a comprehensive approach to capturing maritime emissions and promoting environmental integrity. Additionally, the regulation supports the creation of a level playing field in maritime transport, emphasising the need for a just and inclusive transition that leaves no one behind, while also addressing the challenges posed by external shocks such as the COVID-19 pandemic.

Regime Complex		**Legal scope**	Regulation	**Year**	2023
Objective	Integrate maritime transport activities into the EU ETS, enhancing the monitoring, reporting, and verification of greenhouse gas emissions from maritime transport.				
Targets	• Extend the EU ETS to include maritime transport activities • Begin monitoring, reporting, and verification of methane (CH4) and nitrous oxide (N2O) emissions from maritime transport starting in 2024 • Expand the regulation's scope to cover additional ship types, including general cargo ships below 5,000 gross tons but not below 400 gross tons, and offshore ships, starting from 2025				
Key actors	• The EC: Proposes and oversees the implementation of the regulation • MS: Responsible for enforcing the regulation within their jurisdictions and ensuring compliance among maritime operators • Maritime transport sector: Includes shipping companies and operators of vessels covered by the regulation, who are required to monitor, report, and verify their greenhouse gas emissions • Verifiers: Entities tasked with verifying the accuracy of emissions reports submitted • European Maritime Safety Agency (EMSA): May play a role in supporting the implementation and enforcement of the regulation across Member States				

Table 40: Overview of the Regulation 2023/957.41

The European Maritime Single Window environment (EMSWe)

The European Maritime Single Window environment (EMSWe) Regulation launched in 2019 and expected to enter into force in 2025 represents a significant step towards digitisation and simplification of reporting procedures for maritime transport within the EU. By mandating the creation of a National Single Window in each MS, the Regulation aims to consolidate

and harmonise the reporting process for vessels, thereby reducing administrative burdens and promoting information sharing. It ensures that the data exchange between ships and port authorities is standardised, functional, and technically harmonious across the EU, enhancing overall maritime logistics efficiency.

The Regulation's emphasis on data protection and confidentiality aligns with EU-wide directives on data privacy, safeguarding sensitive and commercial information. The provision for a uniform internet address across National Single Windows enhances accessibility and user-friendliness, facilitating compliance and usage by stakeholders. While the EMSWe system is supported by the EU budget, the Regulation stipulates the MS's responsibility in its implementation, monitoring, and reporting, including the setup of efficient data transfer connections to competent authorities.

The EMSWe Regulation, although not explicitly linked, inherently supports the ambition for a sustainable and smart mobility sector. By optimising maritime transport procedures, the Regulation indirectly contributes to reducing emissions through increased efficiency and potentially smoother transitions to sustainable energy sources in maritime logistics.

The EMSWe's potential to facilitate smoother operations at sea and in ports can indirectly support the EGD's targets by enabling a cleaner, more efficient transport system that conserves resources and reduces pollution.

Regime Complex		**Legal scope**	Regulation (pending)	**Year**	2019
Objective	The primary objective is to streamline reporting obligations and improve the efficiency of maritime logistics.				
Targets	n.a.				
Key actors	• MS • The EC (DG MOVE) • Digital Transport and Trade Facilitation Committee • Relevant stakeholders • International organisations • Experts designated by MS				

TABLE 42: OVERVIEW OF THE EUROPEAN MARITIME SINGLE WINDOW ENVIRONMENT REGULATION.

DIRECTIVE ON STREAMLINING MEASURES FOR ADVANCING THE REALISATION OF THE TRANS-EUROPEAN TRANSPORT NETWORK (TEN-T)

Directive (EU) 2021/1187 also known as "Trans-European Transport Network Ten-T Directive" aims to harmonise and streamline the permit-granting processes for TEN-T infrastructure projects, ensuring their efficient and timely completion. It seeks to enhance the efficiency and transparency of these procedures, provide clear guidelines for project promoters, and establish designated authorities to simplify and expedite the permit-granting process. Additionally, the directive encourages coordination between MS for cross-border projects and mandates regular reporting to monitor its implementation. Aligning with the EGD, the directive contributes to sustainable mobility and environmental protection goals by promoting the development of a resilient transport infrastructure that adheres to high environmental standards. While it does not explicitly mention the EGD, its focus on sustainable, efficient transport infrastructure development supports the EGD's objectives.

Regime Complex		Legal scope	Directive	Year	2021
Objective	Streamline and harmonise the permit-granting procedures for transportation infrastructure projects that are part of the trans-European transport network (TEN-T) and to facilitate their timely implementation.				
Targets	The directive's targets are qualitative and operational in nature, focusing on improving efficiency, coordination, transparency, and the timely implementation of such projects.				
Key actors	• MS • European Parliament and the Council of the EU • the EC (DG MOVE) • the European Economic and Social Committee • the Committee of the Regions • Project promoters • Designated authorities, joint authorities				

TABLE 43: OVERVIEW OF DIRECTIVE (EU) 2021/1187 ON STREAMLINING MEASURES FOR ADVANCING THE REALISATION OF THE TRANS-EUROPEAN TRANSPORT NETWORK (TEN-T).

THE INLAND WATERWAY TRANSPORT - NAIADES III ACTION PLAN 2021-2027

The NAIADES III Action Plan published in 2021 is set to improve European inland waterway transport by shifting more freight transport to waterways, thereby diminishing the environmental impact of freight movement. It underlines various sub-objectives like supporting innovative infrastructure through EU funding programs, revising the TEN-T regulation to enhance inland waterway requirements, and deploying digital systems for improved water management. The policy lacks specific numerical targets but aims for a significant increase in inland waterway transport's share of freight, the development of zero-emission vessels, and the integration of inland waterways into multimodal travel information services. Implemented through legal regulations and financial support, NAIADES III directly contributes to the EGD's ambition of sustainable mobility and a decarbonised transport sector. It is explicitly mentioned as an implementing component of the EGD, working towards a more sustainable, efficient, and interconnected transportation network in the EU.

Regime Complex		Legal scope	Communication	Year	2021
Objective	Promote the shift of freight transport from other modes to inland waterways. This is aimed at reducing the environmental impact and enhancing the sustainability of freight transportation.				
Targets	Shifting more freight transport to inland waterways; enhance the capacity of inland waterways; facilitate the development of an EU energy index methodology; more attractive and sustainable jobs in inland waterway transport; supporting financing transitions to zero-emissions vessels and the development of technical standards.				
Key actors	• The EC (DG MOVE) • Digital Inland Navigation Area (DINA) • NAIADES • Digital Transport and Logistics Forum (DTLF)				

	• Horizon 2020 Platina III Project • European Committee for drawing up common standards in the field of inland navigation (CESNI) • MS • River basins and inland waterway transport sector • European Committee for drawing up common standards in the field of inland navigation (CESNI) • EU institutions • Relevant stakeholders • Private sectors • International organisations

TABLE 44: OVERVIEW OF THE INLAND WATERWAY TRANSPORT - NAIADES III ACTION PLAN 2021-2027.

REGULATION ON THE USE OF RENEWABLE AND LOW-CARBON FUELS IN MARITIME TRANSPORT

The 2023/1805 EU Regulation known also as EU Maritime Fuel Regulation signifies a transformative shift in maritime transport, setting a strategy to integrate renewable and low-carbon fuels within the sector. This is a central part of the EU's journey towards achieving climate neutrality. Under this regulation, the maritime industry is subject to progressively stringent limits on GHG emissions from marine energy sources, mandated to achieve a 2% reduction by 2025, scaling up to an ambitious 80% reduction by 2050.

In addition to fuel regulations, the directive prescribes the adoption of shore-side electricity and the deployment of zero-emission technologies across European ports. The enforcement framework of this regulation includes robust monitoring and reporting systems, verifier accreditation procedures, and the compulsory issuance of a FuelEU Maritime Compliance Document for seafaring vessels.

The Regulation reflects the aims of the EGD, particularly aligning with the Fit for 55 package's objectives. It serves as an instrumental component of the EU's Sustainable and Smart Mobility Strategy, driving forward the decarbonisation ambitions of the maritime industry. The Regulation's focus is sharp and clear-cut, aiming solely at maritime transport, and plays a crucial role in steering the EU towards a sustainable, smart, and carbon-neutral future in alignment with the overarching industrial strategies for a net-zero era.

Regime Complex		**Legal scope**	Regulation	**Year**	2023
Objective	To increase consistent demand and use of renewable and low-carbon fuels and substitute sources of energy in maritime transport across the EU.				
Targets	Reduce GHG intensity of ship energy use by different percentages reaching 80% by 2050; mandatory use of on-shore power supply (OPS) or zero-emission technology in EU ports.				
Key actors	• MS • Shipping industry • The EC (DG MOVE) • Ports				

TABLE 45: OVERVIEW OF THE EU REGULATION SIGNIFIES A TRANSFORMATIVE SHIFT IN MARITIME TRANSPORT.

ALTERNATIVE FUELS INFRASTRUCTURE REGULATION (AFIR)

Regulation (EU) 2023/1804 known as the Alternative Fuels Infrastructure Regulation (AFIR) focuses on advancing the deployment of alternative fuels infrastructure across the European Union, targeting a diverse array of transport modes including road vehicles, trains, vessels, and stationary aircraft. This regulation entered into force in 2023 and is part of the EU's commitment to transition away from fossil fuels, in line with the EGD's objectives. It is implemented through direct regulation, establishing mandatory national targets and harmonising technical specifications for infrastructure. Explicitly referencing the EGD, the regulation contributes to sustainable and smart mobility strategies, supports greenhouse gas reduction, and enhances renewable energy use and energy efficiency. The policy has a cross-sectoral impact, particularly influencing the maritime transport regime complex, and repeals Directive 2014/94/EU, aligning with various other EU policies to ensure a cohesive approach to achieving a climate-neutral Europe.

Regime Complex		**Legal scope**	Regulation	**Year**	2023
Objective	Ensure the deployment of sufficient alternative fuels infrastructure in the Union for road vehicles, trains, vessels. stationary aircraft, maritime ports and airports.				
Targets	The Regulation establishes mandatory national targets leading to the deployment of sufficient alternative fuels infrastructure.				
Key actors	• MS • The EC • Sustainable Transport Forum and European Sustainable Shipping Forum • Operators of recharging points and mobility service providers				

TABLE 46: OVERVIEW OF THE REGULATION (EU) 2023/1804 (ALTERNATIVE FUEL INFRASTRUCTURE).

3.5.2. SUPPORTING POLICIES

ROADMAP TO A SINGLE EUROPEAN TRANSPORT AREA

The "Roadmap to a Single European Transport Area" Communication document was published in 2011 and envisions a competitive and resource-efficient European transport system. Aiming to improve efficiency, safety, and sustainability across all transportation modes, the policy sets forth a broad spectrum of ambitious targets. These include opening domestic rail markets to competition, achieving a seamless Single European Sky for aviation, enhancing maritime mobility through the "Blue Belt," and fostering sustainable urban mobility. To realise these goals, the Roadmap deploys a mix of binding legal regulations and innovative directives, facilitating a sector-wide transition to competitive tendering, unified safety certifications, and interoperability in waterborne transport. Complementing the EGD, the policy propels the transportation sector towards climate neutrality, zero pollution, and clean energy usage, while indirectly supporting biodiversity and circular economy objectives.

Regime Complex		**Legal scope**	Communication	**Year**	2011
Objective	Reinforce maritime transport, establish efficient intermodal ports, and secure maritime traffic in the Adriatic and Ionian Seas. It also aims to augment accessibility and connectivity within the region.				
Targets	Double the container traffic share in the Adriatic-Ionian market to meet EU standards; create a unified maritime traffic surveillance system; increase eco-friendly Ro-Ro, ferry, and yacht traffic by 20%; progress integrated infrastructure planning, aligning it with the TEN-T network; foster the Motorway of the Sea, using existing models as a foundation; enhance railway-port interconnections, reducing border crossing times by 50%, and double regular container train connections across the region.				
Key actors	• The EC • MS • transport industry • international organisations • Urban areas and cities • Businesses and corporations				

TABLE 47: OVERVIEW OF THE ROADMAP TO A SINGLE EUROPEAN TRANSPORT AREA.

CONNECTING EUROPE FACILITY

The Connecting Europe Facility (CEF) represents a strategic initiative by the EU to improve connectivity and infrastructure development across the transport, energy, and digital sectors. Inaugurated in 2014, the CEF's primary ambition is to foster a interconnected, and sustainable network that significantly contributes to the EU's overarching goals of economic growth and climate neutrality.

In the transport domain, the CEF dedicates resources to connect cross-border links, particularly in railway infrastructure, and endorses initiatives that support smart, sustainable, and secure mobility. The energy aspect of the CEF underlines the enhancement of grid interconnectivity between MS, strengthening energy supply resilience, and facilitating the large-scale integration of renewable energy sources, crucial for the transition to a low-carbon economy.

Within the digital framework, the CEF is instrumental in the rollout of essential 5G networks along key transport routes and promoting the expansion of high-capacity networks. This digital leap is envisaged to accelerate the energy and transport sectors' efficiency and innovation.

The policy's implementation is governed by a set of binding regulations. The CEF is fundamental in actualising the EGD's objectives, particularly fostering a clean, interconnected, and secure energy landscape, and supporting the shift towards sustainable mobility solutions. While the policy is EU-wide, its implications are deeply felt in the marine energy sector, where it aids in propelling maritime transport and infrastructure development.

Regime Complex		Legal scope	Regulation	Year	2014
Objective	Transport: Develop efficient, interconnected, and sustainable transport networks; Energy: Enhance energy market interconnectivity and security, support low-carbon transition; Digital: Deploy digital connectivity infrastructure, including high-capacity networks.				
Targets	Transport: Complete cross-border railway links, allocate budgetary resources; Energy: Support projects for energy network interconnection, resilience, digitalisation, and renewable energy; Digital: Implement 5G coverage, new digital connections, and sector digitalisation.				
Key actors	• MS • Promoters • Groups for cross-border projects in the field of renewable energy • Third countries				

TABLE 48: OVERVIEW OF THE CONNECTING EUROPE FACILITY.

EUSAIR ACTION PLAN

The European Union Strategy for the Adriatic and Ionian Region (EUSAIR) Action Plan was published in 2014 and aims to boost the development and integration of the region with a focus on enhancing maritime transport to incentive economic growth. It specifically aims to foster the development and integration of this region by modernising maritime transport corridors, integrating maritime with rail and road transport, improving traffic management and safety, and addressing environmental and security concerns. Additionally, the Action Plan sets ambitious targets to double container traffic, establish a unified maritime traffic monitoring system, and significantly increase the use of clean shipping methods. Supported by regulatory measures, strategic planning, and stakeholder collaboration, this policy is in sync with the EGD's objectives of achieving climate neutrality, promoting sustainable mobility, and ensuring zero pollution. By linking to other EU policies, such as Cohesion Policy and Transport Policy, the EUSAIR Action Plan serves as a strategic component in the EU's broader vision for sustainable regional development and environmental stewardship.

Regime Complex		Legal scope	Communication	Year	2014
Objective	To promote the development of the Adriatic and Ionian regions, with a focus on various sectors including maritime transport, intermodal connections, and economic growth.				
Targets	To double the Adriatic-Ionian region's share of container traffic to meet EU standards; implement a unified maritime traffic surveillance system for enhanced data sharing; boost the volume of eco-friendly maritime transport such as Ro-Ro, ferries, and cruise ships by 20%.				
Key actors	• MS • EUSAIR Governance structures • regional and local authorities • Civil society • International financial institutions • Transport and maritime stakeholders • Tourism industry				

TABLE 49: OVERVIEW OF THE EUSAIR ACTION PLAN.

As illustrated in Figure 4, within the maritime transport regime complex, the majority of the assessed instruments were launched or updated following the introduction of the EGD, with only five established prior to the EGD. This timeline highlights the significant policy momentum with the EGD's objectives to enhance the EU's climate ambitions and accelerate the shift towards sustainable and smart mobility within the maritime sector.

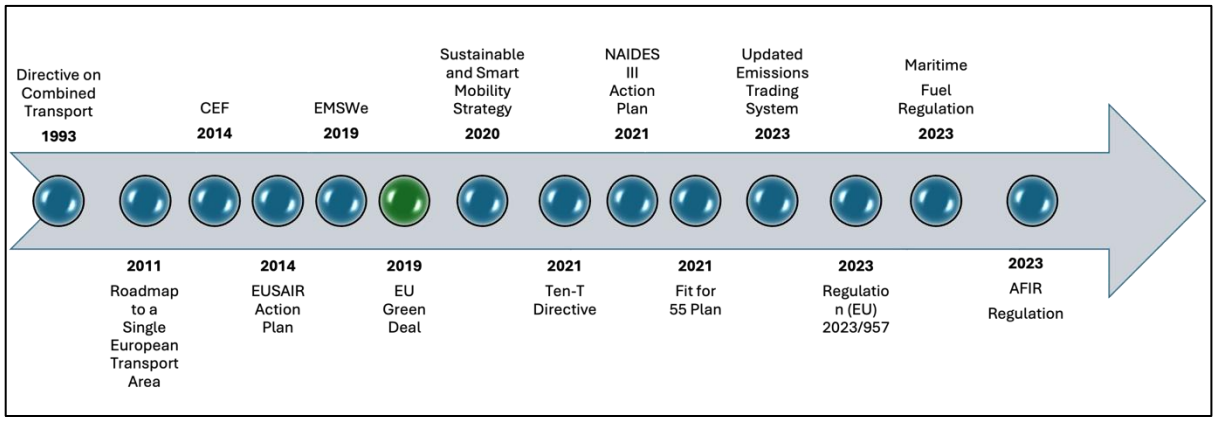

FIGURE 4: TIMELINE OF THE MARITIME TRANSPORT REGIME COMPLEX RELATED INSTRUMENTS IN RELATION TO THE EGD.

3.6. CROSS-CUTTING POLICIES

In the context of the EGD, certain policies impact multiple regime complexes, targeting several sectors or pressures, and within this context are considered cross-cutting policies. These policies have a broad scope and often aim to help build a cohesive approach to the EGD's objectives across diverse areas of marine and environmental governance.

8TH ENVIRONMENTAL ACTION PLAN

The 8th Environmental Action Programme (EAP) launched in 2022 sets forth a transformative agenda for the European Union's environment and climate policy through 2030, aligning with the aspirations of the cross-cutting element of the EGD – Working together a European climate pact. It envisions a future where society thrives within Earth's natural limits, achieves climate neutrality, and embraces a regenerative growth model that prioritises well-being and minimises inequalities. The Programme highlights commitments to reduce greenhouse gas emissions, bolster climate adaptation, transition to a circular economy, attain zero pollution, and preserve biodiversity. Legal regulations and collaborative governance are the primary vehicles for achieving targets that resonate with international agreements like the UN SDGs and the Paris Agreement. The 8th EAP is a comprehensive response to global environmental challenges and embodies the EU's strategic direction towards a sustainable, resilient, and inclusive future. It intersects with key EU policies such as the EGD, the EU Biodiversity Strategy for 2030, and the Chemicals Strategy for Sustainability, thus serving as a cornerstone for cross-sectoral environmental governance.

Regime Complex	CC	Legal scope	Decision	Year	2022
Objective	The main objective is to establish a "General Union Environment Action Programme to 2030				
Targets	Achieve the Union's environmental and climate objectives as defined under the UN 2030 Agenda and its SDGs); align with the goals of the Paris Agreement, the Rio Conventions, and other relevant international agreements				
Key actors	• The EC • Public authorities at all levels of decision-making • NGO actors				

TABLE 50: OVERVIEW OF THE 8TH ENVIRONMENTAL ACTION PROGRAMME (EAP).

3.6.1. IMPLEMENTING POLICIES

STRATEGIC ENVIRONMENTAL ASSESSMENT

The Strategic Environmental Assessment Directive (Directive 2001/42/EC) in force since 2001 is a key legislative instrument in the EU's environmental policy framework. It is designed to ensure that environmental and sustainability considerations are integrated into the preparation and adoption of certain plans and programmes across various sectors, including agriculture, forestry, energy, and transport. This directive emphasises the importance of carrying out environmental assessments during the early stages of plan or programme development, thereby promoting sustainable development within the EU. While it does not explicitly mention the EGD, the directive aligns with its goals of environmental protection and sustainability, impacting a wide range of sectors and contributing to the EU's broader environmental and climate objectives.

Regime Complex	CC	Legal scope	Directive	Year	2001
Objective	To ensure a high level of environmental protection and embed environmental considerations into the development of plans and programmes, fostering sustainable development and mandate environmental assessments for plans and programmes with potential significant environmental impacts.				
Targets	Conduct environmental assessments before adopting sectoral plans or programmes; target plans that shape future project development consents per Annexes I and II of Directive 85/337/EEC.				
Key actors	• The EC • MS • National authorities				

TABLE 51: OVERVIEW OF THE STRATEGIC ENVIRONMENTAL ASSESSMENT DIRECTIVE.

INTEGRATED MARITIME POLICY

The Integrated Maritime Policy is an EU policy framework launched in 2007 that aims to maximise the sustainable use of oceans and seas, fostering the growth of maritime sectors and coastal regions. It aims to improve policy-making and decision-making processes by fostering integration, developing common tools, and resolving conflicts to create a coherent

framework for action across different maritime sectors. Though the EGD is not directly cited in this policy, the initiatives align with its goals, such as providing clean energy, enhancing climate action, aiming for a pollution-free environment, and preserving biodiversity. This policy crosscuts marine transport, energy, and life, and complements existing directives like ICZM and the Marine Strategy Framework Directive. It unfolds through various mechanisms, from improving maritime governance and surveillance to encouraging sustainable maritime business practices and addressing climate change impacts on coastal areas. The Integrated Maritime Policy also contributes to the EU's standing in international maritime affairs.

Regime Complex	CC	**Legal scope**	Communication	**Year**	2007
Objective	To foster sustainable maritime growth and streamline cross-sectoral maritime policy-making.				
Targets	n.a.				
Key actors	• MS • Coastal regions • Maritime industries • NGOs and other stakeholders involved in maritime affairs				

TABLE 52: OVERVIEW OF THE INTEGRATED MARITIME POLICY.

MARITIME SPATIAL PLANNING DIRECTIVE

The Directive 2014/89/EU in force since 2014 establishes a framework for maritime spatial planning, which is instrumental for the sustainable growth of the marine energy regime complex. It mandates Member States to devise maritime spatial plans that harmonise the sustainable use of maritime spaces with the advancement of the marine energy sector. These plans are designed to facilitate the development of offshore energy infrastructure, such as wind farms and tidal energy projects, in a manner that respects the marine ecosystem. By ensuring that maritime spatial planning considers ecological, economic, and social factors, the directive contributes significantly to the EU's objectives for clean, affordable, and secure energy. It further supports the EGD's ambitions for 2030 and 2050 regarding climate and biodiversity, while also intersecting with the Offshore Renewable Energy Strategy and the broader European Climate Law.

Regime Complex	CC	**Legal scope**	Directive		**Year**	2014
Objective	To facilitate sustainable maritime sector growth and resource use via spatial planning.					
Targets	Implement Maritime Spatial Plans by 31/03/2021.					
Key actors	• The EC • EU Parliament and Council • MS • Maritime sectors • Coastal communities					

TABLE 53: OVERVIEW OF THE MARITIME SPATIAL PLANNING DIRECTIVE.

HELCOM Baltic Sea Action Plan 2021 update

The HELCOM Baltic Sea Action Plan (BSAP) 2021 Update is the HELCOM's strategic programme to achieve the Good Environmental Status (GES) of the Baltic Sea. This plan pivotal to the Pathway to a Healthy Planet for All - EU Action Plan: Towards Zero Pollution for Air, Water and Soil and the EU Circular Economy Action Plan, embodies an ambitious vision for a thriving Baltic Sea ecosystem. It supplements the original plan published in 2007 with more than 200 actions that were especially developed to tackle the issues of the Baltic Sea.

The Plan's holistic approach encompasses ecological and management objectives to secure a healthy and resilient Baltic Sea, unaffected by hazardous substances and marine litter, and supporting sustainable sea-based activities. The updated BSAP synergises with the EGD, aligning with its actions and objectives, particularly those relating to a zero-pollution ambition, biodiversity restoration, and sustainable industry mobilisation. Its cross-cutting initiatives touch upon all PermaGov regime complexes, integrating regional efforts with broader EU policies like the MSFD and the CFP, thus reinforcing the EU's commitment to environmental sustainability and ecological resilience.

Regime Complex	CC	**Legal scope**	Guidelines (non-binding)	**Year**	2021
Objective	To achieve a healthy Baltic Sea environment with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable economic and social activities.				
Targets	The updated BSAP contains measures to be implemented by 2030. More than targets, the document list different measures/actions to be taken.				
Key actors	• HELCOM, its Contracting Parties and their authorities • Participating countries have the mandate to implement the agreed actions • Various stakeholders such as public financing institutions, scientific and research institutions, civil society, the private sector, intergovernmental organisations, and non-governmental organisations				

Table 54: Overview of the HELCOM Baltic Sea Action Plan 2021 update.

The Barcelona Convention

The Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention) is a regional environmental treaty aimed at protecting the Mediterranean Sea and its coastal areas from pollution while conserving its biological diversity. It first entered into force in 1976 and was amended in 1995. The Barcelona Convention encompasses a broad set of objectives to tackle various sources of pollution such as marine and land-based sources, shipping, exploration activities, and emergency pollution incidents. The Convention also prioritises the conservation of biological diversity and addresses the transboundary movements and disposal of hazardous wastes.

While the Convention does not specify quantitative targets, it operationalises its goals through a system of protocols and a reporting mechanism that requires contracting parties to disclose measures taken for implementation, their effectiveness, and any implementation challenges. The Convention aligns with the EGD's objectives, notably the zero-pollution ambition and the preservation and restoration of ecosystems, despite focusing only on the Mediterranean region.

Regime Complex	CC	**Legal scope**	Treaty (binding only on the Contracting Parties)	**Year**	1976
Objective	The protection of the Mediterranean Sea from pollution and conservation of its biodiversity.				
Targets	No targets mentioned in the policy itself, substantive actions are left to the protocols although the land-based protocol as an example does not include specific targets.				
Institutions	Contracting Parties of the Barcelona Convention, the UNEP				
Key actors	• Contracting Parties of the Barcelona Convention • The UNEP • Mediterranean coastal states • the EC, local and regional authorities • NGOs • Scientific communities				

TABLE 55: OVERVIEW OF THE BARCELONA CONVENTION.

THE OSPAR CONVENTION

The OSPAR Convention, formally known as the Convention for the Protection of the Marine Environment of the North-East Atlantic, is a key regional agreement dedicated to preserving the marine ecosystem in the North-East Atlantic inaugurated in 1993 and effective since 1998. The Convention encompasses a comprehensive set of strategies aimed at the prevention and elimination of marine pollution, as well as the protection of the marine ecosystem's biodiversity.

The OSPAR Convention is structured around five Annexes, each addressing specific aspects of marine protection: Annex I: Prevention and elimination of pollution from land-based sources; Annex II: Prevention and elimination of pollution by dumping or incineration; Annex III: Prevention and elimination of pollution from offshore sources; Annex IV; Assessment of the quality of the marine environment; and Annex V: Protection and conservation of the ecosystems and biological diversity of the maritime area. OSPAR's approach is characterised by its collaborative framework, which requires Contracting Parties to engage in regular reporting and evaluation of the effectiveness of their environmental protection measures. Although it does not impose specific quantitative targets, the Convention's protocols call for continuous improvement and adaptive management in marine conservation. The Convention's objectives resonate with the EGD's objectives, particularly in advancing a zero-pollution agenda and enhancing ecosystem resilience.

Regime Complex	CC	**Legal scope**	Treaty (binding only on the Contracting Parties)	**Year**	1998
Objective	The protection and preservation of the marine environment of the North-East Atlantic.				
Targets	No specific quantitative targets mentioned in the document, operational goals outlined within the framework of the Convention's Annexes and action plans.				

Institutions	Contracting Parties of the OSPAR Convention, the UNEP.
Key actors	• Contracting Parties of the OSPAR Convention • The OSPAR Commission • Governments of member countries • Local and regional authorities • NGOs • Industry and scientific stakeholders

TABLE 56: OVERVIEW OF THE OSPAR CONVENTION.

As shown in Figure 5, within the cross-cutting policies group, a significant portion of the instruments assessed were already in place prior to the launch of the EGD, with five established before its introduction.

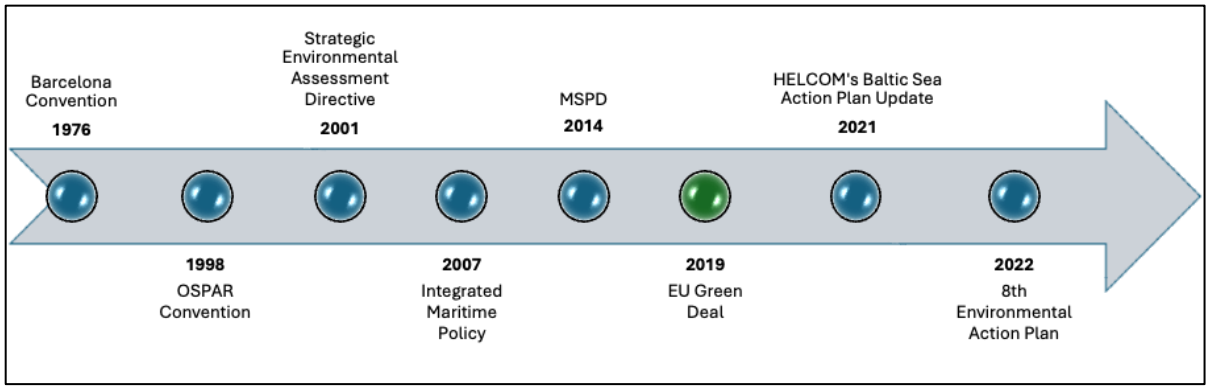

FIGURE 5: TIMELINE OF THE INSTRUMENTS RELATED TO THE CROSS-CUTTING GROUP IN RELATION TO THE EGD.

3.7. SUMMARY

The mapping exercise helps to identify how, in addition to cross-cutting instruments, diverse policies can be clustered across the PermaGov regime complexes, reflecting the elements (i.e., the ambitions of the EGD). A mix of policy instruments and legislative actions (e.g., strategies) released both before and after the emergence of the EGD in 2019 are relevant within the policy landscape and the PermaGov case studies.

The Biodiversity Strategy 2030 acts as a high-level initiative relevant to the marine life regime complex including five implementing policies, and one supporting policy. Notably, it is rooted in two fundamental directives, the Habitats and Birds Directives, which precede the EGD. These directives are complemented by newer regulations and initiatives that respond to the EGD's call for enhanced biodiversity protection and ecosystem restoration.

The marine plastics regime complex comprises two overarching initiatives, namely the Circular Economy Action Plan and the Action Plan: Towards Zero Pollution for Air, Water, and Soil for and a combination of three implementing and five supporting policies. It includes inter alia, the post-EGD Directive on Single-Use Plastics and the Proposal on Packaging and Packaging Waste Regulation highlighting the EU's proactive measures to fight plastic waste in marine environments. Perhaps, reflecting the urgency of addressing marine pollution, the marine plastics regime has rapidly evolved, supported by the EU's commitment to international collaboration and regional sea conventions.

In the marine energy regime complex, thirteen instruments were identified and assessed with two included as high-level policies, seven implementing policies and four supporting

policies. The European Climate Law and the Offshore Renewable Energy Strategy are significant post-EGD instruments that drive the regime.

Similarly, the maritime transport regime complex with a total of thirteen policies, includes two high-level strategies and eight implementing policies, strengthened by three supporting policies. Post-EGD, the 'Fit for 55' package and the Sustainable and Smart Mobility Strategy steer the EU's approach to decarbonise the maritime sector and further integrate sustainability into mobility.

Seven cross-cutting policies were identified with the 8th Environmental Action Programme (EAP) being a key post-EGD binding decision that unites various environmental and climate directives under a common goal. The group also features the Strategic Environmental Assessment Directive and the Integrated Maritime Policy among others, which collectively address sustainability across multiple marine and environmental governance areas. Across the four regime complexes and the cross-cutting policy groups, there are notable differences in the composition of policy instruments and the timing of their enforcement. Since the introduction of the EGD in 2019, the marine energy and maritime transport regime complexes have seen a significant increase in policy development, with a focus on regulations as instruments of change. In contrast, the marine life complex relies more on directives established over 30 years starting with Habitats and Birds Directives. In addition, directives require transposition into national law, suggesting a more gradual integration of EGD principles into existing frameworks. Comparatively, the marine plastics regime complex, similar to marine energy, represents a relatively young and rapidly evolving area of EU environmental policy.

The EU's regulatory landscape demonstrates a mixed use of various policy instruments to address the environmental challenges associated with the PermaGov regime complexes. The post-2019 period, influenced by the EGD, has seen an increase in policy instruments aimed at accelerating progress towards the EU's 2030 and 2050 targets, especially regarding energy, transport, and plastics. However, established policies remain the primary instruments relevant to achieving objectives related to biodiversity.

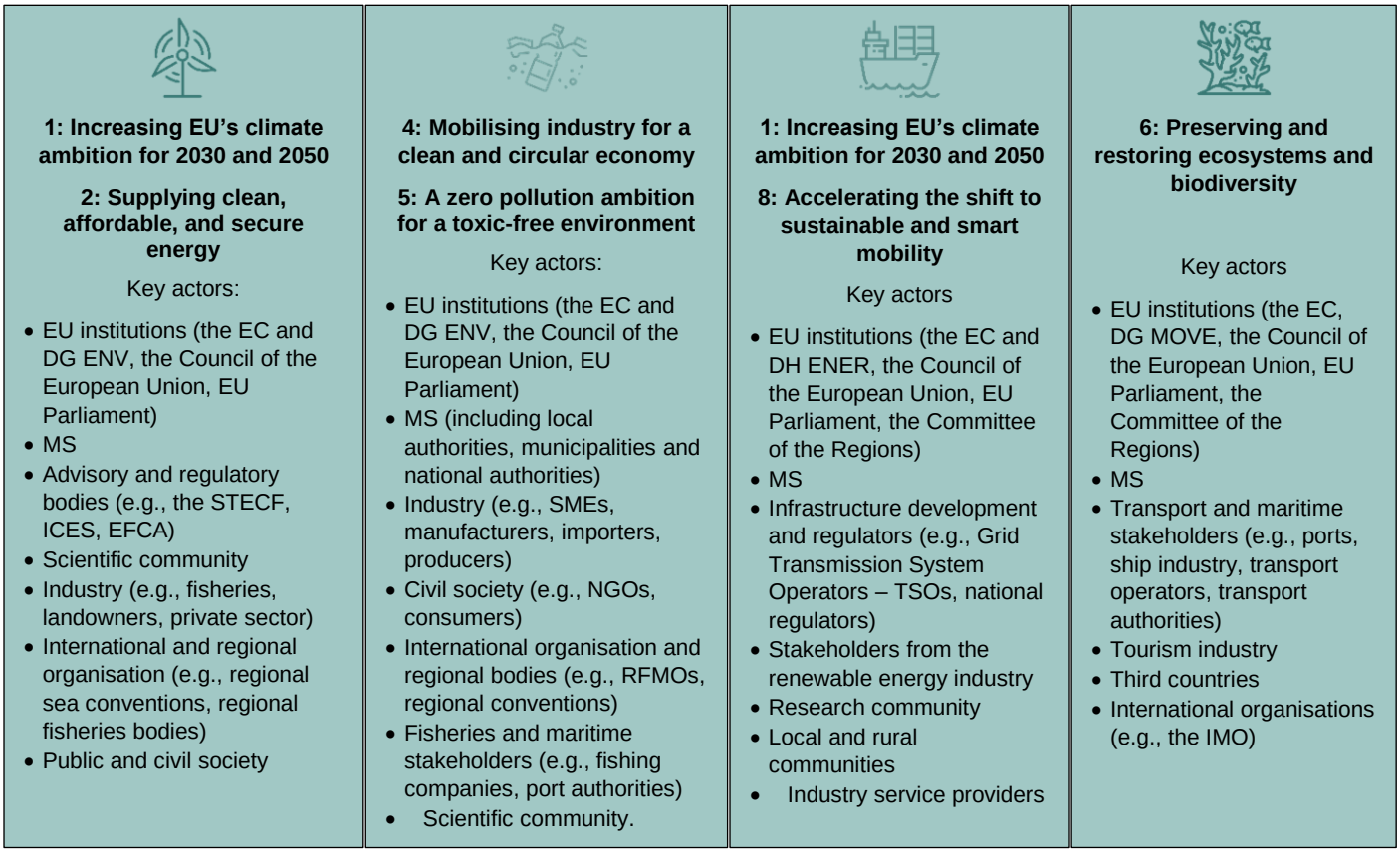

FIGURE 6: VISUALISATION OF THE MAIN KEY ACTORS IDENTIFIED ACROSS THE FOUR REGIME COMPLEXES.

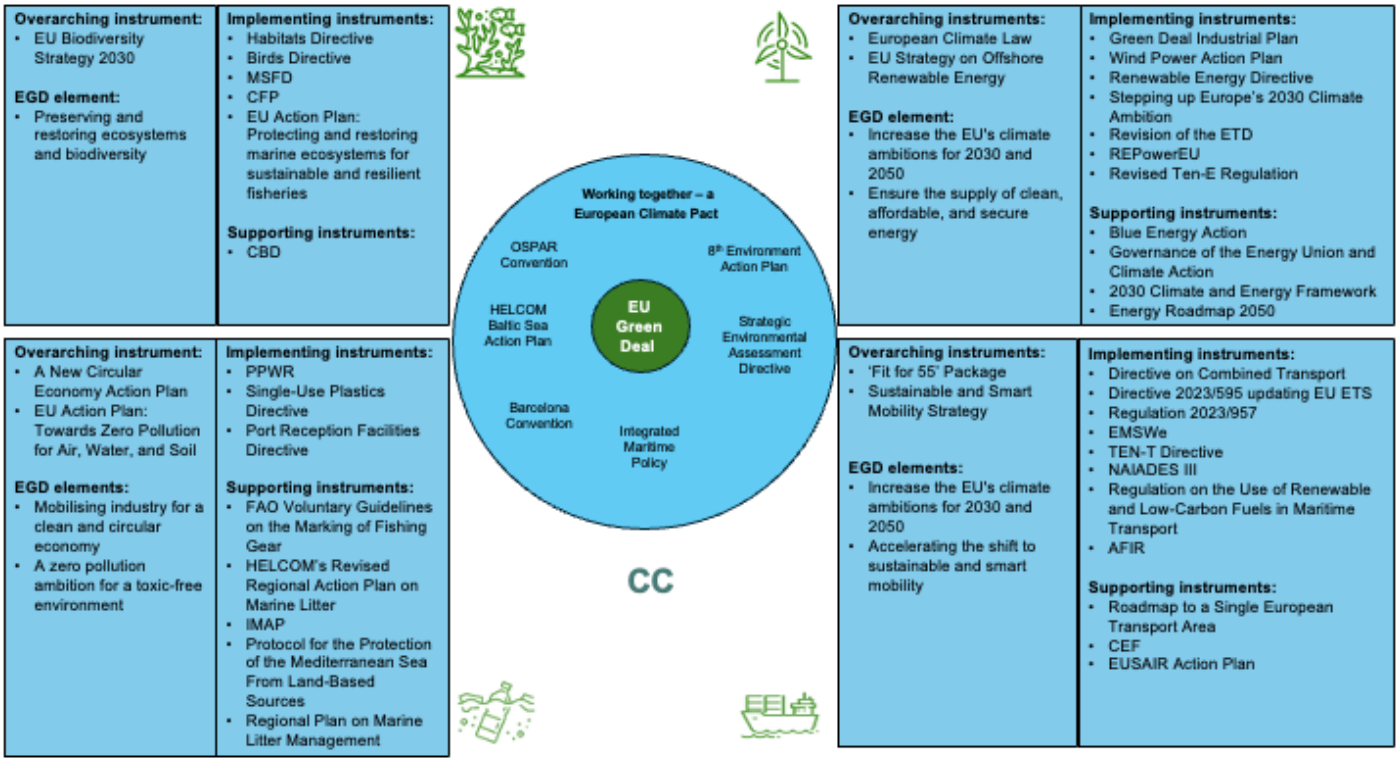

FIGURE 7: EU STRATEGY ON OFFSHORE RENEWABLE ENERGY.

4. DISCUSSION OF INSTITUTIONAL BARRIERS

Institutional barriers can play a key role in shaping policy outcomes. Oberlack's (2017) conceptual framework, as described in Chapter 2, offers a valuable basis for discussing institutional barriers. Oberlack's approach differentiates between "institutional barriers" – the aspects of institutions that prevent the achievement of the desired policy's outcome – and "institutional attributes" – the characteristics of the institutions along which these barriers can be found.

In this section, findings from the template regarding institutional barriers, more specifically the ten attributes, are discussed. The discussion aims to provide an initial consideration of how, or if, institutional barriers might manifest in the reviewed policies. This discussion acts as merely a first step of identifying and reviewing institutional barriers within EU policies and offers an indication of where future research efforts or questions within the PermaGov research programme could be targeted. In this regard, the discussion does not claim to be conclusive or exhaustive in its findings.

4.1. ACTOR ELIGIBILITY

Actor eligibility refers to the rules that determine which actors can participate in a situation i.e. policy process (Oberlack, 2017). The idea of actor eligibility is important when considering policies, as the inclusion or exclusion of actors can influence the effectiveness and ultimately the success of a policy to achieve its agreed upon aims. The rationale for considering actor eligibility as a critical component in policy design emerges from its potential to either create barriers or facilitate opportunities for actors to participate in policy implementation. On the one hand, expanding the range of actors involved in a policy process can make it difficult to build trust and increase the 'costs' of decision-making, potentially slowing consultation process (Huntjens et al., 2012). On the other hand, the inclusion of a broad set of actors can enrich the policy process by including multiple stakeholder perspectives and supporting more robust policy processes and potential future buy-in. As mentioned in the EGD highlighted by the EEA (2023) public participation in policy is necessity for transitioning towards sustainability. The EGD notably emphasises the role of citizens as a driving force in this transition, advocating for the creation of conditions that empower effective public participation.

Therefore, the aim is to create a policy environment where the benefits of diverse stakeholder involvement, in terms of knowledge sharing, consensus-building, and contextual understanding, are maximised. In examining the selected policies of relevance for the four regime complexes through the lens of actor eligibility, a diverse level of engagement and inclusion is evident. Policies such as the Biodiversity Strategy for 2030 and the EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries demonstrate an inclusive approach. These policies not only invite a broad array of stakeholders, including the EC, the EEA, MS, civil society, NGOs, and industry, but also emphasise a partnership spirit, encouraging parts of the economy and society to play their role. The EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries, for example, specifically acknowledges the role of stakeholders like fishers, advocating for transparent and cooperative policy development and implementation.

In contrast, policies like the Habitats Directive and the Birds Directive have a more focused approach, primarily centring on the obligations of MS and the EC. The Habitats Directive for example, requires public consultation only in specific instances such as when specific projects or plan, not integral to site management, may significantly impact a protected area and its assessment indicates potential adverse effects on site integrity. The MSFD requires

public consultation and ensures active involvement of the public, which need to be ensured by MS, while also involving existing management bodies and scientific advisory councils. Similarly, the FAO Guidelines for the Marking of Fishing Gears and the IMAP encourage active, inclusive participation. The FAO Guidelines advocate for active, inclusive and informed participation of interested parties and the involvement of fishing communities in decision-making processes, while the IMAP focuses on the roles of Contracting Parties and the UNEP/MAP Secretariat, coordinating with relevant regional bodies. The Blue Energy Action and the Energy Roadmap 2050 highlight the importance of industry and MS in policy development. The Blue Energy Action fosters participation from the marine industrial sector, facilitating interaction with policymakers through forums like the Ocean Energy Forum.

Other policies like the Single-Use Plastics Directive and the Circular Economy Action Plan, while discussing the participation of certain actors, do not provide explicit rules for broader stakeholder involvement. Similarly, the 'EU Action Plan: Towards Zero Pollution for Air, Water and Soil' and HELCOM's Regional Action Plan on Marine Litter welcome public participation and collaboration but lack specific guidelines regarding actor eligibility. The 2030 Climate and Energy Framework and the Revised Ten-E Regulation further illustrate the EU's commitment to inclusive policy development. Through extensive consultations, these policies aim to capture different perspectives. The Offshore Renewable Energy Strategy and the Sustainable and Smart Mobility Strategy, however, present less specificity in terms of actor eligibility rules. Nevertheless, initiatives such as the Climate Target Plan demonstrate an intention to involve diverse stakeholders, though the exact modalities of this participation are not specified.

Finally, it should be noted that directives, by their very nature, tend to specify more precisely what Member States are required to do, thus potentially narrowing the scope for stakeholder engagement mentioned or required within these instruments. This characteristic of directives could limit the range of stakeholders directly involved in the policy process, focusing primarily on national governments and their designated authorities. For example, the Habitats Directive and the Birds Directive mandate Member States to undertake conservation measures, which include stakeholder consultations, yet the extent and form of these consultations can vary significantly across Member States. This contrasts with regulations and high-level strategies that might allow for a broader engagement of stakeholders, including non-governmental organisations, industry representatives, and the public, due to their direct applicability and wider scope of action. However, the specificity found in directives is crucial for providing legal certainty, facilitating compliance, enforcement, and evaluations of Member States' adherence to EU requirements. Moreover, environmental directives often represent a form of minimum harmonisation, allowing Member States the discretion to expand the involvement of stakeholders beyond the set requirements. The MSFD, for instance, encourages Member States to involve the public in the development and updates of their marine strategies, offering a platform for broader stakeholder participation.

Future research could explore how the inclusivity or exclusivity of actor eligibility affects the implementation and outcomes of marine policies, particularly in the context of engaging local communities and industry stakeholders.

4.2. RESPONSIBILITY

Responsibility refers to the established rules that regulate expectations, permissions, and prohibitions for actors within a policy framework (Oberlack, 2017). The clarity and distribution of these responsibilities can influence the success of policy implementation. Clearly defined responsibilities can help to facilitate a smooth implementation process, ensuring that each actor is aware of their specific roles and contributions to the implementation of a policy However, ambiguity in these roles can lead to several challenges. When responsibilities are not clearly defined, actors may lack clarity on how to actively participate, or conflicts may

arise due to the uneven division of responsibilities (Bergsma et al., 2012; Daniell et al., 2011).

The review suggests the policy documents refer to a diverse degree of actor responsibility. For example, the Biodiversity Strategy for 2030 assigns specific responsibilities to MS for implementing actions such as for example, establishing protected areas to achieve a minimum of 30% coverage, restoring degraded ecosystems, incorporating biodiversity concerns into urban planning, while the EC is tasked with establishing a new biodiversity governance framework. In contrast, the EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries and the Habitats Directive provides a clear assignment of responsibilities, with the former outlining specific tasks for the EC and MS and the latter assigning implementation roles to MS and coordination and monitoring roles to the EC. The MSFD primarily places responsibility on MS for implementation but includes provisions for EU-level intervention in cases of significant non-compliance. Other policies like the European Climate Law and the Energy Roadmap 2050 emphasise the necessity for collaborative efforts across various sectors. However, some policies, such as the Renewable Energy Directive and the Offshore Renewable Energy Strategy, focus more on detailing the responsibilities of MS and related organisations, centring on the conditions of implementation rather than explicitly defining each actor's role.

The Sustainable and Smart Mobility Strategy assigns primary responsibilities to the EC for proposing legislation and coordinating efforts, while also involving multiple actors at different levels, including MS, regional and local authorities, and industry stakeholders. This multi-tiered approach highlights the need for cooperation across various governance levels. The Directive on Combined Transport and the Roadmap to a Single European Transport Area further illustrates this multi-stakeholder approach. Responsibilities are distributed among MS, transport operators, authorities, and the EC, ensuring a coordinated effort towards achieving a unified transport area across the EU. The Connecting Europe Facility Regulation mentions the EC and is Directorates-Generals as the main coordinating institution responsible for the overall coordination and administration of the Regulation, while MS are responsible for the planning and development of projects. Responsibilities within this Regulation are distributed among multiple actors but with a clear hierarchy, helping to create coordination between EU institutions and MS.

Similarly, the EUSAIR Action Plan, the European Maritime Single Window environment (EMSWe), and the Alternative Fuels Infrastructure Regulation (AFIR) provide additional examples of responsibility allocation. The EUSAIR involves various actors in implementing different aspects of the strategy while the EMSWe provides clear assignments of responsibility. It designates specific institutions and bodies as responsible for various aspects of the policy's implementation. For example, it mentions that the EC and the EMSA are responsible for the development and maintenance of ICT tools to support the implementation of the regulation. Additionally, it establishes the Digital Transport and Trade Facilitation Committee to assist the EC in its functions.

4.3. CONTROL

Control refers to the rules that determine how actors can influence policy outcomes (Oberlack, 2017). The notion of control introduces both challenges and opportunities for steering policy processes. In the Biodiversity Strategy for 2030, for example, the EC is designated as the lead actor, responsible for the full implementation and enforcement of the Strategy working in collaboration with MS. In contrast, policies like the Habitats Directive which is transposed into national law present a different approach. Here, the EC is primarily focused on reviewing policy implementation and may intervene (i.e. initiate proceedings of non-compliance) if MS' proposals for areas of community interest are insufficient, with the potential for the EC to make final decisions. Such centralisation of decision-making might streamline processes, but it also risks overlooking (local) stakeholder perspectives. The

MSFD and the European Climate Law further illustrate the diverse application of control. The MSFD allocates primary responsibility to MS for implementation and reporting, with the EC playing a supporting or coordinating role. This shared responsibility model is also present in the European Climate Law, where the EU outlines the political agenda and MS are expected to act accordingly, planning their transition towards climate-neutrality with support from sector-specific initiatives. At the same time, some policies such as the Revised Ten-E Regulation and the Offshore Renewable Energy Strategy distribute responsibilities without assigning explicit leaders, potentially leading to fragmented control and coordination challenges.

The principle of subsidiarity, which emphasises that decisions should be made as closely as possible to the citizen, plays an important role in shaping the control barrier within EU policies. A consequence is that much of EU's environmental law is minimum regulation, leaving details to the MS. This principle implies that in domains where competences are shared between the EU and national governments, EU-level action is warranted only when it is likely to produce better outcomes than actions taken independently by Member States. This framework is evident in the structure of policies like the European Climate Law and the Habitats Directive, where the EU sets overarching goals, but implementation is adapted to the specific contexts of member states. Such an approach seeks to harmonise broad environmental objectives with the principle of subsidiarity, ensuring that actions are both effective at the EU level and appropriately tailored by member states. However, it requires mechanisms for coordination and control to prevent divergences that could undermine collective environmental ambitions (Verdolini et al., 2024).

4.4. SOCIAL CONNECTIVITY

Social connectivity refers to the organisation of actors within and beyond their organisations through procedures and networks (Oberlack, 2017). Social connectivity helps to facilitate the exchange of information and knowledge among actors engaged in policy processes, contributing to decisions that consider critical issues, scientific research, and best practices. Enhanced collaboration and coordination, which are vital by-products of effective social connectivity, contribute to identifying and involving a broad spectrum of actors in the policy process, helping to ensure that the diverse needs and perspectives of different groups are considered.

For instance, the EU Climate Law appears to foster sector-specific dialogues and partnerships, underlining the importance of collaborative engagements that are essential to meet the EGD's climate objectives and enhance inclusion and representativity amongst diverse actors. Similarly, the Blue Energy Action prioritises cross-boundary research and inter-actor connectivity to amplify results. The Offshore Renewable Energy Strategy and the Climate Target Plan mention fostering connectivity through initiatives and consultation processes with the European Parliament, the Council, and different stakeholders and EU citizens.

Moreover, the Sustainable and Smart Mobility Strategy mentions the role of multilevel governance and public-private partnerships in transforming the transport sector. The Directive on Combined Transport and the Connecting Europe Facility demonstrate the EU's dedication to establishing procedures and structures that ensure connectivity across diverse transport modes and renewable energy projects. The 2030 Climate and Energy Framework, though not explicit in its provisions for social connectivity, mentions the necessity for MS to act collectively and advocates for increased cross-border interconnectors.

The Revised Ten-E Regulation and the Renewable Energy Directive also refer to social connectivity by facilitating connections through "projects of common interest" and joint support schemes, respectively. Such measures are designed to promote stakeholder engagement. Lastly, the EUSAIR Action Plan, the EU Monitoring, Reporting and Verification

(MRV) Maritime Regulation, and the European Maritime Single Window environment (EMSWe) call for the enhancement of social connectivity, which is expected to improve cooperation and information exchange between national authorities, stakeholders, and international organisations.

4.5. CONFLICT

Conflict, as outlined by Oberlack (2017), describes how institutions address conflicts by preventing or solving them, considering the different values, preferences, and actions among actors.

Among the assessed policies, the Energy Taxation Directive, for instance, confronts the potential for conflict by proposing clearer conditions for tax eligibility. Such clarifications are intended to align stakeholder actions with policy objectives, thereby minimising disputes over interpretation and implementation. The Energy Roadmap for 2050 provides a framework within which stakeholders can operate, allowing flexibility that acknowledges the potential for conflict, yet it encourages negotiations. The Emission Allowance Trading Directive goes further by establishing the European Securities and Markets Authority (ESMA) as an independent body to help create fairness within the EU carbon market and offer a means to resolve conflicts.

The Connecting Europe Facility includes provisions for regulating, preventing, and resolving conflicts or preferences among actors. It establishes a clear procedure for the selection of cross-border projects in the field of renewable energy, ensuring that projects are evaluated against specific criteria and that project promoters can apply for the status of cross-border projects. This structured approach aims to minimise conflicts by providing a transparent and objective framework for decision-making. However, the degree to which these structures are utilised and effective in preventing or resolving conflicts can vary, highlighting the importance of ongoing assessment and adjustment in policy mechanisms. Finally, The European Maritime Single Window environment (EMSWe) does not explicitly mention provisions for regulating, preventing, or resolving conflicts among actors. However, it does establish a committee (the Digital Transport and Trade Facilitation Committee) to assist the EC, which can serve as a platform for addressing potential conflicts or differences of opinion.

4.6. SOCIAL LEARNING

Social learning, as defined by Oberlack (2017), refers to the creation, exchange, and consensus building of information and knowledge among stakeholders. It is through collaborative processes that stakeholders collectively share information, enhance their understanding, and develop joint responses to challenges. However, a key barrier to social learning is limited coordination in knowledge exchange among stakeholders, possibly leading to decisions made with incomplete information (Demeritt and Langdon, 2004).

The Biodiversity Strategy for 2030 illustrates a commitment to scientific research and knowledge exchange. It proposes the establishment of the Knowledge Centre for Biodiversity, which aligns with the EU Climate Law in establishing structured channels for the flow of information, helping to formalise the process of social learning. The Habitats Directive encourages MS and the EC to boost research and scientific work, supporting the achievements of the Directive’s objectives. In a similar vein, the EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries recognises the roles of scientific communities such as ICES and STEFC in providing advice and new information.

Moreover, the FAO Guidelines document promotes best practices and serves as a basis for knowledge sharing, while the EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil' mentions the use of cutting-edge technologies to enhance national capacities for monitoring and compliance verification. The MSFD enhances this collaborative knowledge

environment by setting up an informal programme of coordination, the Common Implementation Strategy, between MS and the EC. It also requires that MS provide access to environmental information and public participation in environmental decision-making. The Blue Energy Action embodies a bottom-up approach through workshops, illustrating the significance of stakeholder engagement and collective intelligence in sectoral advancement.

While the 2030 Climate and Energy Framework and the Directive on Combined Transport do not explicitly detail social learning provisions, they contain processes that inherently support information sharing. Similarly, the MRV Maritime Regulation and the Renewable Energy Directive ensure the systematic dissemination of knowledge, which is crucial for sector transparency.

4.7. ACCOUNTABILITY

Accountability of institutions involves the careful monitoring, evaluation, and enforcement of responsibilities (Oberlack (2017).

The Biodiversity Strategy for 2030 acknowledges the need for enhancing full implementation and enforcement of EU legislation, both of which are at the heart of this strategy. The Biodiversity Strategy for 2030 mentions how the EC commits to stringent compliance assurance and the establishment of a monitoring mechanism with defined indicators to regularly assess progress and enforce actions when needed. The Habitats Directive mandates reporting from MS, to help ensure that the conservation status of natural habitats and species is monitored, with the EC periodically reviewing the contributions towards the directive's objectives. Similarly, the MSFD introduces reporting obligations for MS, with the EC evaluating the adequacy of measures.

Accountability is also embedded in the EU Climate Law, where the EC is charged with assessing national measures and providing recommendations to ensure alignment with climate-neutrality objectives. This reflects an overarching commitment to maintain a rigorous evaluation process.

The Energy Taxation Directive and the Energy Roadmap 2050 illustrate a dynamic approach to accountability, with MS required to report on energy consumption taxation, enabling the EC to propose modifications in response to the needs of the internal market. The Blue Energy Action demonstrates sector-specific accountability, with the Ocean Energy Forum responsible for roadmap development and the EC monitoring progress against the sector’s contribution to EU-wide objectives. The Renewable Energy Directive establishes the EC’s monitoring role, while the Climate and Energy 2030 Framework commits to reviewing national plans to ensure they meet the EU targets. The Revised Ten-E Regulation stipulates a future Commission report on the implementation of key projects, exemplifying forward-looking accountability.

Policies like the Directive on Combined Transport and the Connecting Europe Facility suggest structured processes for project selection and evaluation, emphasising MS’ responsibilities for implementing provisions and ensuring compliance. The EUSAIR Action Plan and the EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries define specific indicators and mechanisms for monitoring and enforcement, aiming to improve fisheries monitoring and aligning with the MSFD’s objectives.

4.8. TEMPORAL AND SPATIAL SCALE OF INSTITUTIONS

Oberlack (2017) emphasises the importance of considering both the temporal and geographical reach of policy actions, ensuring policies are sustainable and adaptable across diverse regions and over extended periods. In the EU, the temporal and spatial scale of

institutions is fundamental to the success of policy design. The Biodiversity Strategy for 2030 sets a crucial temporal target for biodiversity recovery by 2030. It highlights the spatial dimension by considering ecological variances across EU geographical regions and sea basins, thereby encouraging MS to contribute based on their unique biodiversity contexts.

Complementing the temporal targets of the Biodiversity Strategy, the Habitats Directive aids in enhancing the Natura 2000 network's ecological coherence, indirectly fostering spatial considerations for biodiversity conservation. The MSFD integrates both temporal and spatial planning, with a six-year review cycle that respects the specificities of each marine region or subregion, fostering cooperation and coordination that transcend national boundaries. Similarly, the EU Climate Law, while addressing the temporal risk of carbon leakage, introduces a spatial solution through the carbon border adjustment mechanism, aligning the policy with international trade rules and standards of environmental protection.

Energy policies such as the Energy Roadmap 2050, the Climate and Energy 2030 Framework, and the Energy Taxation Directive advocate for a transboundary approach to energy security, seeking to harmonise frameworks across MS and streamline collaborations to address the urgent climate crisis. The Renewable Energy Directive also includes temporal limits by defining the EC's obligation to propose legislative frameworks post-2030, while the Climate Target Plan sets a nine-month timeline for the development of relevant legislative revisions. These temporal boundaries ensure that policies remain future-proof and adaptable. Spatial uniformity is mentioned in the Directive on Combined Transport, which applies consistently across the European Community, and the Connecting Europe Facility, which focuses on cross-border renewable energy projects. The Emission Allowance Trading Directive, while temporally specific, ties its geographical scope to emissions under the European Trading System (ETS).

Policies like the EU Monitoring, Reporting and Verification (MRV) Maritime Regulation and the European Maritime Single Window environment (EMSWe) establish temporal structures for implementation, with clear deadlines for reporting and policy review, ensuring accountability over time. The Alternative Fuels Infrastructure Regulation (AFIR) and NAIADES III Action Plan articulate the EU's efforts to integrate temporal timelines for the deployment of digital systems and the revision of regulations, contributing to the EU's innovative transport and infrastructure goals. Lastly, the EU Action Plan for fisheries places temporal and spatial responsibilities on Member States while delineating the Commission's monitoring role, ensuring that temporal and spatial scales are factored into the sustainable management of marine resources.

4.9. ADAPTIVENESS OF INSTITUTIONS

Adaptiveness in institutional design, as outlined by Oberlack (2017), involves a crucial trade-off between maintaining stability and introducing flexibility. The Biodiversity Strategy for 2030, which builds upon existing environmental legislation, recognises the need for enhanced enforcement and potential new laws for nature restoration.

The EU Climate Law reinforces adaptiveness by empowering MS to boost their adaptive capacities and align with broader climate and sustainability goals. Similarly, the Energy Taxation Directive's shift towards greener energy sources and the Energy Roadmap 2050's aim for a harmonised energy sector show the EU’s proactive stance on securing supply and promote energy mixes. The Climate and Energy 2030 Framework put emphasis on the development of new governance structures for energy and climate fields, highlighting the EU's foresight in adapting its regulatory frameworks to upcoming challenges and objectives. The Revised Ten-E Regulation maintains this adaptable stance, avoiding the introduction of new rules for financial support from the EU, thereby maintaining a degree of flexibility within existing frameworks.

The Emission Allowance Trading Directive's ongoing evaluations and potential for adaptation through delegated acts, along with the EU Monitoring, Reporting and Verification (MRV) Maritime Regulation's empowerment of the EC to make necessary amendments, help to create policy mechanisms that can respond to changing market and environmental conditions. The adaptability of policies is also evident in the European Maritime Single Window environment (EMSWe), which allows for alterations to specific rules or provisions through the delegation of power to the Commission, reflecting an understanding of the need for policies to evolve alongside environmental and economic shifts.

4.10. FORMALITY OF INSTITUTIONS

Oberlack (2017) identifies the extent to which institutional goals and procedures are embedded in formal laws, plans, and documents as a key determinant of their effectiveness. While a high degree of formality typically ensures commitment and actionable outcomes, the lack of formal laws and documents can sometimes accelerate collaboration and trust-building, albeit at the risk of reduced commitment and prioritisation (Krysanova et al., 2010; Mcfadden et al., 2009). A well-defined legal framework typically ensures stakeholder commitment and guides actionable outcomes, while informal structures might offer more agility in collaboration, but risk diminished dedication and oversight.

The Biodiversity Strategy for 2030 is anchored in existing legal frameworks and introduces proposals for new legislation, especially focused on nature restoration. It is constructed upon the foundation of formalised institutional rules, thus reinforcing the commitment to effective environmental governance.

An example of formalised rules, the Sustainable and Smart Mobility Strategy, Fit-for-55 Plan, and Directive on Combined Transport embed their rules within well-defined legal documents. This formality helps to ensure clarity and enforceability.

The Connecting Europe Facility, EMSWe, and NAIADES III highlight the importance of clear legal documentation, providing comprehensive frameworks and procedures for action. The formalisation within these policies aims to ensure that strategic actions are not only proposed but are also backed by legal mandates, which is crucial for their successful implementation.

5. CONCLUSION

The report mapped the landscape of EU marine policies relevant to the PermaGov project, focusing on the four critical regime complexes: marine life, marine plastics, marine energy, and maritime transport and nine specific case studies.

A secondary objective of this report is to conduct an initial screening of potential institutional barriers in regard to the selected policies, offering a preliminary insight into the challenges that may impede the realisation of the EGD's goals. Using a conceptual framework inspired from Oberlack's (2017), the discussion on institutional barriers offers a look into the multifaceted nature of these obstacles, ranging from issues of actor eligibility and responsibility to the adaptiveness and formality of institutions. This preliminary review reveals potential areas where further research within the PermaGov regime complexes and case studies could be targeted.

It is important to note that this review is based on an analysis of policy documents and regulations, and thus primarily reflects the formal design of policies and institutional frameworks. However, institutional barriers are also a result of the interactions between actors in the processes of policy implementation and enforcement. These dynamics can significantly influence the effectiveness of policies in practice, which is an aspect that will be further explored in the PermaGov project. Therefore, the discussion of institutional barriers in

this report should be taken with some caution, as it does not yet fully account for the complexities of policy implementation and actor interactions.

The identification of specific policies and types of institutional barriers that require deeper investigation serves as a guide for future research within the PermaGov project. This targeted approach will not only contribute to refining the EU's marine policy framework but also ensure that it is equipped to meet the evolving challenges of marine governance. The forthcoming analysis, which will be conducted in the PermaGov project will provide a more comprehensive understanding of how institutional barriers manifest in the interactions between actors during the implementation process, thereby offering deeper insights into the practical challenges of achieving the EGD's objectives.

In conclusion, while this report lays the groundwork for identifying potential institutional barriers within the EU's marine policy landscape, the complexity of policy implementation and the role of actor interactions highlight the need for a cautious approach to our findings. The insights gained here will contribute to the next steps of the PermaGov project, where a more detailed examination of these barriers in action will be carried out.

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