

STUDY

Requested by the PECH Committee



The EU oceans and fisheries policy

Latest developments and future challenges



Fisheries



Policy Department for Structural and Cohesion Policies
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The EU oceans and fisheries policy

Latest developments and future challenges

Abstract

This study provides an overview of the Common Fisheries Policy and other EU policies related to Fisheries, Aquaculture, the Blue Economy and International Ocean Governance. It describes the current and future challenges they face. Furthermore, the research assesses the strengths and weaknesses of EU policies in addressing these challenges, leading the authors to make a number of specific policy recommendations.

This document was requested by the European Parliament's Committee on Fisheries.

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LIST OF ABBREVIATIONS

AAC	Aquaculture Advisory Council
AAM	Aquaculture Assistance Mechanism
AAORIA	All-Atlantic Ocean Research and Innovation Alliance
AC	Advisory Council
APO	Association of Producer Organisations
BBNJ	Biological Diversity of Areas Beyond National Jurisdiction
BCC	Benguela Current Commission
CCTV	closed-circuit television
CFP	Common Fisheries Policy
CISE	Common Information Sharing Environment
CITES	Convention on International Trade in Endangered Species
CMO	Common Market Organisation
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COFI	FAO Committee on Fisheries
COREP	Commission Régionale des Pêches du Golfe de Guinée
CTA	Cape Town Agreement
DG MARE	Directorate-General for Maritime Affairs and Fisheries (EC)
DG RTD	Directorate-General for Research and Innovation (EC)
EAA	ecosystem approach to aquaculture
EATIP	European Aquaculture Technology and Innovation Platform
ECA	European Court of Auditors
EDF	European Development Fund
ECCP	European Cluster Collaboration Platform

EESC	European Economic and Social Committee
EEZ	exclusive economic zone
EFCA	European Fisheries Control Agency
EFSCM	European Food Security Crisis Preparedness and response Mechanism
EGD	European Green Deal
EIB	European Investment Bank
EMFAF	European Maritime, Fisheries and Aquaculture Fund
EMFF	European Maritime and Fisheries Fund
EMSA	European Maritime Safety Agency
ERS	Electronic Reporting System
ETP	endangered, threatened or protected [species]
ETP	Energy Transition Partnership (for EU Fisheries and Aquaculture)
EUMOFA	European Market Observatory for Fisheries and Aquaculture Products
FAD	fish aggregating device
FAMENET	Fisheries and Aquaculture Monitoring, Evaluation and Local Support Network
FAO	Food and Agriculture Organization
FAO-CECAF	Fishery Committee for the Eastern Central Atlantic of the FAO
FAP	fisheries and aquaculture products
FCWC	Fisheries Committee for the West Central Gulf of Guinea
FFA	Pacific Islands Forum Fisheries Agency
FSFS	Legislative Framework for Sustainable Food Systems (FSFS)
GT	gross tonnage
GW	gigawatt
IATTC	Inter-American Tropical Tuna Commission

IBO	inter-branch organisation
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
ILO	International Labour Organization
IMO	International Maritime Organization
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action
IUU	illegal, unreported, unregulated
JRC	Joint Research Centre (EC)
kW	kilowatt
LDAC	Long Distance Fisheries Advisory Council
LDC	Least Developed Country
MNSP	multi-annual national strategic plan (for aquaculture)
MPA	marine protected area
MSC	Marine Stewardship Council
MSFD	Marine Strategy Framework Directive
MSP	maritime spatial plans
MSY	maximum sustainable yield
NDICI	Neighbourhood, Development and International Cooperation Instrument
NEAFC	North-East Atlantic Fisheries Convention
OECD	Other Effective area-based Conservation Measure
OHH	ocean and human health
OMC	open method of coordination
PESTLE	Political / Economic / Social / Technological / Legal / Environmental

PMP	production and marketing plan
PO	producer organisation
PSMA	Port State Measures Agreement
RAS	recirculating aquaculture systems
RFB	Regional Fisheries Body
RFMO	Regional Fisheries Management Organisation
SBEP	Sustainable Blue Economy Partnership
SDG	Sustainable Development Goal
SFPA	Sustainable Fisheries Partnership Agreement
SLO	social licence to operate
SME	small and medium-sized enterprise
SMEFF	sustainable management of the external fishing fleet
SRFC	Sub-Regional Fisheries Commission
STECF	Scientific, Technical and Economic Committee for Fisheries
STCW-F	Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel
SWD	Staff Working Document
SWIOFC	Southwest Indian Ocean Fisheries Commission of the FAO
TAC	total allowable catch
TCA	Trade and Cooperation Agreement
TFEU	Treaty on the Functioning of the European Union
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNSFA	United Nations Fish Stocks Agreement

VMS vessel monitoring system

WCPFC Western Central Pacific Fisheries Commission

WTO World Trade Organization

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EXECUTIVE SUMMARY

This study provides an overview of EU policy in relation to **Fisheries, Aquaculture**, the **Blue Economy** and **International Ocean Governance**. It describes the latest developments and future challenges facing the sustainable development of the EU fisheries and aquaculture sectors. By mapping these key challenges against current policies, recommendations are provided to strengthen EU action to address those challenges.

Common Fisheries Policy – Fisheries

The Common Fisheries Policy (CFP) consists of a number of EU regulations and policies applicable to the fisheries sector: the *CFP Basic Regulation* (2013), the *Control Regulation* (2009, amended 2023), the *Common Organisation of the Markets (CMO) Regulation* (2013), the *EU Action Plan on protecting and restoring marine ecosystems for sustainable and resilient fisheries* (2023) and the *EU Action Plan on the energy transition of the EU fisheries and aquaculture sector* (2023). The main support mechanism to assist the fisheries sector implement policy is the European Maritime, Fisheries and Aquaculture Fund (EMFAF), which has a total budget of EUR 6.2 billion over the period 2021-2027.

The key **challenges** for the fisheries sector, which need appropriate policy support are:

- *Environmental change*: adapting to and mitigating climate change and restoring biodiversity.
- *Market uncertainty*: responding to and making the most of changing but uncertain market conditions and demand for EU-caught fish.
- *Slow uptake of new technology*: adoption of new technologies and digital tools by all value chain actors and governing institutions.

Policy recommendations:

1. *Increase direct support, address constraints and introduce innovative funding mechanisms to fisheries sector operators for green and digital transition.*
2. *Develop a fisheries-specific technology policy.*
3. *Develop market standards that ensure a level playing field in the production of seafood and other marine products imported into the EU.*
4. *Increase policy support for the fisheries sector labour force.*
5. *Tighten policy content and implementation mechanisms to better support environmental objectives.*
6. *Re-build trust between sector stakeholders and EU institutions through review of policy development, implementation and evaluation processes.*

Common Fisheries Policy – Aquaculture

Article 34 of the *CFP Basic Regulation* establishes the open method for coordination (OMC), providing a framework for cooperation in aquaculture, an area where the EU shares competence with Member States. The main tools used by the OMC are the provision of non-binding “*Guidelines for the development of sustainable aquaculture in the EU*” (2013 and updated in 2021); the preparation of Multiannual National Strategic Plans (MNSP) by Member States; and exchange of good practices, which since 2021 is facilitated through the Aquaculture Assistance Mechanism (AAM). Evaluations of the OMC suggest this shared competency works well. But **challenges** impacting the growth of the EU aquaculture sector remain and include:

- *Climate change*: has a both short and long-term effect on productivity and resilience.
- *Increasing input costs*: resulting from geo-political change and other factors.
- *Coexistence with other marine activities*: the growing competition for marine space.
- *A diminishing social licence to operate*, especially as the competition for space increases.

Policy recommendations:

7. Increase emphasis on growing and diversifying EU aquaculture to meet EU *food security and environmental objectives*.
8. Consider a long-term strategic realignment of EU aquaculture to adapt to, and benefit from, the expected consequences of *climate change*.
9. Support the *development of coexistence* between aquaculture, local communities and other marine economic activities.

The Blue Economy

The interconnected nature of the Blue Economy creates a *complex* and potentially disjointed *policy landscape*. This led to the Integrated Maritime Policy (IMP) in 2007, which included ‘Blue Growth and the Blue Economy’ as one of its 5 cross-cutting policies. In 2021, to integrate the Blue Economy into the European Green Deal and the Recovery Plan for Europe, the Commission adopted a “[new approach for a sustainable blue economy in the EU](#)”¹. This, along with broader strategies on industry and employment, drives EU policy on the Blue Economy. The main **challenges** facing fisheries and aquaculture as part of the Blue Economy are:

- *Demand for marine space*: the displacement of fishing and other activities by *offshore* renewable energy (national targets are nearly double those set by the EU) along with MPA expansion. Co-location of activities and re-powering existing sites should be incentivised. Other Effective area-based Conservation Measures (OECMs) should also be explored.
- *Ensuring fair green and digital transitions*: Small-scale Blue Economy operators are at a disadvantage in terms of knowledge, skills and capital when it comes to decarbonising and adapting to climate change. This will require *more direct support* than EMFAF alone.
- *Global competitiveness*: The EU shows *lower productivity* than other regions. Non-EU producers are not faced with the EU’s ambitious environmental and social standards.

¹ [COM\(2021\) 240 final](#):

Policy recommendations:

10. Support existing Blue Economy operators in *adapting to climate change* and making the green and *digital transitions*.
11. Incentivise *co-location* of marine economic activities to maximise the use of space.
12. *Define* Other Effective area-based Conservation Measures (OECMs) and develop a *framework* for their implementation to supplement the EU's MPA network.

International Ocean Governance

CFP standards also apply to EU fishing vessels operating in *external waters*. CFP tools supporting international fisheries governance include Sustainable Fisheries Partnership Agreements (SFPAs), currently with 14 third countries; Cooperation with other *North-East Atlantic coastal states* on the management of stocks of common interest; and participation in Regional Fisheries Management Organizations (RFMOs) and Regional Fisheries Bodies (RFBs). The CFP is complemented by the two pillars of the EU *IUU Regulation* (the catch certification scheme and bilateral cooperation with third countries) and by the coherence of EU development interventions.

EU policy on international ocean governance is based on its ratification of various *international agreements* such as the UN Convention on the Law of the Sea (UNCLOS) and the Port State Measures Agreement (PSMA). The EU played a proactive role in the recent adoption of two landmark international agreements on marine biological diversity of areas beyond national jurisdiction (*BBNJ Agreement*) in 2023 and the World Trade Organization (WTO) *Agreement on fisheries subsidies* in 2022.

The EU plays a proactive role in International Ocean Governance, but EU support for improved International Ocean Governance faces three main **challenges**:

- *Uneven playing field*: resistance of some nations to adhere to international standards underpinning fisheries governance.
- *Lack of third country capacity*: in developing countries to ratify and / or implement international instruments supporting ocean governance.
- *Changing geo-politics*: the shifting power of the EU with decreasing influence as flag state and increasing influence as market state.

Policy recommendations:

13. Support the *entry into force of the international treaties* adopted but not yet into force, and *ratification* of existing instruments.
14. Continue to encourage coastal EU Member States to *ratify relevant IMO and ILO Conventions*.
15. Continue invest in *capacity building* of developing non-EU countries to support implementation of the provisions of international instruments.
16. Leverage EU influence as market state to incentivise international *progress towards sustainable fisheries*.

1. OVERVIEW OF THE MAIN POLICIES

1.1. Aim and objectives

1.1.1. Aim

This research provides information to Members of the PECH Committee on the subject of *“The EU oceans and fisheries policy - Latest developments and future challenges”*.

Delivering and presenting this research paper to Members of the PECH Committee will provide them with an overview of the prospects, opportunities and challenges for:

- (1) Supporting sustainable fisheries and aquaculture in the EU,
- (2) Stimulating the EU blue economy, and
- (3) Promoting ocean governance at international level.

The research results in policy recommendations relevant to EU decision-making, with a particular focus on the role and competences of the European Parliament.

1.1.2. Objectives

The aim of the project is to be achieved by fulfilling the following specific objectives:

- (1) Based on literature reviews, key stakeholders’ policy papers and interviews the study shall provide a summary of the current state of play of the following three EU policy fields relating its fisheries and aquaculture sectors:
 - a) CFP framework for supporting sustainable fisheries and aquaculture in the European Union;
 - b) EU blue economy policy; and
 - c) EU actions to promote international ocean governance.
- (2) Identify the key environmental, economic and social challenges that the fisheries and aquaculture sectors, the blue economy sector as well as the governance of high seas will face in the coming years.
- (3) Identify the main weaknesses of these policies within the remit of the PECH Committee, likely to be subject to important developments in the near future.
- (4) Analyse the political opportunities, challenges and prospects, expected to arise within the remit of the PECH Committee.
- (5) Offer a set of policy recommendations for EU policy makers, first and foremost for Members of the European Parliament.

1.2. Main EU policies related to fisheries and oceans

The main policy associated with fisheries, aquaculture and the oceans is the Common Fisheries Policy (CFP), which from 1970 developed as a distinct policy, separate from the Common Agricultural Policy. Reforms to the CFP have been made every 10 years or so, with the latest 2013 iteration due to be evaluated to inform potential future reform.

In addition to the CFP, several other EU policies inform EU activities in relation to fisheries and oceans. Some of these are listed in **Table 1** below associated with the subsequent chapters of this study where they are further described, noting that many are cross-cutting, and influencing not just fisheries but also aquaculture and other parts of the blue economy.

A key challenge for the CFP since its 2002 reform, which introduced stronger environmental considerations, has been establishing a balance between environmental, social and economic objectives to ensure sustainable fisheries within healthy marine ecosystems. It is also a challenge to ensure the CFP remains coherent with other EU policies, particularly as major policies such as the European Green Deal have been introduced since the CFP was last reformed in 2013.

Table 1 - Key EU policies related to fisheries and oceans

Policy chapters	Policy documents
Fisheries (Chapter 2)	<ul style="list-style-type: none"> • The Common Fisheries Policy (CFP Basic Regulation (EU) No 1380/2013) • The European Green Deal (COM(2019) 640 final) • Farm to Fork Strategy. For a fair, healthy and environmentally-friendly food system (COM(2020) 381 final) • EU Biodiversity Strategy to 2030 (COM(2020) 380 final) • EU Action plan on protecting and restoring marine ecosystems for sustainable resilient fisheries (COM(2023) 102 final) • The common fisheries policy today and tomorrow: a Fisheries and Oceans Pact towards sustainable, science-based, innovative and inclusive fisheries management, COM(2023) 103 • On the Energy Transition of the EU fisheries and aquaculture sector (COM(2023) 100 final)
Aquaculture (Chapter 3)	<ul style="list-style-type: none"> • The Common Fisheries Policy (CFP Basic Regulation (EU) No 1380/2013) • The European Green Deal (COM(2019) 640 final) • Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030 (COM(2021) 236 final) • Blue Bioeconomy - Towards a strong and sustainable EU algae sector (COM(2022) 592 final) • Striving for a sustainable and competitive EU aquaculture: the way forward (2023/C 132/01)
Blue Economy (Chapter 4)	<ul style="list-style-type: none"> • An Integrated Maritime Policy for the European Union (COM(2007) 574 final) • Marine Strategy Framework Directive (L 164/19) • Blue Growth, opportunities for marine and maritime sustainable growth (COM(2012) 494 final) • EU Industrial strategy (COM(2020) 102 final) • A new approach for a sustainable blue economy in the EU (COM(2021) 240 final) • 2021-2027 Strategic framework for health and safety at work (COM(2021) 323 final)
International Ocean Governance (Chapter 5)	<ul style="list-style-type: none"> • EU adoption of international agreements (e.g. BBNJ Treaty, ILO and IMO conventions, WTO Agreement) • Setting the course for a sustainable blue planet - Joint Communication on the EU's International Ocean Governance agenda (JOIN(2022) 28 final) • Communication on decent work worldwide for a global just transition and a sustainable recovery (COM(2022) 66 final)

Source: own elaboration

2. COMMON FISHERIES POLICY – FISHERIES

KEY FINDINGS

A variety of EU policies are in place for the fisheries sector, including the **Common Fisheries Policy** (2013), the **Control Regulation** (2009 amended 2023), the **Common Organisation of the Markets** (2013), the **EU Action Plan on protecting and restoring marine ecosystems** for sustainable and resilient fisheries (2023), and the **EU Action Plan on the energy transition** of the EU fisheries and aquaculture sector (2023). The main support mechanisms to assist the fisheries sector implement policy is the **European Maritime, Fisheries and Aquaculture Fund** (EMFAF), which has a total budget of EUR 6.2 billion for the period 2021-2027.

The **key challenges** for the fisheries sector, which need appropriate policy support are:

- Adapting to and mitigating **climate change** and restoring **biodiversity**.
- Responding to, and making the most of changing but **uncertain market conditions and demand** for EU-caught fish.
- Adoption of **new technologies and digital tools** by all value chain actors and governing institutions.

2.1. State of play

2.1.1. The Common Fisheries Policy

This section considers all aspects of the Common Fisheries Policy (CFP) (European Union, 2013a), with the exception of aquaculture (PART VII of the CFP Basic Regulation), which is addressed in **Chapter 3**, and external policy (PART VI of the CFP Basic Regulation), which is addressed under 'International Ocean Governance' in **Chapter 5**. This chapter is structured around the parts of the CFP Basic Regulation 1380/2013 dealing with particular fisheries aspects.

Useful data on EU fisheries, including production, fleet, employment and economic performance, can be found in [Facts and Figures on the Common Fisheries Policy](#). Some figures relevant to the policy aspects of the CFP are selected and included in the text below.

a. Measures for the conservation and sustainable exploitation of marine biological resources

Important principles and approaches for conservation and sustainable exploitation include:

- Maintaining stocks above the **maximum sustainable yield** (MSY) i.e. the largest yield (or catch) that can be taken from a stock over an indefinite period.
- Adopting a **precautionary principle**, i.e. the absence of certainty over any measures, for example because of a lack of scientific information, should not delay or prevent measures being taken in an effort to ensure sustainability.
- Allocating fishing opportunities to ensure '**relative stability**', and a predictable share of fish stocks for each Member State.

- **Decentralised decision-making** and regional cooperation between Member States when they have a management interest to propose measures, known as ‘regionalisation’, where EU Member States agree on regionally-specific management measures which are approved and adopted by the Commission through delegated or implementing acts.
- The ability of individual **Member States to adopt conservation measures in their own waters** if they do not affect fishing vessels from other Member States, which again are approved and adopted by the Commission through delegated or implementing acts.

Key measures included in the CFP for conservation and sustainable exploitation include:

- **Multiannual plans** (MAPs) for single species or groups of species, specifying targets and timeframes for managing levels of fishing mortality (the removal of fish from the stock) and spawning stock biomass (the total weight of the sexually mature fish in a stock). They may also include other measures, for example to eliminate discards (catch that is returned to the sea without being landed).
- **Setting fishing opportunities** for different species based on total allowable catches (TACs), and allocating them on an annual basis to Member States based on relative stability.² Member States then manage that quota for fishing vessels on their registry and may swap quota with other Member States.
- **Minimum conservation reference sizes** (the minimum size at which fish can be caught) for some species.
- **Technical measures**, which determine how, where and when fishers can fish. These are set out in the Technical Measures Regulation 2019/1241. They include the characteristics of fishing gear (e.g. mesh size) limiting their use in certain areas or at certain times of the year, and specific measures to reduce unwanted catches or interactions with endangered species.
- **Fish stock recovery areas** where areas are protected from fishing when they have high concentrations of fish under minimum conservation reference sizes or are important spawning areas where fish lay their eggs.
- **An obligation to land all catches** of species which are subject to catch limits and, in the Mediterranean also catches of species which are subject to minimum sizes. All catches are counted against quota and undersized fish cannot be used for human consumption. The ‘landing obligation’ was introduced in 2015 and has been fully in force since January 2019
- **Incentives for selective fishing** (to avoid unwanted catches and to minimise any negative impact on marine ecosystems).
- **Adapting fishing fleet capacity** to fishing opportunities (see **Section b** below).
- Targets to **minimise the impact of fishing on the marine environment**.

The International Council for the Exploration of the Sea (ICES) provides scientific advice on many EU fish stocks in the North-East Atlantic ecoregion³. It reports that the number of stocks fished at sustainable level improved between 2019 and 2022⁴. The proportion of overexploited stocks (where

² TACs and fishing opportunities are not set in the Mediterranean.

³ Baltic Sea, Bay of Biscay and Iberia, Celtic Seas, Greater North Sea, and Widely (i.e. widely distributed stocks in the North East Atlantic).

⁴ The number of stocks for which fishing mortality (F) exceeded sustainable levels (F_{MSY}) declined (i.e. improved) from 32 to 25 between 2019 and 2022. F_{MSY} is the level of fishing mortality which results in the maximum sustainable yield in the long term.

$F > F_{MSY}$) which are fully assessed decreased from around 74% in 2004 to 32% in 2022. The long-term trend for the proportion of stocks that are outside safe biological limits ($F > F_{PA}$ or $B < B_{PA}$)⁵ shows a similar positive trend having declined from 80% of stocks for which both reference points are available in 2003 to 41% in 2022. Latest results suggest a reduction in overall fishing mortality and an increase in stock biomass over the last 20 years. However, for the last known year (2022) of the 83 stocks considered, only 28% were neither overexploited nor outside safe biological limits. In the Mediterranean and Black Seas, while there are indications that fishing pressure has decreased since 2019, no substantial increases in biomass have occurred since 2011. The objective of the CFP of restoring and maintaining fish stocks to produce MSY is not yet met (STECF, 2024).

b. Management of fishing capacity

A vessel's fishing capacity is defined by its tonnage in gross tonnage (GT) and its power in kilowatts (kW). The European Commission maintains a fleet register⁶ which is a searchable database of all EU vessels and associated information (e.g. country of registration, GT, kW, length, gear, etc.). The CFP requires each EU Member State to ensure a stable and enduring balance between fishing capacity and fishing opportunities over time. Member States are required to report to the Commission on this balance each year, and to provide data for inclusion in the fleet register. The Commission in turn reports to the European Parliament and Council. An 'entry/exit scheme' prevents Member States from allowing entry into the fleet of any new vessel capacity unless the same capacity (in GT and kW) is removed.

There has been a consistent decline in the total GT and kW of the EU fishing fleet over recent years (European Union, 2022, see **Annex I**). There are now around 54 000 active vessels in the EU fleet. Italy and Greece each account for just over 15% by number of vessels. Portugal, France, Croatia and Spain each account for between 7.5% and 12.5%, with other Member States individually having less than 5% of all vessels. For fishing capacity in GT terms however, Spain dominates with almost 25% of total GT, followed by France (12.4%), Italy (11.5%) and the Netherlands (7.8%).⁷

The latest Annual Economic Report by the Scientific Technical and Economic Committee for Fisheries (STECF) classifies vessel data by size and provides data for 2021 on vessels and fisher numbers as shown below. The balance of small (under 12 metres) and large vessels (over 12 metres) explains the different contributions which Member States have to total vessel numbers on the one hand, and total GT on the other: countries such as Italy and Greece have many small vessels with a low GT.

Table 2 - EU vessel and employment numbers (2021)

	Small-scale coastal fleet	Large-scale fleet	Distant water fleet	Total
Total number of active vessels	41 267	13 280	249	54 213
Total number of engaged crew	59 948	55 952	6 480	121 917
Full time equivalent crew (FTE)	33 052	42 836	7 349	81 745

Data source: STECF, 2023 a.

⁵ B = biomass, F_{PA} = fishing mortality based on a precautionary approach, B_{PA} = biomass based on a precautionary approach.

⁶ [Fleet Register](#)

⁷ [Fleet Register](#) (accessed 13.5.24). Own calculations for percentages.

c. Scientific basis for fisheries management

Implementing rules and regulations for fisheries management should be based on scientific advice and information made available through various scientific bodies, and through data provided by the EU Member States under the data collection framework (DCF), short-term studies, and long-term research projects supported by research framework programmes. Key scientific bodies include the Scientific, Technical and Economic Committee for Fisheries (STECF), the Joint Research Council (JRC), the International Council for the Exploration of the Sea (ICES), and Regional Fisheries Management Organisations (RFMOs) and Regional Fisheries Bodies (RFBs). Advisory Councils (ACs) (see point g. below) also contribute and cooperate with scientists to collect, supply and analyse data, for example for the development of conservation measures.

d. Common Market Organisation

The Common Organisation of the Markets (CMO) in Fishery and Aquaculture Products is subject to Regulation (EU) No 1379/2013 (European Union, 2013b) and the CFP Basic Regulation (in particular Article 35). The main pillars of the CMO are:

- Producer organisations (POs), their associations (APOs) and inter-branch organisations (IBOs). POs receive financial support from the EU and prepare and implement annual production and marketing plans (PMPs). In 2021, there were 204 POs across 18 Member States (European Union, 2022).
- Common marketing standards which lay down uniform characteristics for fishery products sold in the EU and support a transparent and fair single market that supplies high-quality products.
- Mandatory consumer information supplementing general food labelling, and support for other voluntary information, which can serve to inform sustainable choices by consumers and thereby the sustainability objective of the CFP. Rules around traceability (as part of the EU Fisheries Control Regulation – see **Section e** below) support the flow of information along the supply chain.
- Exclusion of POs from competition rules where eligible under the CMO, to support the objectives in Article 39 of the Treaty on the Functioning of the European Union (TFEU). This allows for some control over the quantities of fish put on the market by PO members to stabilise markets and prices, comply with conservation obligations and avoid food waste.
- Market intelligence to increase transparency and efficiency, through the gathering, processing and disseminating of economic information on FAPs. This is done through the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA),⁸ which monitors volumes, values and prices of fisheries and aquaculture products, from the first sale to retail stage, including imports and exports, and produces a range of publications in the form of monthly highlights, reports on the EU fish market, case studies, and thematic analyses.

Consumption of fish products in the EU exceeds 10 million tonnes a year (in live weight equivalent), with imports (around 9 million tonnes a year) accounting for around 70% of total supply, and the EU exporting just over 2 million tonnes a year. The most common species and products consumed are tuna (mostly canned), salmon, cod, Alaska pollock, shrimps, mussel, hake and herring.⁹

⁸ [EUMOFA](#)

⁹ [EU market overview \(eumofa.eu\)](#) (accessed 13.5.24).

A recent Commission report noted that: i) PMPs are contributing to the objectives of the CMO and the CFP but that some differences exist in treatment between Member States; ii) marketing standards are not sufficiently promoting sustainable products; iii) information in labelling to consumers is adequate but remains contentious and subject to different levels of application; iv) the programming by POs of putting fish on the market is important in maintaining prices and avoiding food waste; and v) EUMOFA is contributing to market intelligence. (European Commission, 2023a).

e. Control and enforcement

This part of the CFP provides the general objectives and principles to govern the EU's approach to control, including the fight against illegal, unreported and unregulated (IUU) fishing. It emphasises a common approach, coordination across Member States and EU institutions, a European Union framework for control inspection and enforcement, and measures about non-EU countries which allow unsustainable fisheries. The CFP also provides for an expert group on compliance (with provision for experts from Parliament to be invited by the Commission to attend) to review compliance, draw up advice, exchange information, and to keep the European Parliament and the Council informed.

Detailed rules related to implementation of control and enforcement aspects of the CFP are outlined in separate legislation, notably in:

- The Control Regulation 2023/2842 that recently revised the European Union control system for ensuring compliance with the rules of the CFP.¹⁰ The Control Regulation provides for a huge range of measures focusing mostly on commercial fisheries which are far too numerous to list in this document. The revised EU fisheries Control Regulation in 2023 updates most of the rules for fishing vessels to modern technology, better promotes sustainability, and increasingly brings under 12 m vessels and some recreational fisheries within the control system. In addition to physical inspections, monitoring and surveillance of fishing activities increasing takes place using modern digital technologies, including electronic reporting systems and the use of electronic logbooks, remote electronic monitoring using closed-circuit television (CCTV) systems (which will become mandatory for some vessels), and vessel monitoring systems (VMS) using satellite-based technologies to track the location, course, and speed of vessels. The Control Regulation provides for minimum sanctions and the attribution of points for confirmed serious infringements, with fishing licences being removed for different lengths of time based on the number of points accumulated over a three-year period and whether offences are repeated.
- The IUU Regulation 1005/2008. The IUU Regulation allows the Commission to take measures against countries which are not deemed to be acting sufficiently to combat IUU fishing. In such cases, the Commission first issues a warning (known as a 'yellow card'). If the country continues not to comply with the terms of the regulation, it identifies the country as non-cooperating (known as a 'red card') and places it on a list of non-cooperating countries. Fisheries products from the country in question are banned from entering the EU market.

Key actors in the EU control system are: i) national competent authorities in the Member States which have to prepare national control plans (and report on them to the European Commission) and conduct key actions including the monitoring and inspection of fishing activities; ii) the European Fisheries Control Agency (EFCA) which encourages closer collaboration and exchange of best practice between EU countries, organises joint control campaigns, and provides training; and iii) The European

¹⁰ Key provisions of the 2023 amendments can be found at: [Control regulation - European Commission \(europa.eu\)](https://eur-lex.europa.eu/eli/reg/2023/2842/oj).

Commission which controls and evaluates the application of the rules by EU Member States through audits, verifications, inspections and inquiries.

f. Financial instruments

This part of the CFP provides for financial assistance to support the objectives of the CFP, but conditional on Member States complying with the CFP rules. The main enabling legislation is Regulation (EU) 2021/1139 establishing the European Maritime, Fisheries and Aquaculture Fund (EMFAF) for the period 2021-27 (EU 2021), which has a total budget of EUR 6.2 billion. Funding is provided for four priorities:

- Fostering sustainable fisheries and the restoration and conservation of aquatic biological resources;
- Fostering sustainable aquaculture activities, and processing and marketing of fishery and aquaculture products, thus contributing to food security in the European Union;
- Enabling a sustainable blue economy in coastal, island and inland areas, and fostering the development of fishing and aquaculture communities; and
- Strengthening international ocean governance and enabling seas and oceans to be safe, secure, clean and sustainably managed.

Most of the funding (c.a. EUR 5.3 billion) is under shared management for national programmes co-financed by the EU budget and Member States, with each Member State preparing a national programme (specifying eligible and ineligible measures) which the Commission approves after an in-depth assessment. Member States have to report routinely on implementation and the use of funds to the European Commission. The balance (c.a. EUR 800 million) is under direct and indirect management of the European Commission, and used for: technical and administrative assistance for the implementation of the EMFAF (including FAMENET [Fisheries and Aquaculture Monitoring, Evaluation and Local Support Network]¹¹ which supports stakeholders in the implementation of EMFAF); the preparation, monitoring and evaluation of SFPAs and the EU participation in RFMOs (see **Chapter 5**); and the setting-up of a Europe-wide network of local action groups.

g. Advisory Councils

The CFP provides for the establishment of Advisory Councils (ACs) for geographical areas or fields of competence, with representation by relevant stakeholder groups from Member States, the private sector, and non-governmental organisations. They can make recommendations to the European Commission on fisheries management matters and on socio-economic and conservation aspects of fisheries and aquaculture (as well as simplification of rules), inform the Commission about problems or issues, and contribute with data collection and analysis for the development of conservation measures. The Commission is obliged to consult with the ACs on regional conservation measures. There are 11 ACs, seven for specific geographical areas, and four for fields of competence (see [Advisory Councils](#) for more information).

¹¹ [FAMENET](#)

2.1.2. Other EU policies impacting the fisheries sector

a. European Green Deal

The European Green Deal (EGD) is the EU's plan to become a climate-neutral continent by 2050 and boost its green economy, as largely articulated through a set of other policies and legislation. There is an interim target of reducing net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. Policies and plans related to the marine environment include many of those presented below, as well as a new approach for a [Sustainable blue economy](#) (see **Chapter 4** of this research), a zero pollution vision for water, air and soil and a related [Zero Pollution Action Plan](#) to better prevent, remedy, monitor and report on pollution.

b. Farm to Fork

The [Farm to Fork Strategy](#) is at the heart of the EGD and a sustainable food system. The strategy includes regulatory and non-regulatory initiatives, with the CFP being a key tool to support transition to neutral or positive environmental impacts, climate change mitigation and adaptation, reversing biodiversity loss, ensuring food security, and preserving affordability of food for EU consumers while generating fair economic returns and competitiveness for those producing it e.g. fisheries sector businesses in catching, processing and marketing. The EU's advisory services, financial instruments, research, and innovation will all contribute.

c. EU Biodiversity Strategy to 2030

The EU's biodiversity strategy for 2030 aims to protect nature and reverse the degradation of ecosystems. As part of the strategy and most relevant to the fisheries sector, the EU will enlarge Natura 2000 areas and protect a minimum of 30% of the EU's sea area by 2030 with one third being strictly protected (see EU Action plan on Protecting and Restoring Marine ecosystems below), and has an EU nature restoration plan and nature restoration law requiring Member States to make concrete commitments about restoration measures for land and sea areas. For marine ecosystems there are targets that: i) the negative impacts on sensitive species and habitats, including the seabed through fishing and extraction activities, are substantially reduced; and ii) the bycatch of species is eliminated or reduced to a level that allows species recovery and conservation. Progress in completing specific measures in support of these targets can be found at [EU Biodiversity Strategy Actions Tracker](#). A cornerstone of the biodiversity strategy is provided by the [Habitats Directive](#), which ensures that all EU countries to protect the most valuable and threatened biodiversity (species and habitats).

d. EU Action Plan on protecting and restoring marine ecosystems for sustainable and resilient fisheries

The EU [Action plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries](#) has significant implications for the fisheries sector, including time bound targets for EU Member States related to: i) developing threshold values for the maximum allowable mortality rate from incidental catches (by 2023); ii) bycatch reduction for certain species (timeframes dependent on the species); iii) updating eel management plans (by 2024); iv) updating MSFD programmes to include appropriate measures against the loss and discarding of fishing gear and fishing related marine litter (by 2027); v) present and implement additional measures to boost selectivity (by 2030); and vi) create new and effectively manage all marine protected areas (MPAs), ensuring strict protection of important fish spawning and nursery areas (by 2030). It also requires the phasing out of mobile bottom fishing in MPAs by 2030.

e. **Action Plan on the Energy Transition of the EU Fisheries and Aquaculture sector**

This action plan, published in 2023, aims to decarbonise EU fisheries through reducing the fossil fuel intensity of fishing. It has important targets with significant potential impacts on the fisheries sector, notably an indicative target for fisheries to reduce fossil fuel intensity (in litres per kilogram of landed product) by at least 15% in the years from 2019 to 2030, with a long-term goal to achieve a carbon-neutral footprint of fisheries by 2050. Such targets could require retrofitting of current vessels, or changes to new vessels which could incur significant costs. To facilitate cooperation and coordination between stakeholders on this topic, the European Commission has launched the *Energy Transition Partnership* for EU Fisheries and Aquaculture (ETP).

f. **Working standards**

The International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) and the International Labour Organization (ILO) Work in Fishing Convention (C188) are presented in detail in the later chapter on international governance. Additionally of relevance is Council Directive (EU) 2017/159 (EU, 2016)¹² which incorporates into EU law the social partners agreement on the ILO convention C.188 Work in Fishing Convention.

2.2. Key challenges

PESTLE analysis is used to **identify key challenges**. This provides a comprehensive framework to consider the external factors that create challenges for operators within the fisheries sector.

The text below expands on the main issues summarised in the table overleaf. Conflict with other coastal users is not included as one of the three key challenges presented as this is discussed in later sections of this study. Sub-headings are by challenge/issue rather than by PESTLE as they may relate to more than one PESTLE category.

¹² Available at [COUNCIL DIRECTIVE \(EU\) 2017/159](#)

Table 3 - PESTLE analysis of the EU fisheries sector

Political	Economic	Social	Technological	Legal	Environmental
<i>Political or politically motivated factors that could affect the sector.</i>	<i>Overall, economic forces that could affect sector operators.</i>	<i>Social aspects, attitudes, and trends that influence the sector and target markets.</i>	<i>Technologies that can affect the way operators make, distribute, and communicate their products and services.</i>	<i>Current and future legal and regulatory requirements impacting the sector.</i>	<i>Environmental forces impacting the sectors, e.g. location, surrounding environment, and natural resources used by operators.</i>
<p>Evolving geo-political situation – relations and conflicts between EU Member States and with other countries (e.g. links with maritime security, Brexit, the need to agree management arrangements of shared stocks, and other non-EU countries increasingly wanting to restrict access by EU vessels to their own waters and to catch their own fish)</p> <p>Need for more coherence between implementation of the CFP and EU environmental legislation</p> <p>Slow pace of regional conservation measures being proposed by Advisory Councils</p> <p>Quotas set above levels recommended by scientists for some stocks</p>	<p>Changing market demand and consumption patterns (animal welfare concerns, alternative proteins, consumer emphasis on sustainability, and extent of level playing field for EU fishers with imports to the EU)</p> <p>Vessel operating and investment costs, which coupled with catch levels challenge profitability</p>	<p>Interactions and conflicts with other coastal users (e.g. windfarms, coastal tourism)</p> <p>Ageing fisher demographics and low recruitment into the sector given the challenging nature of work at sea, urbanisation, and competition with onshore sectors for labour</p> <p>Need for upskilling of the fisheries sector labour force</p> <p>Working and safety conditions on some vessels</p>	<p>Adapting to increased use of new technologies, digital tools, and AI onboard vessels (of benefit to fishers and for control purposes), in marketing, and for research purposes</p> <p>Poor and ageing fisheries sector infrastructure (e.g. harbour facilities) in many locations</p> <p>Need for new technology to support increased selectivity of fishing gear and reduction of fishing gear waste</p>	<p>Expanding regulations to address sustainability are resulting in falling/low trust by fishers with policy makers and institutions</p> <p>Limits to EU funding (e.g. EMFAF, projects) considered by the sector as necessary to support it (and a green transition)</p> <p>Responding to increased legislative requirements on labour standards, safety and working conditions</p> <p>Recreational fisheries not adequately controlled by legislation</p>	<p>Increasing impact of climate change and pollution on marine resources and marine ecosystems</p> <p>Many stocks not at levels of Maximum Sustainable Yield (and overfished and/or subject to overfishing)</p> <p>Poor data and science for some fish stocks</p>

Source: own elaboration

As indicated in the text below, there is a lot of uncertainty over how things will evolve in the future with respect to the different challenges. Depending on how things evolve (with drivers of change not just being EU fisheries institutions, but also external factors over which those institutions have little or no control), challenges may be minimal or less than expected, resolved, or may result in huge pressures on the sector. Also important to note is that the impacts of these challenges, and the willingness and ability of stakeholders in the EU to respond to and manage them will not be felt evenly. Some countries and fleet segments may be advantaged with others disadvantaged, depending on attitudes and the ability to access finance to respond to challenges and legislative requirements and/or make the most of opportunities that arise in the future.

2.2.1. Challenge 1: Adapting to and mitigating climate change, and restoring biodiversity

The extent to which climate change impacts on the fisheries sector, and whether ecosystems are restored, will depend greatly on global and EU success in implementing many of the statements of intent, policies, strategies and action plans mentioned above. However, even with unparalleled international cooperation and action for successful and rapid decarbonisation, and with emission targets in the EGD being met, moderate climate change with a global mean temperature increase of approximately 2°C above pre-industrial levels is likely. Less success in addressing the climate crisis will result in more severe climate change and increases of 3°C or more. Even under the most optimistic future, the fisheries sector will face significant challenges in adapting to the impacts of climate change. These impacts will include changes in the geographical distribution of fish stocks (benefiting some fishers and countries and disadvantaging others), potentially lower catches through the negative impacts of sea temperature rises and acidification on fish stocks, an increase in invasive species, increases in the severity of extreme weather events limiting time at sea and damaging vessels in harbour, and negative impacts of extreme events such as storm surges on the coastal infrastructure on which the fishing sector relies.

The requirement for the fisheries sector to be part of the solution to the climate crisis in mitigating climate heating, and in restoring biodiversity (through the EU's policies and strategies discussed above) will also place great challenges on the sector. Increased marine protected areas and increases in selectivity in support of ecosystem restoration are both likely to reduce catches and therefore profits for fishers and downstream actors in the value chain. Decarbonisation to mitigate climate heating will be particularly challenging for the fishing fleet as it is characterised by operators whose vessels and engines represent substantial capital investments that are expected to last for decades. In addition, the most fuel-intensive fishing sectors such as bottom trawl (where the biggest reductions could be made) have faced very challenging economic conditions with fuel price increases, making them less able to make investments in low carbon technology transition. Switching to less fuel-intensive fishing methods (e.g. from trawling to long-lining) is not straightforward as vessels are designed for particular gears; fishers will need to learn new fishing methods; and lower intensity methods can mean reduced catch volumes and lower revenues (offset to an extent by reduced fuel costs).

2.2.2. Challenge 2: Changing market demand and consumption patterns

While there is great uncertainty over the future market situation for the EU fisheries sector, whatever the future, the sector is likely to find it challenging to respond to trends and these uncertainties. Key aspects include:

- The level of competition for the EU fisheries sector from imports from non-EU countries. As noted earlier, imports currently account for around 70% of fish consumed in the EU, much of it from northern countries and from Asia. EU fisheries sector representatives complain of the lack

of a level playing field with exporters whose products are often subsidised thereby reducing the price of fish imports. The proportion of the EU market supplied by imports, and thus demand for EU-caught fish and therefore prices, may depend in the future on the extent to which markets in non-EU countries absorb fish caught by non-EU countries at prices which compare favourably with prices paid by EU consumers, as well as the level of the regulatory burden on those exporting fish to the EU.

- Changes in consumer preferences and requirements. These include: i) trends towards a preference for some species (e.g. tuna, farmed salmon) over others; ii) increased emphasis on 'buying local'; iii) increasing concern about the sustainability of fish stocks (as reflected in increased demand for sustainability certified products and consumer guides); iv) an increasing awareness of fish as sentient beings which may reduce demand (especially for farmed species); v) the development of alternative plant-based proteins competing with fish and red meat, but at the same time increasing awareness that the carbon footprint of a kilogram of fish is far lower than that for red meat and chicken. Consumers (and EU legislation) are also increasingly requiring greater levels of traceability of and labelling of products, with associated costs.

2.2.3. Challenge 3: Making the most of new technology

The EU is gearing up to assist the EU fisheries sector with introducing digital tools and new technologies. Some advanced technologies are already in evidence in the sector and being used to locate fish, monitor and track ocean conditions and the weather, control fishing activities (as discussed earlier), and market fish (e.g. block chain technology for traceability). Technology and AI offers great potential for: i) the fishing sector in terms of increased levels of automation and robotisation onboard and in fish factories, selectivity and efficiencies in the catching fish, and improvements in the marketing of fish; ii) for fisheries scientists in terms of stock assessment and research; and iii) for fisheries managers in terms of fisheries control and surveillance (CCTV, use of drones, full electronic reporting even of small-scale vessels, etc.). The ability of small- and large-scale fishing operators, scientists and managers to seize these opportunities will depend on access to finance and their ability to pay for their introduction, as well attitudes towards changing long-established practices, which in the case of many fishing operations (especially the small-scale sector) are often very traditional and manual. Making the most of new technologies will require not just finance, but also considerable levels of re-training and education of many stakeholders.

2.3. Do EU policies address the challenges?

The challenges identified via the PESTLE analysis are mapped against EU fisheries policy areas to explore the extent to which these policies:

- Explicitly recognise and address the challenges [strength].
- Recognise the challenges, but with no or limited action to address them [weakness].
- Do not consider the challenges [weakness].
- May negatively impact the sector's ability to address the challenges [weakness].

Table 4 - Mapping of EU fisheries policy against PESTLE challenges

Policy areas relevant to fisheries	P Political	E Eco- nomical	S Social	T Techno- logical	L Legal	E Environ- mental
Common Fisheries Policy	W	W	W	W	W	W
Green Deal, Farm to Fork, and Action Plan on Energy Transition	W	S		W	W	S
Biodiversity Strategy and EU Action Plan on protecting and restoring marine ecosystems	W			S	W	S

Source: own elaboration

Note: S = explicitly addresses the challenge (strength); W = mentioned but no or limited action (weakness)

Political: The CFP includes specific policy provisions on external relations in relation to the EU's participation in international fisheries organisations, Sustainable Fisheries Partnership Agreements (SFPAs), and management of stocks of common interest, which are commented on later in this research in terms of their ability to respond to and function effectively within challenging geo-political contexts. It also provides for regional conservation measures to be proposed by ACs. However, as noted by the European Commission (European Commission, 2023), regional ACs have been slow to agree conservation measures. This may be due to the broad stakeholder representation within them which makes it hard to reach consensus. The Commission (European Commission, 2023) also notes that more coherence is needed between implementation of the CFP and EU environmental legislation. The same document also emphasises the need for improved coherence between the CFP and international environmental policy, for example in RFMOs and regional sea conventions. Furthermore, the setting of quotas on an annual basis is often above the levels recommended in scientific advice for specific stocks due to the political nature of the setting of total allowable catches (TACs) (and the need to also consider economic and social factors).

Economical: Economic sustainability is a key objective of the CFP. The CFP, coupled by supporting financial measures (e.g. EMFAF) and the common organisation of the markets, provides policy on market information, market promotion, and marketing standards and the EUMOFA provides for transparency of products on the EU market. But as noted by the European Commission "*more transparency is needed to help consumers make informed choices*" (European Commission 2023). Marketing standards are not sufficiently promoting sustainable products, and information in labelling to consumers remains contentious and subject to different levels of application. Policy is more lacking however to respond to and reflect emerging trends and challenges in market demand such as alternative proteins and fish as sentient beings, and it is challenging to address the dual policy objectives of supplying the EU market with fish (partly from imports) and the need to protect EU fishing operators and ensure a level playing field with imports. Policy provides for the collection of data which are used annually to report on the economic performance of the fishing fleet, and EMFAF can to some extent help to address challenging financial operating conditions. However, EMFAF funds are necessarily limited, and it can be argued that the needs of the fisheries sector exceed the funds provided. Additionally, fisheries policy is unable to address external factors (e.g. macroeconomic drivers of prices) impacting on the operating costs faced by the sector.

Social: Social sustainability is a key objective of the CFP. Restriction of access within 12 nautical miles has helped with conservation and maintenance of traditional fishing activities on which the social fabric of many coastal fishing communities depends. Policy covers work and safety conditions onboard fishing vessels, and requires the collection of data to track some social data e.g. employment. However, as noted earlier, trends in vessel numbers and fisheries sector employment are downward, fisher populations are ageing, and there are significant challenges in attracting new labour into the sector. Increased levels of automation and technology in the future could further reduce pressure on employment, and policy is weak in addressing recruitment challenges and in supporting the upskilling of labour (for example in technological developments) and the re-training of individuals looking/needing to exit the sector.

Technological: Policy provisions that require selectivity in fishing methods and reduced pollution and fishing gear waste, are quite extensive across the different policies, as presented above. However, the CFP and other policies are largely silent about fisheries infrastructure, which is a weakness given the potential needs to re-purpose and upgrade infrastructure to address the impacts of climate change on coastal areas and the potential need for infrastructure to support higher/better levels of technology and the introduction of digital tools throughout the fisheries value chain for efficiency, control, and marketing purposes. While the amended Control Regulation places emphasis on digital tools, the CFP as a whole (being now more than 10 years old) is weak in terms of an emphasis on the use of technology, AI, and digital tools. Funds to support technological upgrades to assets in the fisheries sector, and training to those working in it to be able to respond to the need for, and benefits of, new technologies are likely to be very considerable and may require additional policy support.

Legal: A strength of the amended Control Regulation is that it will modernise control and result in recreational fisheries and the under 12 m sector increasingly falling within the control provisions. However, the expanding nature of regulations more broadly which impact on the fisheries sector (control, markets, labour and safety standards, selectivity, waste, green transition) is resulting in associated increases in administrative burden for Member States and private sector fishing operators, despite efforts aimed at simplification, and increased costs of doing business for the fisheries sector. Levels of trust by fishers with policy makers and EU institutions is low, despite efforts by the European Commission to explain the need for relevant policies and legislation to be introduced and mechanisms for stakeholder participation in decision-making (e.g. Advisory Councils, 'Have our Say'). As noted for other PESTLE criteria, the legal provision of funding, primarily through EMFAF but also through other assistance mechanisms, provides considerable funds but is probably not sufficient to support all the needs of the sector if all relevant policy provisions are to be implemented, meaning that successful implementation of policy may be unrealistic.

Environmental: Environmental sustainability is a key objective of all the policies discussed above. Policies that are more recent and tools and assistance mechanisms related to them focus specifically on environmental needs and challenges, and generally provide robust policies to address the environmental challenges listed in the earlier PESTLE analysis. However, funds available to support the green transition to carbon neutrality are unlikely to be sufficient to support all fishing vessels. Moreover, while some improvements in stock status in recent years are notable, the CFP has been unable through its implementation to result in achieving MSY for many stocks even though this has been a clearly stated objective since its introduction in 2013. Data and science do not allow for routine stock assessments for several stocks.

2.4. Opportunities, challenges and prospects

The table below presents a SWOT analysis summarising the main elements to emerge from the above analysis. Strengths and weaknesses relate to ‘internal’ aspects i.e. of the policies themselves, while Opportunities and Threats relate to ‘external’ factors not specifically related to policy content.

Table 5 - SWOT of EU policies and initiatives relating to EU fisheries

Strengths	Weaknesses
<p>Policy <i>focuses</i> strongly on <i>environmental</i> (including selectivity and climate change mitigation), <i>economic</i> and <i>social</i> objectives.</p> <p>Policies are comprehensive in covering <i>many aspects</i> of the fisheries sector.</p> <p>Many policies are <i>new/recently amended</i> reflecting emerging needs.</p> <p>Policies contain targets to <i>drive change</i> and enable later evaluation of success against objectives.</p>	<p><i>Insufficient</i> policy content and/or support for <i>adaptation</i> to climate change, <i>responding</i> to and benefiting from technology, recruitment to address an ageing fisher population and fisher demographics, and <i>upskilling</i> of the fisheries sector labour force.</p> <p>Policy results in administrative burden and a need for greater <i>simplification</i>.</p> <p>Policy provisions still provide <i>exemptions for under 12 m</i> vessels and <i>recreational</i> fisheries.</p>
Opportunities	Threats
<p>Increased <i>coherence</i> between fisheries-related policies and other policies.</p> <p><i>Innovative and expanded range</i> of financial instruments and support mechanisms provide increased <i>funds</i> and support for policy implementation.</p> <p>Increased political will to reflect <i>scientific advice</i> in the setting of quotas.</p> <p>Streamline and enhance <i>decision-making within ACs</i> to enable the regionalisation of conservation measures provided for in the CFP to be better used.</p> <p>Stakeholder <i>consultation mechanisms</i> allow for good policies (in terms of effectiveness, efficiency, coherence, relevant, and EU added value).</p>	<p>Low levels of trust from private sector fisheries sector stakeholders with EU policy-making institutions negatively impacts on adherence/compliance (in part due to cost implications of policy and associated regulations coupled with insufficient financial support to respond to changing policy).</p> <p>Even if policy <i>content</i> is robust, levels of <i>implementation</i> and adherence varies considerably between EU Member States.</p> <p><i>Insufficient funding</i> (EU and other financing mechanisms) to enable private sector actors and Member States to respond to policy requirements.</p> <p><i>Uncertainties</i> over external challenges and drivers of change make it difficult to specify appropriate policies to respond to all needs.</p>

Source: own elaboration

2.5. Policy recommendations

The following policy recommendations emerge for EU fisheries:

Policy Recommendation 1: Increase direct support, address constraints and introduce innovative funding mechanisms to fisheries sector operators for green and digital transition

Existing initiatives supporting the twin transition are mainly at a high-level or targeting the technology and training providers. Fuel-efficient vessel design and new technologies, such as battery propulsion, require a reconsideration of fishing capacity definitions (currently based on length, GT and kW) and associated fleet capacity limits as this may be a barrier to transition. Direct support to operators is limited to EMFAF, which is not sufficient in terms of scale or delivery mechanisms to support the digital transformation and decarbonisation of the sector. The European Economic and Social Committee (EESC) calls for exploring other sources of financing, such as the European Investment Bank, using customs duties for carbon border adjustment, and mobilising resources linked to energy taxation and redirecting them to the fisheries sector (EESC, 2023). Innovative technical support and funding mechanisms are also required for helping the sector to adapt to the impact of climate change on operations (e.g. changing conditions and fish distributions).

Policy Recommendation 2: Develop a fisheries-specific technology policy

Technology provides opportunities and challenges for fisheries sector operators (catching, processing and marketing operators), the providers of goods and services to fisheries sector value chains, and for EU institutions responsible for governance of the sector. AI and digital tools are used to differing extents by stakeholders, and policy on these issues is disparate and spread across various other policy instruments. Given the importance of technology and digitalisation for the future, a single overarching fisheries sector policy on technology (with related implementation and support mechanisms) would be beneficial (and should be coherent with other EU policies related to this topic).

Policy Recommendation 3: Develop market standards that ensure a level playing field in the production of seafood and other marine products imported into the EU

The EGD requires EU operators to work to higher environmental and social standards, and to provide even greater levels of transparency for consumers to make informed decisions. This needs to be supported by market policy and rules to prevent unfair competition from non-EU imports, ensuring a level playing field. This is particularly important for seafood as the EU imports twice as much as it produces. For fisheries (and aquaculture) products this market support is likely to come in the form of enhanced market standards that require certain environmental and social criteria as a minimum and recognise higher standards.

Policy Recommendation 4: Increase policy support for the fisheries sector labour force

The fisheries sector must compete with other blue economy and onshore sectors for labour, in the context of increasing urbanisation, expectations by employees of minimum working and safety conditions, and changing attitudes to work. Policy needs to be better and specifically address ways to ensure recruitment of new labour to the sector to replace an ageing workforce, to upskill fisheries labour, and where appropriate help with transition out of the fisheries sector into other employment opportunities. A specific policy or communication on fisheries sector labour issues could be considered for preparation, such as an own initiative report (INI).

Policy Recommendation 5: Tighten policy content and implementation mechanisms to better support environmental objectives

Environmental sustainability is the bedrock on which economic and social sustainability relies. In some cases, annual quotas may be legitimately set above scientific advice based on economic and social concerns, but quotas are sometimes set due to political compromise. Regionalised conservation measures through Advisory Councils have been slow to be adopted, and the causes of this slow adoption need to be addressed. Across many policy provisions and requirements (e.g. fisheries control), the speed and quality of implementation between Member States is variable. The EMFAF is conditional on Member States implementing the CFP, but the policy could include stronger sanctions for Member States that do not fulfil their obligations.

Policy Recommendation 6: Re-build trust between sector stakeholders and EU institutions through review of policy development, implementation and evaluation processes

Stakeholder involvement in policy development is critical to ensure policy is fit for purpose, and to ensure there is stakeholder support for its implementation. This requires continued efforts at reducing administrative burden and simplification, but potentially also adjustments to the processes used for policy development, implementation and evaluation which involve EU institutions and fisheries sector stakeholders. A review of such processes with recommendations for improvements could be beneficial.

3. COMMON FISHERIES POLICY – AQUACULTURE

KEY FINDINGS

Article 34 of the CFP Basic Regulation establishes the **open method for coordination (OMC)**, providing a framework for cooperation in aquaculture, an area where the EU shares competence with Member States. The **main tools** used by the OMC are the provision of non-binding **'guidelines** for the development of sustainable aquaculture in the EU' (2013 and updated in 2021); the preparation of **Multiannual National Strategic Plans (MNSP)** by Member States; and exchange of good practices, facilitated through the **Aquaculture Assistance Mechanism (AAM)** since 2021. Evaluations of the OMC suggest this shared competency works well.

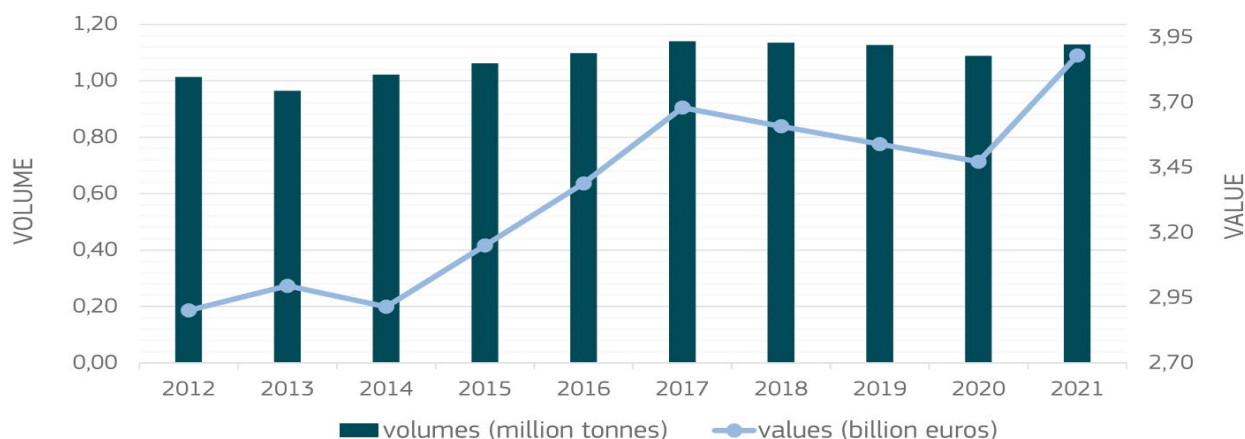
However, there are still challenges to growing the size and value of the sector, especially in the face of climate change-related impacts and geo-political events that are affecting input costs and availability. This section highlights **three particular challenges** and recommends **policy focus** to help address these:

- Increased emphasis on **growing and diversifying EU aquaculture** to meet EU food security and environmental objectives.
- EU aquaculture considers a long-term **strategic realignment** to adapt to, and benefit from, the expected consequences of **climate change**.
- Support the **development of coexistence** between aquaculture, local communities and other marine economic activities.

3.1. State of play

With an annual production of 1.129 million tonnes (in 2021), the EU is ranked the tenth biggest aquaculture producer in the world, with a value of EUR 4.17 billion. This is an increase of 11% from 2012 to 2021 in volume and a substantial 34% in value, although much of this growth occurred in the 2015 – 2017 period (EUMOFA, 2023).

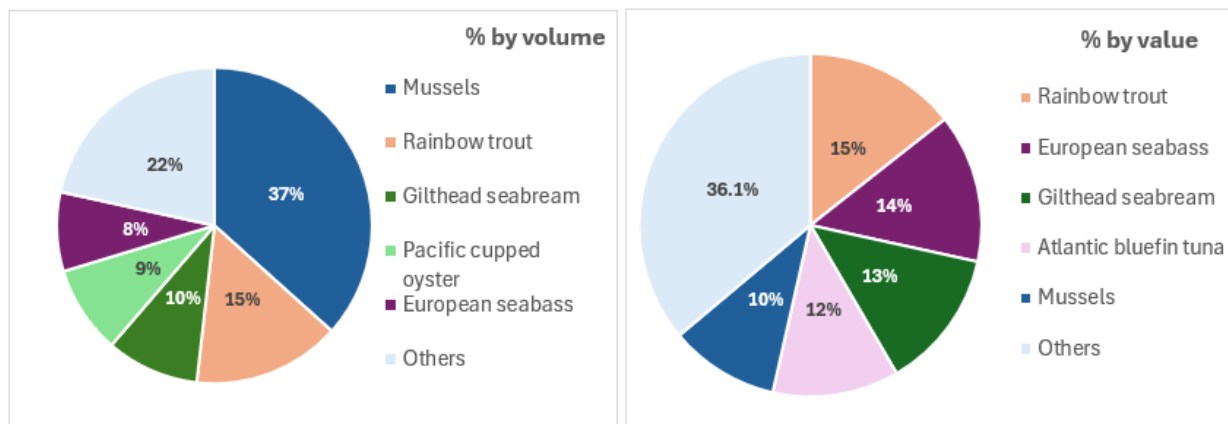
Figure 1 - Aquaculture production in the EU (2012 – 2021)



Source: EUMOFA (see [The EU fish market 2023 edition](#), p. 106)

EU aquaculture is based on relatively few species and is dominated by mussels (36% by volume) and trout (17%), see figure below. The recent increase in value is mainly due to the increased production in high value products such as trout, salmon, seabass and the ranching of blue fin tuna, combined with strengthening prices for key species such as seabream, oysters, clams and seaweed (EUMOFA, 2023).

Figure 2 - Main species produced in the EU-27 aquaculture (2022)



Source: FAO FishStatJ database

EU aquaculture production is mainly concentrated in four countries: Spain (24%), France (21%), Greece (11%) and Italy (10%). These four countries account for 67% of the total EU aquaculture production volume. The EU represents 1.0% of the world aquaculture production in volume and 1.5% in value.

3.1.1. The Common Fisheries Policy

The scope of the CFP includes aquaculture “in relation to market measures and financial measures in support of its objectives, fresh water biological resources and aquaculture activities” and provides a high-level framework to ensure it contributes to “long-term environmental, economic, and social sustainability”. It also refers to its importance in the EU’s food security. Article 34 of the CFP is specific to aquaculture and specifies its need to be competitive and innovative, integrated in maritime spatial planning and for Member States to establish multi-annual national strategic plan (MNSPs) for the development of aquaculture activities on their territories.

Unlike wild fisheries management, the management of aquaculture in the EU is a shared competence, with EU Member States having greater control in many of its aspects. To assist Member States, a voluntary ‘Open Method of Coordination’ (OMC) was introduced and consists of various different mechanisms to ensure EU aquaculture develops in a coherent and sustainable way across the EU. These include:

1. Non-binding ‘Strategic guidelines for a more sustainable and competitive EU aquaculture’ for the period 2021 to 2030 (fully revised in 2021), hereafter referred to as the ‘strategic guidelines’. These guidelines constitute the central pillar of the strategic coordination of aquaculture policy in the European Union and seek to build an EU aquaculture sector that is competitive and resilient; participates in the green transition; ensures social acceptance and consumer information; increases knowledge and innovation. Based on these, Member States are asked to review their MNSPs where they lay out their plans, objectives and appropriate measures for the promotion and development of sustainable aquaculture in their territory. A mid-term evaluation of the strategic guidelines and the MNSPs will be conducted in 2025.
2. The development of an EU ‘Aquaculture Assistance Mechanism’ (AAM) in 2021 to provide logistic, administrative and technical assistance to the Commission and to the Member States and stakeholders in the implementation of the strategic guidelines. The AAM (i) collects and shares

knowledge, good practices, promoting relevant events, disseminating news and other information about sustainable aquaculture in the EU; (ii) provides technical expertise via guidance documents and background papers; (iii) develops training and e-learning tools on these guidance documents and background papers; (iv) replies to questions from Member States and stakeholders on the guidance documents developed and (v) organises events, workshops, conferences, training, and technical meetings directed to EU Member States, the aquaculture industry and other stakeholders to support the implementation of the EU strategic guidelines on aquaculture.

The implementation of the Strategic Guidelines and the MNSPs is being supported by funding made available in the European Maritime and Fisheries Fund (EMFAF), which runs from 2021 to 2027. Other EU funding programmes, such as Horizon Europe or BlueInvest II, also finance aquaculture-related research and projects. The Aquaculture Advisory Council (AAC) provides advice to the European Commission and Member States on any new legislative, regulatory or legal measure at European or national level that affects aquaculture.

In 2022 the European Parliament resolution of 4 October 2022 on ‘striving for a sustainable and competitive EU aquaculture: the way forward’ (European Parliament, 2022) provided a succinct analysis of the contribution of aquaculture to food security in the EU and the barriers to expanding this. The key points were:

1. EU aquaculture contributes a very small proportion (1.15%) of global aquaculture production, providing only 10% of seafood consumed in the EU, with a declining trend in both sales and consumption.
2. One of the main constraints to the expansion of aquaculture is the slow and complex legal procedures required for the establishment or expansion of farm operations, hindering the development of the sector, discouraging corporate investment and generating excessive costs for the sector, while promoting imports from non-EU countries.
3. On a more positive note, much of the EU’s aquaculture is relatively small-scale, focusing lately on shellfish production that is well integrated into the local environment.
4. Organic aquaculture is also increasing in some – but not all – Member States. In addition, freshwater pond aquaculture, algae and shellfish farming can all contribute to decarbonising the EU economy and mitigating climate change.
5. It should be noted that carbon sequestration by algae and shellfish farming is limited, depending on the production method and use when the product is harvested.

3.1.2. Other EU policies impacting the aquaculture sector

The ‘*European Green Deal*’ provides an overarching policy framework for EU aquaculture, both in terms of its transformation and the mainstreaming of sustainability. The key policy elements include:

1. Moving towards net zero through appropriate climate change adaptation and mitigation, including promoting low and / or multi-trophic aquaculture.
2. Move towards a circular economy, especially on aquafeed inputs and the re-use / recycling of infrastructure components.
3. Formally embracing the ecosystem approach to aquaculture (EAA).
4. Fostering innovation in aquaculture e.g. through the European Aquaculture Technology and Innovation Platform (EATIP).
5. Developing a high-skilled and inclusive career path, especially for younger persons.

3.2. Key challenges

A PESTLE analysis (see **Table 6** overleaf) has been used to **identify the key challenges to developing sustainable aquaculture in the EU**. This provides a comprehensive framework to consider the external factors that create challenges for EU operators within aquaculture sector. Following this overview, we expand on some key challenges identified across several PESTLE categories.

Table 6 - PESTLE analysis of the EU aquaculture sector

Political	Economic	Social	Technological	Legal	Environmental
<i>Political or politically motivated factors that could affect the sectors.</i>	<i>Overall, economic forces that could affect sector operators.</i>	<i>Social aspects, attitudes, and trends that influence the sectors and target markets.</i>	<i>Technologies that can affect the way operators make, distribute, and communicate their products and services.</i>	<i>Current and future legal and regulatory requirements impacting the sectors.</i>	<i>Environmental forces impacting the sectors, e.g. location, surrounding environment, and natural resources used by operators.</i>
<p>Current guidelines lack of ambition to grow sustainable aquaculture development.</p> <p>External geo-political issues that affect investment confidence</p> <p>Internal EU divisions between Member States affecting product and HR mobility.</p> <p>Trade barriers between the EU and key market partners e.g. China, UK, USA, others.</p> <p>Development of aquaculture in EU outermost regions is lagging.</p>	<p>Oil and gas costs affecting more energy-intensive aquaculture.</p> <p>Increasing global competition and prices of scarce resources e.g. fishmeal, soya, etc.</p>	<p>The small-scale nature of much EU aquaculture makes less attractive as a career path.</p> <p>Stock welfare issues still need to be addressed systematically across the sector.</p> <p>Lack of social licence for increased aquaculture production, esp. in coastal waters.</p> <p>Continued consumer preference for wild over farmed seafood and lack of consumer information.</p>	<p>Lack of species diversity in EU aquaculture.</p> <p>Continued evolution of aquatic pathogens and a need for a common disease management across the EU.</p> <p>Vulnerability to extreme weather events.</p> <p>Lack of sufficient circular alternatives to fishmeal.</p> <p>Difficulties in upscaling commercial recirculating aquaculture systems (RAS).</p> <p>Poor uptake of innovation by SMEs, esp. for low / multi-trophic systems.</p> <p>Limited use of AI and block chain technologies to ensure traceability of farmed seafood products.</p>	<p>Continued complexity and latency of aquaculture licensing and permitting.</p> <p>Slow integration into MSPs and allocation of space to aquaculture.</p>	<p>Vulnerability to extreme weather events exacerbated by climate change.</p> <p>Commercial viability of integrated multi-trophic aquaculture systems still unproven.</p> <p>Increasing pressures on-farm stocks e.g. micro-jellyfish, cormorants, otters, herons, etc.</p> <p>Potential genetic and trophic impacts of escapees from farms.</p> <p>Availability of and competition for good quality fresh water.</p>

Source: own elaboration

3.2.1. Challenge 1: Maintaining the competitiveness of EU aquaculture in the face of the high cost of inputs and meeting regulatory requirements

Consumers of seafood products farmed in the EU reasonably expect these to be sustainably produced, subject to high welfare standards and safe to eat. They also expect these products to be competitively priced and affordable. The *de facto* EU policy for aquaculture development through the OMC and the associated guidelines stress that need for a level playing field and the competitive advantage of high environmental, animal health and consumer protection standards across the EU. While this strategy is sound, the additional costs of meeting these standards may put EU farmed seafood products at an economic disadvantage with cheaper, less rigorously managed products from non-EU countries. One well-known example is where the EU has imposed countervailing duties on imported, subsidised portion-size rainbow trout from Turkey (AAC, 2019).

The recent (since 2020) increases in energy costs have both directly and indirectly impacted EU aquaculture profitability and competitiveness. In particular land-based intensive farming, such as the recirculating aquaculture systems (RAS) extensively used in Denmark and increasingly used elsewhere in the EU to offset both nutrient outputs and the impact of rising surface water temperatures, have been particularly affected. Indirect costs – such as the impact on the energy-intensive production of fishmeal and oil – have also impacted finfish farming across the EU. For instance direct energy use in EU sea bass and sea bream farming increased by 0.7% over 2020 and 2022 but resulted in an increase in energy cost of 70% and indirectly feed costs increasing by 9.1% (STECF, 2023b).

Another cost is that of regulation. Both the 2013 and the 2021 strategic guidelines for the sustainable development of EU aquaculture stress the need for efficient, timely and proportionate licensing systems. While progress since 2013 has undoubtedly been made, licensing is still often subject to multi-jurisdictional review and approval. This all adds cost, inhibits development and can discourage innovative moves into new species or sea areas.

3.2.2. Challenge 2: Adapting EU aquaculture to – and mitigating its contribution to – climate change

Climate change is already demonstrating its potential to impact food production systems and aquaculture is no exception. The EU has funded a number of ground-breaking studies to examine the potential impact of climate change in European aquaculture and initiated development of guidance and tools for its adaptation and mitigation e.g. Horizon 2020's CERES and Clime Fish projects¹³.

Climate change adaptation and mitigation is included in the recent 2021 strategic guidelines – and has therefore been translated in MS action through their MNSPs – but there needs to be more focused action and support to EU aquaculture operations in both adapting to the effects of climate change and mitigating their own contribution to greenhouse gas (GHG) emissions.

In terms of adaptation, its effects will also provide opportunities for 'realigning' the geography and nature of current aquaculture and stimulating a diversification into new, possibly lower-trophic species. There are also potential on-farm solutions to adapting to more variable or extreme environmental conditions, such as increasing partial recirculation in flow-through farms.

In terms of climate change mitigation, research shows that the greatest opportunities for high-volume reductions in GHG emissions are likely to come from changes in upstream and downstream parts of the supply chain. In particular, the use of low-carbon raw materials for aquafeed will be key. Life cycle

¹³ <https://ceresproject.eu/> and <https://climefish.eu/> respectively.

analysis approaches will allow the mitigation intervention points over the whole value chain to be identified and allow carbon-related costs to add to conventional commercial factors for decision-making, both for operators as well as MS sustainable aquaculture sector development planning.

3.2.3. Challenge 3 - Obtaining the social licence for establishing and operating aquaculture operations in the EU's sea and landscapes

Aquaculture is a relatively recent addition to our landscape, both on land and at sea. It is also developing and diversifying, for instance with offshore shellfish and seaweed farms now starting to appear around the coasts of Europe. This has implications for the joint use of the EU's already often congested marine space (see Section 4.2.1), but also impacts the social licence to operate (SLO) in what are often special environments valued for their natural beauty or their lack of previous development. This has implications for ability for EU aquaculture to further grow and diversify.

While not specifically included on the 2013 strategic guidelines for sustainable aquaculture development, SLO is explicitly mentioned in the 2021 guidelines under the subject of integration with local communities. This stresses the need for (i) early and transparent engagement in the planning of new aquaculture activities and (ii) developing synergies with other maritime economic activities to increase the overall SLO with other users. Given the increasing public awareness and concern over the visual impact and environmental sustainability of some forms of aquaculture, especially the open-water pen farming of fin fish such as sea bass and sea bream, the first point above is particularly important. It also stresses the need for a long-term engagement with aquaculture development, coastal communities, local planners and concerned NGOs over the role of aquaculture in growing sustainable local seafood production and employment and balancing this with local sensitivities and needs. One other indirect but notable impact of SLO is that on encouraging recruitment into aquaculture. Like fisheries, aquaculture operators are struggling to attract young people either into the industry or onto allied education and training. Increasing the perception of EU aquaculture as a sustainable and ethically responsible employer would have consequent benefits for recruiting and retaining staff, especially in remoter rural or coastal areas.

3.3. Do EU policies address the challenges?

The challenges identified via the PESTLE analysis are mapped against the EU and international initiatives supporting sustainable EU aquaculture development to explore the extent to which these policies:

- Explicitly recognise and address the challenge [strength].
- Recognise, but no or limited action to address the challenge [weakness].
- Do not consider the challenges [weakness].
- May negatively impact the sector's ability to address the challenges [weakness].

Table 7 - Mapping of EU aquaculture policy against PESTLE challenges

Policy areas relevant to aquaculture	P Political	E Eco- nomical	S Social	T Techno- logical	L Legal	E Environ- mental
Strategic Guidelines (2013 and 2021) and MNSPs	W	W	S	S	S	S
Aquaculture Assistance Mechanism (AAM)		S	W	S	S	S
European Green Deal	S	W	W	S	W	S

Source: own elaboration

Note: **S** = explicitly addresses the challenge (strength); **W** = mentioned but no or limited action (weakness)

Political: Given population growth over the short-term, the need for low-carbon animal and plant protein production that is attainable from aquaculture and the limited growth in this available from finite capture fisheries, the increased farming of finfish, shellfish and algae has considerable scope to meet the EU’s food security and environmental objectives of the Green Deal and other high-level policy ambitions. While the recent (2021) strategic guidelines provide a largely holistic approach to improving the competitiveness and sustainability of EU aquaculture (see **Table 7** above), it is recognised that it could be more ambitious in terms of setting quantitative objectives for the growth (European Parliament, 2022).

Economic: Another separate weakness is the need for greater awareness in the OMC as a whole on externalities that impact the competitiveness of EU aquaculture, such as geo-political issues that affect investment into the sector, both in the EU and its outermost regions, as well as the cost-based for the high-performing EU aquaculture sector against its less regulated and ever-expanding¹⁴ external competition. Similarly, while the European Green Deal will ultimately result in more competitive and resilient food production, there is a need to ensure that the transition required does not unnecessarily undermine economic competitiveness over the shorter-term as the inevitable costs are incurred and production adjusts to the new and dynamically changing ‘norm’.

Social: As suggested in **Section 3.2.3** above, the recent (2021) strategic guidelines recognise the need to both increase the social licence to operate aquaculture, especially in sensitive areas, as well as to improve communication to ensure information that is more accurate and transparency about how aquaculture activities are carried out. This will need particular attention in order to ensure that aquaculture can expand and develop in new locations. This is an area that the AAM can support, diversifying from its current technical and environmental focus to broadening communication on the positive role of aquaculture, targeting younger people and consumers who are the decision-makers of the future.

Technological: The PESTLE analysis is more positive for the technological challenges. EU aquaculture is having to adapt to climate change-related challenges such as warmer waters, declining and less predictable surface and ground water resources, the increased frequency of extreme weather events and ever-changing biosecurity threats. Much of this is being addressed through technological means, such as increased water recirculation, better environmental and stock monitoring, the use of AI and

¹⁴ Large fish and fish product producers in the EU neighbourhood area are planning by 2030 to double their aquaculture production compared to 2020 levels (European Parliament, 2022).

machine learning, with some profound changes through genetic technologies. Innovation is a top priority in the EU scientific and research strategy and is supported through Horizon Europe and other funds that encourage collaborative and innovative research. This said, there are still challenges in ensuring innovation is applied to researchable constraints to sustainable development and growth of the EU aquaculture sector, and this is suitably dynamic so emerging priorities are identified and prioritised across the EU.

Legal: Unlike capture fisheries, instead of the CFP driving regulation, most aquaculture legislation is developed by Member States. The OMC is designed to provide a common framework based around the strategic guidelines and supported by good practice via the AAM. This approach was first promoted by the 2013 guidelines and continues to be an important focus of the more recent 2021 version. It is, however, recognised that EU legislation affecting aquaculture – whether this be for environmental protection, veterinary matters or CMO issues - is complex and not always understood by all relevant actors. This may have contributed to the European Court of Auditors' finding that despite the focus on this issue, the time taken for aquaculture licensing across six Member States selected as case studies had in most cases remained stable, increased or showed no clear trend (ECA, 2023).

Environmental: Most recent policy and guidance to the EU aquaculture sector is strongly connected with environmental sustainability. In particular, the recent (2021) guidelines cover the better known concerns such as aquaculture's impacts on receiving waters but are forward-looking in that they also address climate change, the circular approach to waste management and a new focus on moving to lower-trophic aquaculture, including algal culture. One area which has been identified as needing further action is protecting aquaculture from predators such as cormorants, where a balance of nature conservation and sustainable livelihoods needs to be reached (European Parliament, 2022).

3.4. Opportunities, and prospects

Table 8 presents a SWOT analysis summarising the main elements to emerge from the above. Strengths and weaknesses relate to ‘internal’ aspects i.e. of the policies themselves, while Opportunities and Threats relate to ‘external’ factors not specifically related to policy content.

Table 8 - SWOT of EU policies and initiatives relating to EU aquaculture

Strengths	Weaknesses
<p>Strong and foresighted focus on <i>environmental</i> issues related to sustainable aquaculture.</p> <p>The OMC approach is <i>not overly-prescriptive</i> and encourages strategic solutions tailored for individual Member States.</p> <p>Examples of best practice for <i>restorative aquaculture</i> systems in the EU.</p> <p>The establishment of mechanisms (such as the AAM) and stakeholder advisory groups (e.g. the AAC) have helped develop a strong <i>common understanding</i> and level of <i>coherence</i> across the sector.</p>	<p>Policy could be regarded as <i>over-precautionary</i> on environmental issues and <i>does not</i> actively and sufficiently <i>encourage growth</i>.</p> <p><i>MNSPs</i> are voluntary and could be more explicitly and <i>better linked to EU funding</i>.</p> <p>Aquaculture <i>stakeholder inclusion</i> in maritime spatial planning (<i>MSP</i>) needs to be increased to ensure it remains relevant and efficient.</p> <p>The costs of transition to <i>low carbon aquaculture</i> may have short-term implications of the competitiveness of EU aquaculture.</p> <p>There are limited vocational training courses and apprenticeships to <i>attract young people</i> into the sector.</p>
Opportunities	Threats
<p><i>Simplification</i> of aquaculture <i>administration</i> to encourage investment and support EU competitiveness.</p> <p>Potential for <i>co-location</i> of aquaculture with other <i>offshore developments</i>.</p> <p>Increasing <i>linkages</i> and contribution of small-scale aquaculture to the <i>local blue economy</i> and coastal communities.</p> <p>Increasing the SLO of EU aquaculture through <i>better communication, awareness</i> and <i>education</i> at multiple levels.</p> <p>Development of EU-wide <i>animal welfare standards</i> and best practices for farmed aquatic organisms.</p>	<p>Increasing competition for <i>marine space</i>, especially from larger, most strategically important economic activities such as offshore renewable development.</p> <p><i>Increasing pressure</i> on coastal and marine <i>water quality</i> with coastal populations, tourism and climate change.</p> <p>Increasing public concern over the welfare and environmental sustainability of some forms of aquaculture and consequential <i>loss of social licence to operate</i> (SLO).</p>

Source: own elaboration

3.5. Policy recommendations

The following policy recommendations emerge in relation to EU aquaculture:

Policy Recommendation 7: Increased emphasis on growing and diversifying EU aquaculture to meet EU food security and environmental objectives.

As noted by various texts from the European Parliament (European Parliament 2018 and 2022), EU aquaculture has the potential to grow to both reduce the dependence on non-EU country imports and meet the environmental objectives of the Green Deal, but this has not been realised in recent years. There is a need for greater policy ambition to achieve this sustainable growth and to provide the necessary structural support to facilitate increased and diversified farmed seafood production. This may need the identification of quantitative objectives for the growth of this sector in the framework of the 2021 guidelines. It may also be necessary to review the regulatory and other barriers to investment to ensure a growth-forward agenda with proportionate checks and balances for its sustainable development.¹⁵

Policy Recommendation 8: EU aquaculture considers a long-term strategic realignment to adapt to, and benefit from, the expected consequences of climate change.

While climate change represents a fundamental challenge to food production in the EU, it may provide opportunities as sea temperatures rise, including introducing new finfish species and harnessing the high productivity of low trophic species. This will require both a geographical and structural realignment over time, supporting existing aquaculture operations to adapt to changing conditions and laying the groundwork for new or shifting aquaculture development as environmental conditions change. This could also include support at Member State level to link climate change-related strategies in their MNSPs to their EMFAF and subsequent Operational Programmes, associated measures and actions as well as more practical measures such as encouraging offshore aquaculture in more stable environmental conditions.

Policy Recommendation 9: Support the development of coexistence between aquaculture, local communities and other marine economic activities.

Any growth in aquaculture will require a wider appreciation of the role of the sector in contributing to food security as EU and global food production systems are increasingly challenged. While included in the 2021 guidelines, there is a need to facilitate this recognition across a wide range of EU policies, including local development and spatial planning, environmental management, food security, and consumer information provision. This could have three distinct, but related strands, including (i) encouraging aquaculture to engage with local communities and to integrate seafood farming business into the local blue economy, (ii) develop coexistence opportunities with other coastal businesses such as tourism, fishing and wind farming and (iii) increase the visibility and acceptability of farmed seafood as a sustainable alternative to other protein sources, especially if imported over long distances from outside the EU.

¹⁵ For instance the regulation on organic production, given its importance to aquaculture.

4. THE BLUE ECONOMY

KEY FINDINGS

The interconnected nature of the Blue Economy creates a complex and potentially disjointed policy landscape. This led to the **Integrated Maritime Policy** (IMP) in 2007, which included ‘Blue Growth and the Blue Economy’ as one of its 5 cross-cutting policies. In 2021, to integrate the Blue Economy into the **European Green Deal** and the **Recovery Plan for Europe**, the Commission adopted “A [new approach for a sustainable blue economy in the EU](#)”. This is the policy document that currently drives EU policy on the Blue Economy.

The challenges facing fisheries and aquaculture as part of the Blue Economy are:

Demand for marine space: the displacement of fishing and other activities by offshore renewable energy (national targets are nearly double those set by the EU) along with MPA expansion. Co-location of activities and re-powering existing sites should be incentivised. Other Effective area-based Conservation Measures (OECMs) should also be explored.

Ensuring fair green and digital transitions: Small-scale Blue Economy operators are at a disadvantage in terms of knowledge, skills and capital when it comes to decarbonising and adapting to climate change. This will require more direct support than EMFAF alone.

Global competitiveness: The EU shows lower productivity than other regions. Non-EU producers are not faced with the EU’s ambitious environmental and social standards.

4.1. State of play

The ‘Blue Economy’ has various definitions, but the European Commission defines it as all economic activities related to oceans, seas and coasts. It covers a wide range of inter-linked established and emerging economic sectors.¹⁶ The term Blue Economy includes economic activities that are:

- (a) marine-based, including those undertaken in the ocean, sea and coastal areas, such as capture fisheries and aquaculture, offshore oil and gas, offshore wind energy, ocean energy, desalination, shipping and maritime transport, and marine and coastal tourism; and
- (b) marine-related activities which use products and/or produce products and services for the ocean and marine-based activities; for example, seafood processing, marine biotechnology, shipbuilding and repair, port activities, maritime communication, maritime equipment, maritime insurance and maritime surveillance.

Yet, the Blue Economy also includes those parts of the public sector with direct coastal and ocean responsibilities (national defence, the coast guard, marine environmental protection, etc.), as well as marine education and research. The ocean also has economic value that is not easy to quantify, in terms of habitats for marine life, carbon sequestration, coastal protection, waste recycling and storing, and processes that influence climate and biodiversity (European Commission, 2024).

The EU’s annual Blue Economy Report presents a range of economic indicators (**Figure 3** and **Figure 4**) and social indicators (**Figure 5** and **Figure 6**) to quantify the contribution of and identify trends in each of seven ‘established’ Blue Economy sectors. According to the most recent figures, the established

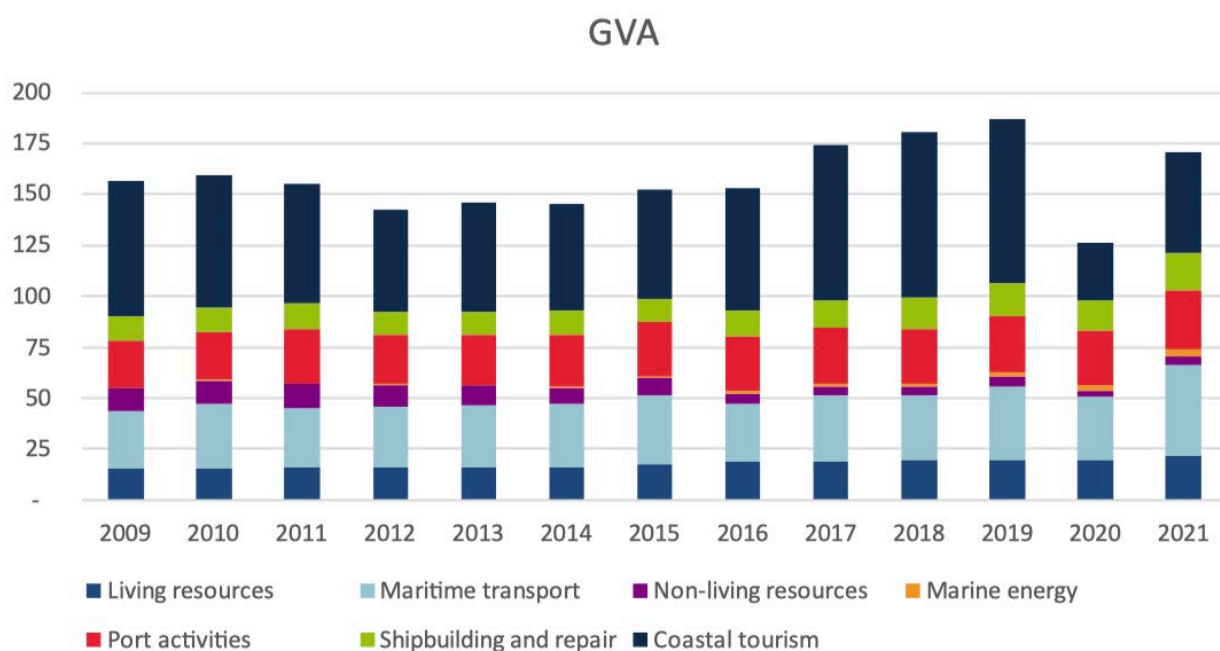
¹⁶ For a list of definitions see: https://www.un.org/regularprocess/sites/www.un.org.regularprocess/files/rok_part_2.pdf.

sectors of the EU Blue Economy directly employed close to 3.59 million people and generated around EUR 623.6 billion in turnover and EUR 171.1 billion in gross value added, representing around 1.5% of the EU’s total GVA and 2% of total EU employment. These figures offer an underestimated picture of the full socio-economic value of the EU Blue Economy, as they refer to seven sectors for which accurate and comparable data are available at EU-level (European Commission, 2024).

Within the EU-27, five Member States account for 70% of the entire EU Blue Economy’s GVA: Germany, France, Spain, Italy, and the Netherlands. In terms of employment, the top five Member States are respectively Spain, Germany, Greece, France, and Italy, representing a combined contribution of 67% of total jobs in the EU-27 Blue Economy.

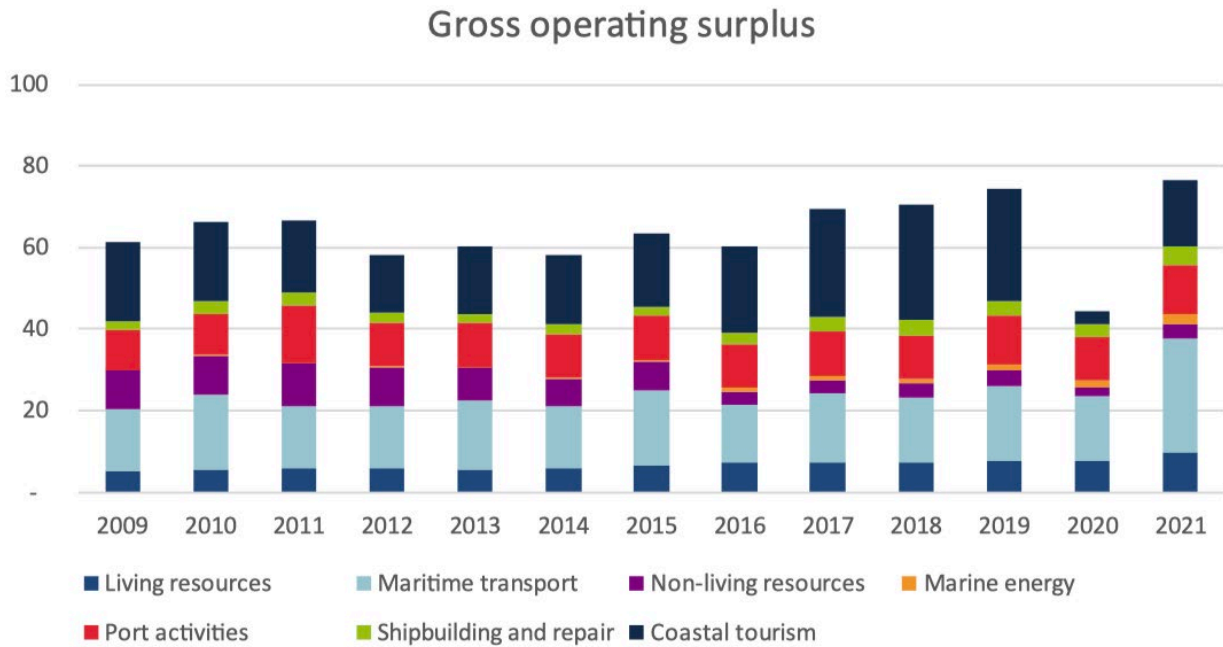
The 2021 figures, the latest available in Eurostat, show the impact generated by the COVID-19 pandemic in 2020 and the recovery the EU Blue Economy had in 2021. In particular, coastal tourism was still the most impacted sector with a 64%-decrease in GVA and a 48%-decrease in employment in 2020. Marine renewable energy is the fastest-growing sector in relative terms, and probably one of the fastest-growing in the EU economy as a whole. The turnover of this sector grew from EUR 91 million of turnover in 2009 to EUR 3.4 billion in 2021 in nominal terms (European Commission, 2024).

Figure 3 - GVA in the EU Blue Economy, in billion EUR



Source: [Blue Economy Report, 2024](#)

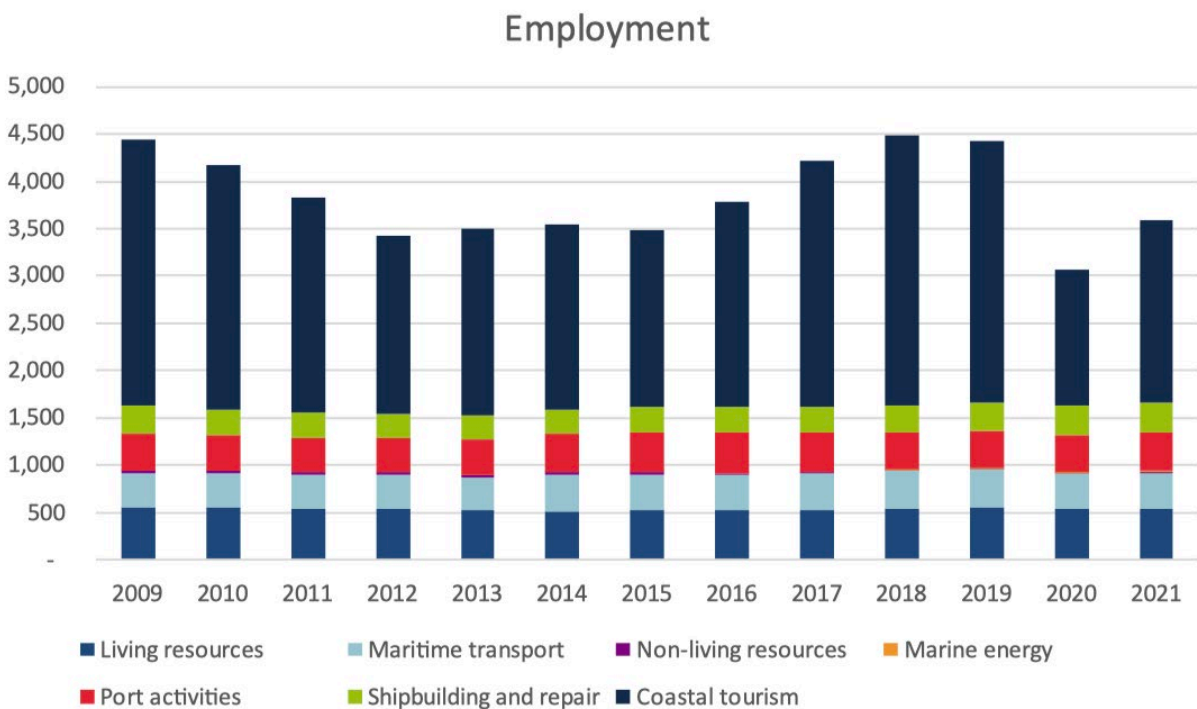
Figure 4 - Gross operating surplus in the EU Blue Economy, in billion EUR



Source: [Blue Economy Report, 2024](#)

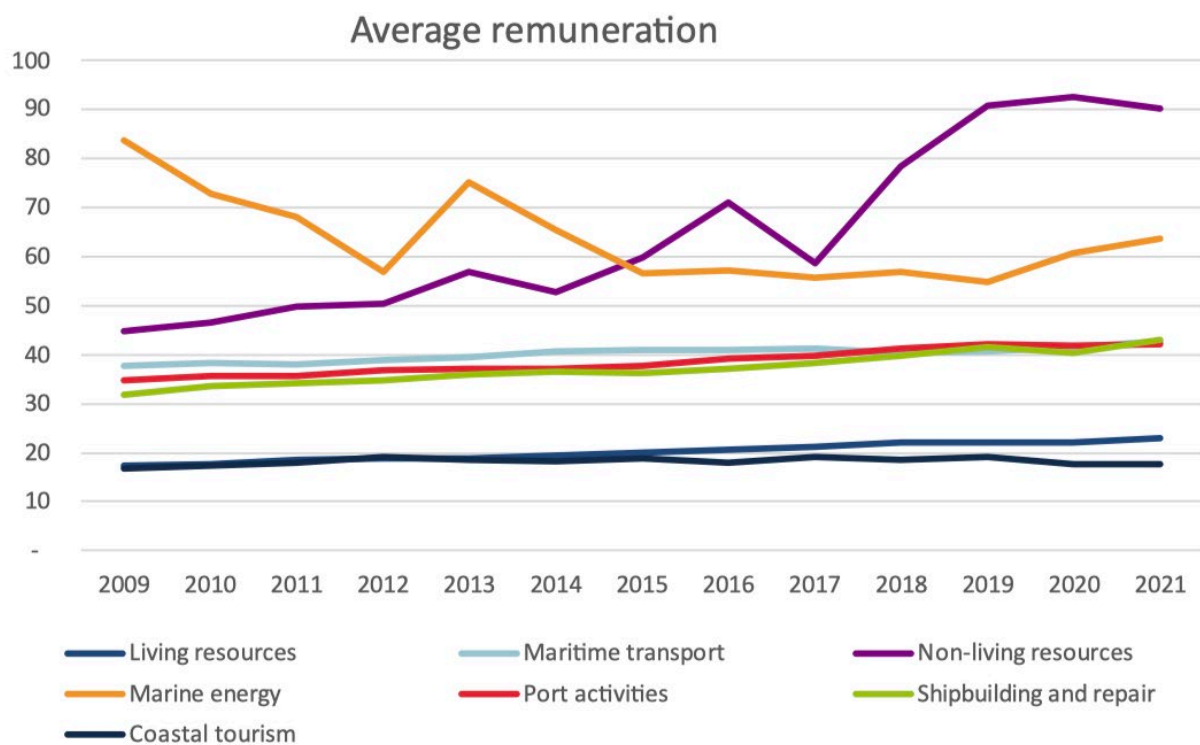
The BE sector ‘*Marine living resources*’ includes fisheries and aquaculture production as well as seafood processing and distribution. Together these account for 15% of employment and 13% of GVA in the Blue Economy. The growth of Marine Renewable Energy, Shipbuilding and repair and Marine living resources sectors has been greater than the average Blue Economy. Despite its growth, *Marine living resources* show the lowest average gross remuneration per employee along with the coastal tourism sector (**Figure 6**).

Figure 5 - Employment (thousand people, FTE) in the EU Blue Economy



Source: [Blue Economy Report, 2024](#)

Figure 6 - Gross remuneration per employee (1 000 EUR) in the EU Blue Economy



Source: [Blue Economy Report, 2024](#)

The Blue Economy Report and the EU’s [Blue Economy Observatory](#), an information hub launched in May 2022, also report on ‘emerging’ Blue Economy sectors, including Ocean Energy (such as wave, tidal and floating solar energy); Blue Biotechnology (including algae production and processing); Desalination; Infrastructure (cables and pipelines) and Robotics (including Marine Autonomous Ships); and Maritime Defence Security and Surveillance. Many of these ‘emerging’ sectors are not new, but the same level of economic and social data are not available compared to the ‘established’ sectors or their maritime component and distinction from other sectors remain undefined. There is considerable involvement of the fisheries and aquaculture sectors in blue biotechnology, with valuable, innovative by-products being developed from wild capture and cultured seafood products. Disposing of fish processing ‘waste’ was previously considered as a cost to operators, but its utilisation is now recognised as a potential revenue stream that enhances economic viability through improved circularity.

4.1.1. Blue Economy policy elements

The interconnected nature of the Blue Economy, its linkages with the wider economy and the marine environment creates a complex and potentially disjointed policy landscape. Below we briefly explain the evolution towards the current structure of the EU’s Blue Economy-related policies.

A growing awareness that all sea-based activities were interconnected, while corresponding maritime policies and decision-making processes were still quite fragmented by sectors, triggered efforts to deploy a holistic and more coherent policy framework.¹⁷ To address this the Commission launched ‘[An Integrated Maritime Policy for the European Union](#)’ (COM/2007/574).

¹⁷ <https://www.europarl.europa.eu/factsheets/en/sheet/121/integrated-maritime-policy-of-the-european-union#:~:text=Common%20fisheries%20policy,The%20common%20fisheriesandtext=It%20is%20based%20on%20the,to%20oceans%2C%20seas%20and%20coasts.>

There are five cross-cutting policies in the Integrated Maritime Policy (IMP) where research and innovation plays a large part.¹⁸ **Table 9** briefly describes these five policy areas and some of the associated initiatives implemented under these. As this shows, while the IMP seeks coherence there are many and varied initiatives that were or continue to be progressed, with the risk that potential users do not know about these projects and platforms and so benefit from the knowledge they hold.

Table 9 - Integrated Maritime policy areas and their initiatives

IMP policy area	EU initiatives
Blue Growth and the Blue Economy	Horizon 2020 Blue Growth calls focused on maritime research and innovation projects. Blue Invest , an EMFAF-funded initiative launched in 2019 to support private sector innovation in the Blue Economy.
Marine data and knowledge	SeaDataNet and EMODNet networks established to share marine data and knowledge.
Maritime spatial planning	MSP Directive (2014/89) establishing an EU-wide framework for MSP. The European MSP Platform to share MSP knowledge and information. COEXIST project on integrating sectors such as aquaculture within MSP and the BLUEMED initiative.
Integrated maritime surveillance	Initiatives to exchange information and data such as: CISE – Common Information Sharing Environment for the EU maritime domain; EMSO – a seafloor research observatory; EUROARGO – a European Research Infrastructure Consortium.
Sea basin strategies	IMP maritime strategies for Atlantic , Baltic , Black Sea , EU's Outermost Regions , the Arctic , the Adriatic and Ionian and two others for the Mediterranean including sustainable development of the blue economy in the Western Mediterranean (COM/2017/0183).

Data source: [EC Research and Innovation](#) and [European Parliament IMP Factsheet](#)

We will focus on the policy area of the IMP with the most direct relevance to the CFP, Blue Growth and the Blue Economy, incorporating fisheries, aquaculture and seafood processing and trade within an established sector of the Blue Economy, 'Marine living resources'.

In September 2012, the Commission adopted a Communication on *Blue Growth, opportunities for marine and maritime sustainable growth* (SWD/2012/494) with the objective to launch a joint initiative with Member States, regions, and all relevant stakeholders to unlock the potential of the blue economy.

To better integrate the Blue Economy into the European Green Deal and the Recovery Plan for Europe, in 2021 the Commission adopted "A [new approach for a sustainable blue economy in the EU](#)"¹⁹. This is the policy document that currently drives EU policy on the Blue Economy as it seeks to align the Blue Economy with the European Green Deal²⁰ and the Recovery Plan for Europe²¹. 'A new approach...'

¹⁸ https://research-and-innovation.ec.europa.eu/research-area/environment/oceans-and-seas/integrated-maritime-policy_en.

¹⁹ [COM \(2021\) 240 final](#).

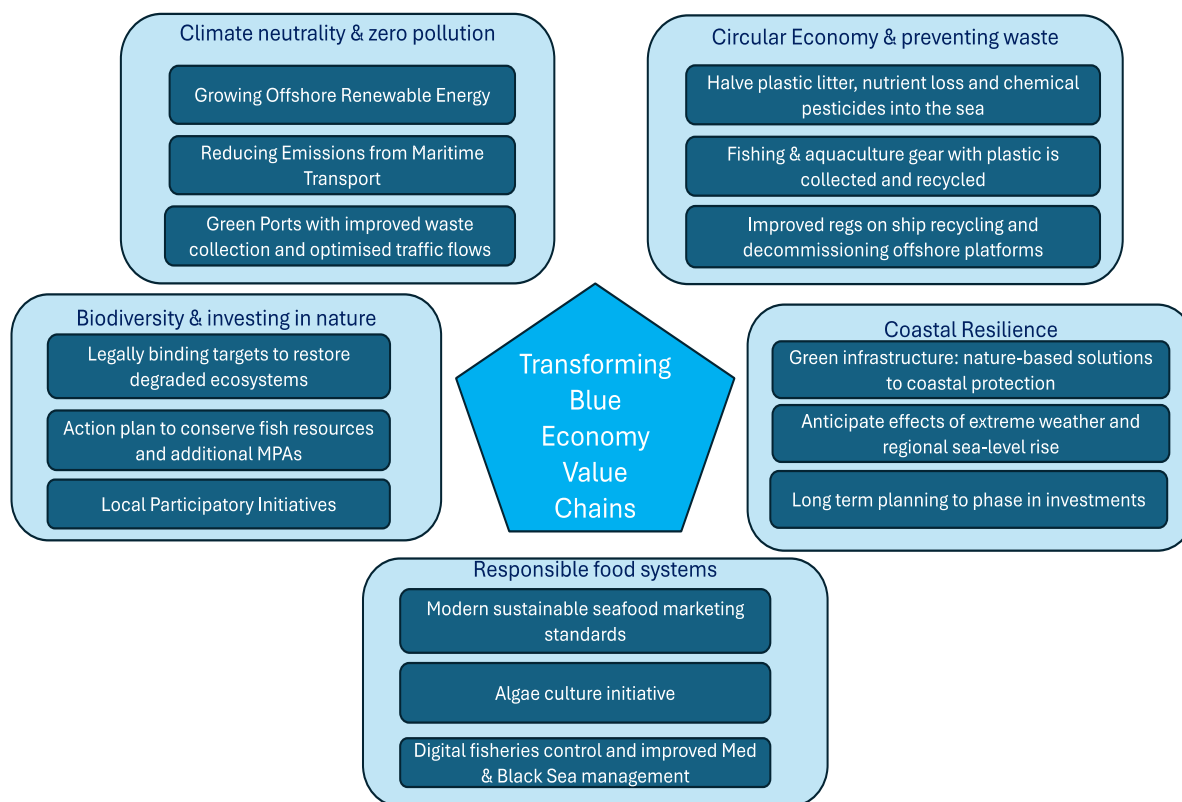
²⁰ [COM\(2019\) 640 final](#).

²¹ [COM\(2020\) 442 final](#).

is described as ‘putting the blue into the green’²² as it integrates Europe’s ocean policy with its economic policy, as summarised in **Figure 7** below.

The policies under ‘responsible food systems’ reflect the seafood-relevant policies within the ‘farm to fork’ part of the European Green Deal, but there are several other policy areas with direct implications for fisheries and aquaculture: reducing emissions from the fishing fleet (as well as maritime transport); action plans to conserve fish stocks and increase marine protected areas (MPAs); collecting and recycling fishing and aquaculture gear containing plastic.

Figure 7 - A new approach for a sustainable Blue Economy in the EU



Source: authors’ own interpretation of ‘A new approach...’ COM (2021) 240

‘A new approach...’ identifies EU policies and strategies of relevance to these Blue Economy policies, for example how the EU Strategy on Adaptation to Climate Change²³ will inform activities related to ‘coastal resilience’. It then sets out how the Commission will support the transformation of Blue Economy value chains through a range of interventions, as summarised in **Table 10** below. Several of these initiatives are a continuation from the IMP initiatives (**Table 9**).

²² https://ec.europa.eu/commission/presscorner/detail/en/ip_21_2341.

²³ [COM \(2021\) 82 final](#)

Table 10 - Supporting the development of a sustainable blue economy

Theme	Initiatives
Ocean knowledge	Ocean Observation Initiative Blue Economy Observatory Methodology for integrating natural capital into economic decisions Expand Copernicus for ocean forecasting
Research and innovation	Horizon Europe mission ‘healthy oceans, seas, coastal and inland waters’ and EU partnership
Investment	EC to work with European Investment Bank (EIB) on incentivising private investors and public development banks in marine pollution reduction EC to cooperate with the European Investment Fund (EIF) on a framework to use shared financial instruments for the Blue Economy BlueInvest to support marine innovation start-ups Revision of State aid rules and Renewable Energy Directive to support roll-out of clean energy
Blue skills and jobs	Create skills partnerships relevant to the Blue Economy EMFAF call for proposals on blue careers Promote transposition of ILO working conditions

Source: own elaboration

In addition to the various Commission initiatives summarised in **Table 10**, ‘A new approach...’ recognises the need to create the right governance conditions that will enable the Blue Economy to develop. It therefore proposes further actions on:

- 1) **Maritime spatial planning:** strategic guidance and support packages for cities and regions, including outermost regions to help them benefit from their large exclusive economic zones (EEZ); and
- 2) **Maritime security:** rolling out the Common Information Sharing Environment for the maritime domain (CISE) to provide an information sharing system across the three key EU maritime agencies, the European Maritime Safety Agency (EMSA); the European Fisheries Control Agency (EFCA), FRONTEX and maritime surveillance authorities across the EU.

There is also recognition that promoting a sustainable blue economy cannot be confined to EU waters alone and so ‘A new approach...’ seeks to defend the EU’s market from unsustainable products and practices, as well as ensuring a level playing field for EU businesses. This is in line with the International Ocean Governance Agenda adopted in 2016 (see **Section 5**).

4.1.2. Other EU policies impacting the fisheries sector as part of the Blue Economy

a. Marine Strategy Framework Directive (MSFD)

This Directive establishes a framework to reduce conflicts in the maritime space and foster synergies between different maritime activities. Through this framework, the MSFD promotes the sustainable growth of maritime economies (the EU’s Blue Economy), sustainable development of marine areas, and sustainable use of marine resources. The MSFD includes a common timeframe and minimum common

requirements for all MS. The holistic nature of the Directive means that fisheries is just one of the industries considered, and some limits may be imposed to allow development of other sectors (e.g. transport, tourism, offshore blue energy) or for nature conservation (marine protected areas). The MSFD requires maritime spatial plans to be established by all Member States at the latest by 31 March 2021. However, development of these plans is lagging in some MS so fishers and other marine users have yet to start engaging with the process to elaborate planning/use of marine space in some countries. The maritime spatial plans are required to be reviewed by Member States every 10 years, and such reviews and any resulting changes could have impacts on the fisheries sector.

b. Employment and social affairs

A European Parliament [fact sheet](#) summarises the evolution of employment policy in the EU including a combination of binding legal acts (with laws on health and safety at work, equal opportunities, anti-discrimination, working conditions and the free movement of workers) and other policy initiatives such as the European Skills Agenda to address skills shortages in the EU; the European Youth Guarantee to ensure people under 30 have options for employment, continued education or training; and the 2021-27 Strategic framework on health and safety at work. A range of funding instruments is in place to support delivery of these initiatives.

Of particular significance to the Blue Economy are the EU initiatives related to health and safety. Operating in the marine environment can be hazardous and fishing is recognised as one of the most dangerous jobs in the world. Statistics do show safety improvements in the fisheries sector, with the number of persons killed in accidents involving fishing vessels falling from 13 in 2018 to three in 2022²⁴. But the statistics only include vessels over 15 m in length and multiple fatalities involving smaller fishing vessels, which tend to be less well equipped with life-saving and communication equipment than larger vessels, are not captured in the statistics.

The 2021-2027 Strategic Framework for Health and Safety at Work²⁵ has three strategic priorities:

- 1) anticipating and managing change in the context of green, digital and demographic transitions;
- 2) improving the **prevention** of work-related accidents and diseases, and striving towards a Vision Zero approach to work-related deaths;
- 3) increasing **preparedness** to respond to current and future health crises.

These are all very relevant to the fishing where succession is a major challenge, in part due to the difficult and potentially dangerous working conditions. DG MARE's Strategic Plan for 2020-2024 states that *"We will therefore continue to pay close attention to labour standards on board, including fishing vessels safety and design, as well as the fair standard of living of fishers."*²⁶ However, there is no detail on what was to be undertaken and no explicit reference to the Strategic Framework for Health and Safety at Work.

Worker conditions within the seafood sector have come under increased scrutiny in recent years. An increased reliance on EU and non-EU migrant labour, often employed through agencies, increases the risk that workers are not treated fairly. The unique and variable nature of fishing led to Member States exempting fishing from limiting work hours as set out in the EU Working Time Directive (2003/88/EC).

²⁴ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Maritime accident fatalities in the EU#In 2022.2C 23 of the 24 fatalities in accidents involving EU-registered vessels were recorded in seas inside the EU](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Maritime_accident_fatalities_in_the_EU#In_2022.2C_23_of_the_24_fatalities_in_accidents_involving_EU-registered_vessels_were_recorded_in_seas_inside_the_EU)

²⁵ [COM \(2021\) 323 final](#)

²⁶ https://commission.europa.eu/system/files/2020-10/mare_sp_2020_2024_en.pdf

However, there is still a commitment to ensuring fishers operate in safe and reasonable conditions. EU Directive 2017/159 Work in Fishing Convention, which required Member States by 2019 to have in force the laws, regulations and administrative provisions necessary to comply with the International Labour Organization (ILO) Work in Fishing Convention (c.188), is further described in section 5.1.2.

c. Industrial policy

The EU's industrial policy aims to strengthen the competitiveness of EU industry and to promote a more sustainable, resilient and digitalised economy that creates jobs²⁷. In May 2021, the Commission updated the EU Industrial Strategy [launched in 2020] to ensure that its industrial ambition takes full account of the new circumstances following the COVID-19 crisis and helps to drive the transformation to a more sustainable, digital, resilient and globally competitive economy.

Fisheries is part of the 'agri-food' industrial ecosystem, one of 14 industrial ecosystems identified within EU industrial policy, which intends to support both green and digital transitions of EU industry. However, despite the EU's reliance on food imports, particularly seafood with the EU consuming twice as much as it produces²⁸, the EU Industrial Strategy did not feature agri-food in its consideration of strategic areas of interest, instead focusing on metals and minerals, semi-conductors, lithium-ion batteries, hydrogen, etc.²⁹

In 2023, the EC produced a Staff Working Document (SWD) "*Co-creation of a transition pathway for a more resilient, sustainable and digital agri-food ecosystem*"³⁰. The pathways will contribute to forming a shared vision for 2030 in collaboration with all relevant public and private stakeholders for the green and digital transition and enhanced resilience of the ecosystems. The SWD reports on an enabling policy framework for the agri-food ecosystem that notes a plethora of policy initiatives in addition to the CFP itself and the Farm to Fork Strategy, including³¹:

- Legislative Framework for Sustainable Food Systems (FSFS);
- EU Code of Conduct on Responsible Food Business and Marketing Practices;
- EU Platform on Food Losses and Food Waste;
- European Food Security Crisis Preparedness and response Mechanism (EFSCM);
- Communication on Safeguarding Food Security and reinforcing the resilience of food systems, and
- EU Agri-food Fraud Network.

SWD 2023/263 comprehensively lists agri-food related initiatives to prompt feedback from stakeholders. However, it does not show how these together create a coherent pathway to achieve a just transition to a greener and digitised agri-food sector.

At the same time as promoting growth in the agri-food system, the EC is also promoting growth in other parts of the Blue Economy, for example, 'An EU Strategy to harness the potential of offshore renewable energy for a climate-neutral future' (COM 2020/741), which sets ambitious targets of 300

²⁷ <https://www.consilium.europa.eu/en/policies/eu-industrial-policy/>

²⁸ <https://research4committees.blog/2023/10/16/publication-workshop-on-the-european-green-deal-%e2%88%92-challenges-and-opportunities-for-eu-fisheries-and-aquaculture-part-iii-food-security-aspects/>
and:
https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy/depth-reviews-strategic-areas-europes-interests_en

³⁰ SWD(2023) 263 final <https://ec.europa.eu/docsroom/documents/55334>

³¹ SWD(2023) 263 final <https://ec.europa.eu/docsroom/documents/55334>

GW installed capacity of offshore wind and 40 GW of ocean energy by 2050 increasing Europe's offshore renewable energy sector. This strategy recognises this growth must comply with EU environmental legislation and the Integrated Maritime Policy as well as noting the role that MSP should play, but trade-offs are inevitable for development at this scale.

There is growing recognition of the difficulty in ensuring the many EU Blue Economy initiatives, organisations and groups work effectively and coherently to deliver the EU's overarching policy objectives. For example, the European Cluster Collaboration Platform (ECCP) is an EU initiative to provide an online hub that helps to link the multitude of industrial clusters. It currently holds information on 31 Blue Growth cluster organisations at regional and national levels that are involved in 'blue renewable energy', with many also reporting interests in aquaculture (24), marine biotechnology (14) and fisheries (10)³². In total, 51% of the EU Member States have more than 10 years of experience in implementing cluster-specific policies, which mostly aim to strengthen innovation ecosystems (89%), SME support (89%), R&D support (88%), industry-research collaboration (85%), internationalisation (82%), and upskilling (80%) (ECCP, 2022).

Similarly, the Sustainable Blue Economy Partnership (SBEP) is a Horizon Europe co-funded partnership of 60 partner institutions from 25 countries and the European Commission to pool research and innovation (R&I) investments and align national programmes at pan-European scale. The SBEP works to support key EU policy objectives of green transition, digital transformation and recovery. Its vision is to give the transformation towards a climate-neutral, sustainable, productive and competitive blue economy a boost (by 2030) and to create and support the conditions for a healthy ocean for the people (by 2050).

The United Nations' Ocean Decade (2021-2030) is a global initiative to deliver *'the science we need for the ocean we want'*, with one of 10 Ocean Decade challenges being to *'sustainably feed the global population'*. UNESCO's *'Decade Programme for Sustainable Ocean Planning'* was developed by Intergovernmental Oceanographic Commission, which includes the European Commission and the Horizon Europe co-funded partnership, the Sustainable Blue Economy Partnership (SBEP). The European Union is involved in several other areas and has looked to ensure its policies align with the objectives of the Ocean Decade.

For example, in 2024 the EC's DG for Research and Innovation (DG RTD) published a Roadmap on Cooperation on the UN Decade of Ocean Science for Sustainable Development 2021-2030 (*'Ocean Decade'*) (European Commission, DG RTD, 2024)³³. The goals of the Ocean Decade are systematically considered by DG RTD in its policy-making and actions to strengthen ocean science and research and innovation. It notes that key EU contributions to the Ocean Decade include:

- Horizon Europe;
- the EU Mission Ocean and Waters, including its European Digital Twin of the Ocean;
- the European Sustainable Blue Economy Partnership (SBEP), and
- the All-Atlantic Ocean Research and Innovation Alliance (AAORIA).

These EU funding and partnership initiatives are interconnected, e.g. Horizon Europe funds SBEP. Through the EU Mission Ocean and Waters, Horizon Europe Cluster 6 Intervention Area 4 *"Seas, Oceans and Inland Waters"* and the SBEP, the EU is providing funding of more than EUR 900 million in

³² <https://reporting.clustercollaboration.eu/industry#field-cluster-smart-spec>.

³³ https://research-and-innovation.ec.europa.eu/document/download/2e5f29fb-cb0c-4d0d-8840-97ce0ee9730c_en?filename=ec_rtd_roadmap-cooperation-un-decade-ocean-science.pdf.

2021-2024 to ocean research and innovation, with further investments from other European partnerships and other parts of Horizon Europe.

The Commission also established a [European Blue Forum](#) as a pan-European stakeholder forum, which includes an objective to improve policy coherence suggesting that the forum can: *'contribute to policy coherence and coordination among different sectors and levels of governance. It can help further align European, national, regional and local policies and strategies with international commitments, such as the Sustainable Development Goals and the Paris Agreement.'* However, the level of interest and participation in the Blue Forum is not clear. There is a risk that multiple initiatives confuse rather than help stakeholder involved in the Blue Economy.

4.2. Key challenges

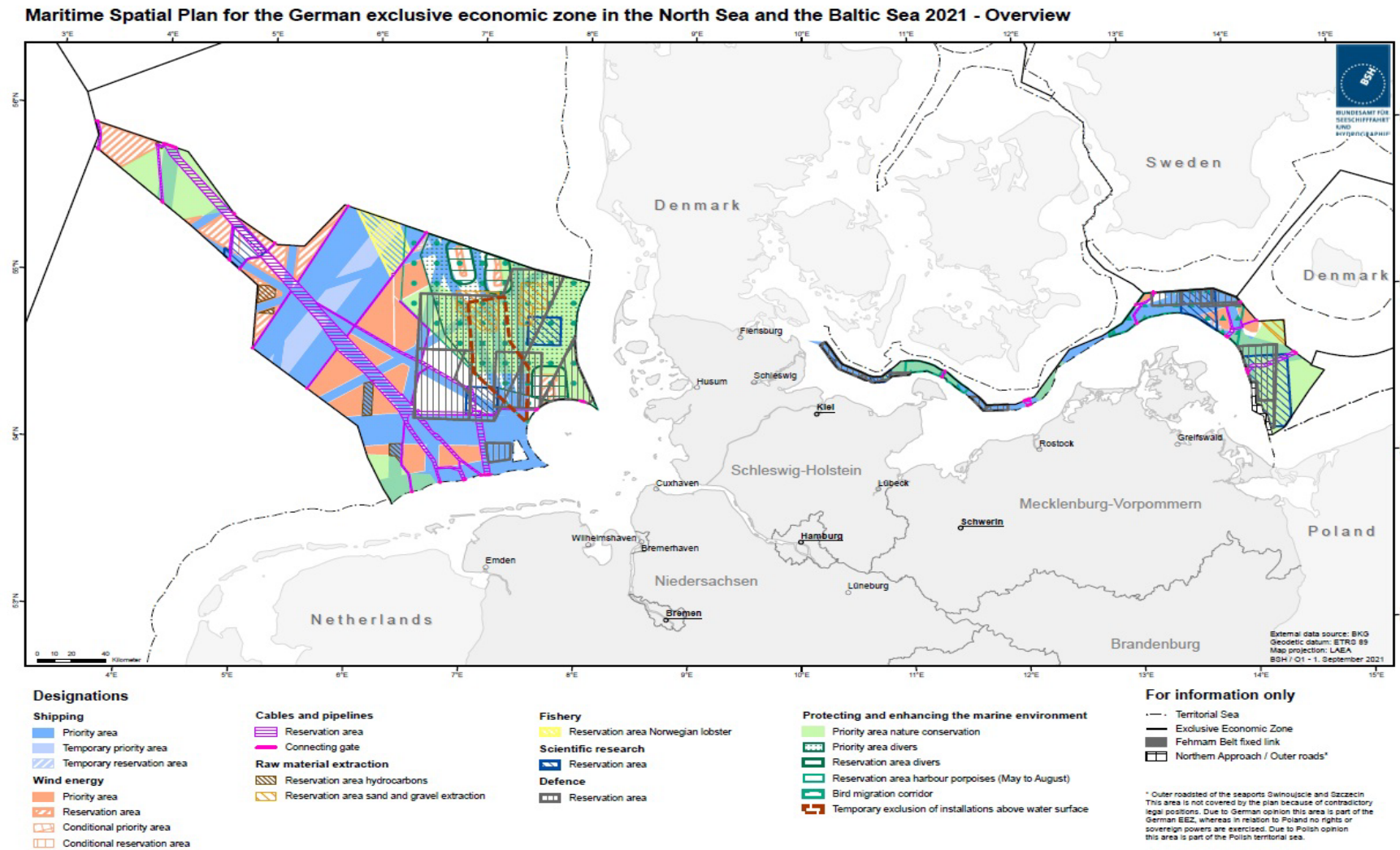
PESTLE analysis is used to **identify the key challenges**. It provides a comprehensive framework to consider the external factors that create challenges for EU operators within the fisheries and aquaculture sectors as part of the Blue Economy. Below we expand on some key challenges that are identified in **Table 11** across several PESTLE categories.

Table 11 - PESTLE analysis of the EU Blue Economy

Political	Economic	Social	Technological	Legal	Environmental
<i>Political or politically motivated factors that could affect the sectors.</i>	<i>Overall, economic forces that could affect sector operators.</i>	<i>Social aspects, attitudes, and trends that influence the sectors and target markets.</i>	<i>Technologies that can affect the way operators make, distribute, and communicate their products and services.</i>	<i>Current and future legal and regulatory requirements impacting the sectors.</i>	<i>Environmental forces impacting the sectors, e.g. location, surrounding environment, and natural resources used by operators.</i>
<p>Brexit and the EU/UK TCA creating uncertainty for operators in Europe’s BE.</p> <p>War in Ukraine (impacting fuel prices and export of BE-related goods to Russia).</p> <p>Difficult trade relations with China, a major fish re-processing centre.</p> <p>Increased security risk for Member State assets in the maritime space.</p>	<p>Slow economic growth limiting post-COVID-19 recovery.</p> <p>Strong economic recovery in the US compared to EU.</p> <p>Inflation variable and above 2% in many EU MS.</p> <p>Rising costs (e.g. steel and raw materials) plus operating costs (fuel, energy, labour)</p> <p>Need to de-risk China-EU trade flows (including seafood)</p>	<p>Lack of interest in traditional maritime sectors such as fishing.</p> <p>Blue skills gap between education offering and market needs.</p> <p>Lack of awareness of BE career opportunities and limited ‘ocean literacy’ across the EU population.</p> <p>Large demographic differences between different European regions.</p>	<p>Managing the use of technologies, e.g. automation, remote sensing, AI throughout the BE.</p> <p>EU companies less profitable than international competitors so spending less on R&D.</p> <p>Limited ability of operators in traditional BE sectors like fishing to adapt to technological changes.</p> <p>Internet connectivity lower in rural and coastal areas across the EU.</p>	<p>Licensing of BE developments often lengthy and uncertain process.</p> <p>National Marine Spatial Planning not strong enough to manage coastal squeeze.</p> <p>Few regulatory incentives for co-location of BE developments.</p> <p>Increased EU environmental requirements compared to competing regions.</p>	<p>Climate change increasing extreme weather events – impacting operations of BE sectors.</p> <p>Coastal eutrophication impacting ecosystems and BE activities (fishing, aquaculture, tourism)</p> <p>Decarbonisation of maritime sectors (transport, fishing)</p> <p>Marine habitats degraded by some BE sectors and impacting others– reducing ecosystem services.</p> <p>Limited consideration of ocean and human health (OHH) linkages in policy</p>

Source: own elaboration

Figure 8 - MSP for the German EEZ in the North Sea and Baltic Sea 2021



Source: https://www.bsh.de/EN/TOPICS/Offshore/Maritime_spatial_planning/maritime_spatial_planning_node.html

4.2.1. Challenge 1 – Marine space

Perhaps the most challenging issue facing Blue Economy sectors is having the space to grow and operate. The sea may appear to be a big area, but there are multiple competing users and interests, as exemplified in **Figure 8**. Fishing continues to be impacted by offshore developments from established BE sectors such as oil and gas and cables and pipelines, but the **cumulative displacement of fishing** by new demands for marine space from offshore renewable energy, MPAs and other BE sectors such as aquaculture is on a much larger scale. Reducing the area where fishing can operate risks localised over-exploitation of resources, gear conflict and higher operating costs, which all lead to reduced profitability. Traditionally the fishing sector has not sought spatial management, preferring the freedom to move as resources move, but the cumulative displacement now being experienced is highlighting the need to secure access rights and to protect key fishing areas.

There are very ambitious targets set for renewable energy in the European Green Deal, which require **major growth in offshore wind**. Installed offshore wind energy capacity was 19.4 gigawatts (GW) in 2023. The target set by the EC in the Offshore Renewable Energy Directive is 61GW by 2030 and the targets set individually by Member States are nearly twice that at 111GW by 2030. Although new developments propose relatively fewer, larger and higher-capacity turbines, the huge expansion of offshore wind will inevitably impact upon the ambitions of many other BE sectors, including fishing. The developments will not only take up considerable marine space, but also port space as well as absorbing much of the skilled labour and vessel resources. **Repowering** existing offshore wind farms to maximise capacity density should reduce the amount of additional marine space needed and could be incentivised in policy, in the same way that using brownfield sites on land can be incentivised over greenbelt development. Repowering and responsible decommissioning of infrastructure is a current issue for onshore wind farms that will migrate to offshore developments as they approach the end of their 20–25-year operational lifespan³⁴.

Another part of the European Green Deal supports growth in low trophic aquaculture (see **Chapter 3**), particularly algal culture. Seaweed farms, mainly operating on rope systems, require substantial marine space for the economies of scale that can best ensure economic viability. Moving such developments further offshore increases capital costs (heavy-duty equipment to withstand offshore conditions) and operational costs (greater vessel distances). One potential solution is **co-location**; enabling sectors to benefit from shared infrastructure. For example, aquaculture production could be sited between turbines³⁵. However, at present there is little incentive for offshore developers to agree to co-location either during development or retrospectively. The European Union has committed to expand its network of marine protected areas (MPAs) to deliver regional and global biodiversity targets. In this context, an emerging literature is increasingly considering whether conservation objectives and energy generation can be co-located (Stephenson, 2023). The potential of offshore wind farms to act as *de facto* MPAs is a contentious issue, and **Other Effective area-based Conservation Measures (OECMs)** need better definition and regulation to ensure they are not used inappropriately at the expense of designating MPAs.

³⁴ <https://www.rabobank.com/knowledge/d011409804-beyond-design-life-what-to-do-with-aging-wind-turbines-in-europe>.

³⁵ The Horizon 2020 project **UNITED** project demonstrated the potential to grow low trophic species and the follow up **OLAMUR** funded by Horizon Europe is moving this to commercial scale trials.

4.2.2. Challenge 2 – Ensuring fair green and digital transitions

The green transition is an opportunity for some BE sectors and a challenge for others. Some sectors of the Blue Economy, such as offshore renewable energy, make a direct contribution to and are pivotal in delivering the green transition, while others are required to make **substantial changes to their operations** as part of the European Green Deal. Maritime transport, shipbuilding, ports and fishing fleets are required to reduce emissions and better manage waste streams. For fishing fleets dominated by small vessels with **regulatory constraints** on their size (length and gross tonnage), the scale and cost of alternative engines and fuel types is a barrier to investment.

The European Economic and Social Committee (EESC) concluded that the huge cost of decarbonising a sector as difficult to electrify as the fishing sector goes far beyond the scope of European funding like EMFAF. The EESC calls for exploring other sources of financing, such as the EIB, using customs duties for carbon border adjustment, and mobilising resources linked to energy taxation and redirecting them to the fisheries sector (EESC, 2023).

It is a major challenge to ensure the green transition in the maritime space is fair to all operators as some traditional BE sectors and coastal communities face comparative disadvantages in terms of both decarbonisation and digitalisation. 46% of EU coastal waters suffer from excessive nutrient loads³⁶. The EU citizens that are most dependent upon and impacted by poor ocean health are not causing most of the impact or benefiting most from impacting activities, and the demographics of some coastal communities make it difficult to implement adaptations. The two most pressing demographic challenges in EU Member States are **population ageing** and a shrinking working-age population and **labour shortages**³⁷. The EC's Blueprint for Local Green Deals has to date focused on cities, but targeted support is needed for coastal communities.

It is also a challenge to ensure a **fair digital transition for remote coastal communities**. In the European Union, 70% of homes in 2021 had high-speed internet connections, up from 16% in 2013, according to Eurostat. Nevertheless, in rural areas, which can struggle to get internet coverage, only 37% of homes had high-speed internet in 2021³⁸.

There is a need to **better link ocean health with human health**. Marine policies mainly consider the impact of human activities on the marine environment, but there are many links between the health of the ocean and humans. OHH requires a holistic approach to policy. Some existing EU-level marine legislation, such as the MSFD, explicitly refers to human health. However, typically only one type of OHH interaction is referenced, e.g. pollution or seafood contamination. Additionally, the marine Directives do not give any details about how to take OHH interactions into account (McMeel et al., 2019). This could, however, add yet another level of complexity to marine policies. EU and national agencies already find it a challenge to ensure joined-up thinking and integrated policies across multiple government departments.

4.2.3. Challenge 3 – Global Competitiveness

While Europe forges ahead with ambitious targets under the European Green Deal, other regions with competing operators in Blue Economy sectors are showing less ambition. EU operators are concerned that the **higher environmental and social requirements** stipulated for the EU put them at a disadvantage to non-EU country imports. This concern extends to most Blue Economy sectors (e.g.

³⁶ https://environment.ec.europa.eu/topics/marine-environment_en

³⁷ <https://europa.eu/eurobarometer/surveys/detail/3112>

³⁸ <https://www.weforum.org/agenda/2022/09/eu-high-speed-internet-digital-divide/>

shipbuilding, ports, biotechnology and coastal tourism), as well as primary production from fisheries and aquaculture (see above). The need to ensure EU competitiveness in BE sectors has driven the adoption of a non-legislative Resolution on Building a comprehensive European Port Strategy adopted by the European Parliament in January 2024 (European Commission, 2024).

A Commission Communication on EU competitiveness notes that since the mid-1990s, the average productivity growth in the EU has been weaker than in other major economies, leading to an increasing gap in productivity levels³⁹. Although Europe has many high-performing companies, in aggregate European companies underperform relative to those in other major regions: they are growing more slowly, creating lower returns, and investing less in R&D than their US counterparts. Unless Europe catches up with other major regions on key technologies, it will be vulnerable across all sectors on growth and competitiveness – compromising the region’s relatively robust record on sustainability and inclusion – as well as security and strategic strength, hindering long-term resilience.⁴⁰

In May 2024, the EU Council called on the Commission to “*develop a new strategy that supports the European maritime industry, which is vital for the EU’s strategic interests, in the digital and green transition and that encompasses all the dimensions of the sector’s competitiveness*”.⁴¹

³⁹ [COM\(2023\) 168 final](#) .

⁴⁰ <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/securing-europes-competitiveness-addressing-its-technology-gap>.

⁴¹ <https://data.consilium.europa.eu/doc/document/ST-10127-2024-INIT/en/pdf> .

4.3. Do EU policies address the challenges?

The challenges identified in the PESTLE analysis are mapped against the EU Blue Economy policy areas to explore the extent to which these policies:

- Explicitly recognise and address the challenges [strength].
- Recognise the challenges, but no or limited action to address them [weakness].
- Do not consider the challenges [weakness].
- May negatively impact the sector’s ability to address the challenges [weakness].

It should be noted that the recognition of these challenges by existing EU policies does not necessarily mean the policy contains an effective response to that challenge.

Table 12 - Mapping of EU Blue Economy policy against PESTLE challenges

Blue Economy policy areas relevant to fisheries and aquaculture	P Political	E Eco- nomical	S Social	T Techno- logical	L Legal	E Environ- mental
‘A new approach...’ (2021)	ww	w	s	w	w	s
Integrated Maritime Policy (2007)	w		s	ww	ww	w
Marine Spatial Planning Directive (2014)					w	w
EU Industrial strategy (2020 – updated 2021)	w	w	w	w		
EU Strategy on adaptation to climate change (2021)	w	w				w

Source: own elaboration

Note: s = explicitly addresses the challenge (strength); w = mentioned but no or limited action (weakness); ww = no mention of challenge (major weakness); (blank) = not relevant to challenge identified

Political: ‘A new approach...’ published in 2021 was focused on ensuring a sustainable Blue Economy. The intended growth in the Blue Economy will increase Member State assets in the maritime space, and with it, the need for maritime security amid heightened geo-political tensions. The IMP did include consideration of Integrated Maritime Surveillance with initiatives to exchange information and data such as [CISE](#) and the further development of [Copernicus](#), but the IMP and other Blue Economy policies could not account for recent political challenges to some EU operators resulting from Brexit and the Communication pre-dates the war in Ukraine and rising tensions with China, which suggests the need for these to be reviewed in light of these political developments.

Economic: ‘A new approach...’ mentions disruptions due to the COVID-19 pandemic, but presents the twin transition as a growth opportunity. The EU strategy on adaptation to climate change also recognises the disruption from COVID-19 and its impact on international supply chains, noting that climate change could also impact such trade, but the response is to strengthen cooperation and dialogue in trade agreements, rather than policy initiatives to shorten supply chains, which would reduce emissions and make them more resilient to disruption. The EU Industrial Strategy and ‘A new approach...’ both mention the need for a competitive Blue Economy, but have limited response to the competition from the US and elsewhere. The Industrial Strategy intends to strength Europe’s open

strategic autonomy through diversified international partnerships; industrial alliances; and monitoring strategic dependencies. However, to date these have not considered agri-food products despite the EU's dependency on imports such as seafood.

Social: Addressing the blue skills gap was proposed in the IMP and initiatives continue in 'A new approach...'. One challenge is delivering a coherent, targeted response to the needs of the Blue Economy sectors as much of the blue skills support has been through EMFF calls and so beneficiaries determined the project scope. A new study for CINEA is tasked with mapping blue skills initiatives to understand sector needs and identify gaps in skills and training provision across blue economy sectors. This could inform a co-ordinated response to blue skills gaps.

Technological: The challenges for small-scale operators in traditional BE sectors such as fisheries, aquaculture and coastal tourism to take up new technologies is not well recognised in 'A new approach...' and other BE policy documents. The focus is on the opportunities technology offers, promoting assistance to small-scale tech providers through BlueInvest, rather than enabling transition by the sector operators. EMFAF and other structural funds can co-finance investments related to the twin transition, but this does not address limited operator knowledge of or ability to invest in technologies.

Legal: The MSP Directive (2014) was in response to growing pressure on marine space, but states that, *'While it is appropriate for the EU to provide a framework for maritime spatial planning, Member States remain responsible and competent for designing and determining, within their marine waters, the format and content of such plans, including institutional arrangements and, where applicable, any apportionment of maritime space to different activities and uses respectively.'* The prioritisation and licensing of marine space is decided by Member States, but there is a risk that certain BE sectors such as fisheries and aquaculture, will be overlooked in favour of sectors, such as offshore wind that generate more tax revenue and make a greater contribution to climate targets and revenues. 'A new approach...' proposes guidance to promote multi-use of marine space, but policy initiatives to actively address pressure on marine space such as repowering existing offshore wind farms and incentivising co-location are currently lacking.

Environmental: Two key inter-linked environmental challenges are making the green transition through decarbonisation and adapting to the impacts of climate change on the marine environment and its resources. 'A new approach...' does consider decarbonisation, but the support focuses on knowledge, research and innovation, skills and investment by partnering with the EIB, the EIF and BlueInvest. These are large-scale initiatives working with private sector institutions and/or targeting technology companies. It is not clear that such support will trickle down to small-scale operators in fisheries and aquaculture for climate adaptation and decarbonisation. It is left to sectoral funding like EMFAF to support operators in adapting to climate change and the green transition. Member States promote the availability of EMFAF, but it is then left to the private sector to apply for co-financing of investments. Many small-scale operators either may not know what they can and should invest in as part of the twin transition, would choose not to make such investments or would prioritise other capital investments. In addition, 'A new approach' and the EU strategy on adaptation to climate change address coastal resilience and reskilling to diversify into green jobs. Supporting existing Blue Economy operators in becoming more resilient to climate change within their own sectors is less evident.

4.4. Opportunities, challenges and prospects

Table 13 presents a SWOT analysis summarising the main elements to emerge from the above analysis. Strengths and weaknesses relate to ‘internal’ aspects i.e. of the policies themselves, while Opportunities and Threats relate to ‘external’ factors not specifically related to policy content.

Table 13 - SWOT of EU policies relating to the Blue Economy

Strengths	Weaknesses
<p>BE policy is <i>integrated with wider EU policy</i> on green and digital transitions (A new approach, 2021).</p> <p>Multiple initiatives address <i>blue skills</i> and knowledge gaps.</p> <p>EU seeks to maintain <i>high</i> environmental and social <i>standards</i>.</p>	<p>Transition <i>support</i> is mainly <i>high-level</i> and cross-cutting. Small-scale BE operators unaware of or cannot invest at level required for twin transition.</p> <p>Most funding initiatives <i>target</i> the <i>tech providers</i>, not their customers, the BE operators.</p> <p>The EU <i>over-relies on imports</i> and has long supply chains.</p>
Opportunities	Threats
<p>Provide more <i>direct support</i> to small-scale BE operators for green and digital transition, directing them to and adequately financing suitable investments.</p> <p>Incentivise developments that maximise <i>marine space</i>: e.g. repowering existing offshore energy sites and co-location of maritime activities.</p> <p>Ensure comprehensive environmental and social <i>standards</i> are applied to <i>imports</i>.</p> <p>Support <i>shorter supply chains</i> and doing more at point of EU production/landing.</p>	<p>Lack of <i>marine space</i> may lead to prioritisation of <i>renewable energy</i> development over other development in other sectors.</p> <p>Lack of marine space may cause <i>displacement</i> of existing users including due to expansion of MPA network.</p> <p>EU operators being less competitive may leading to increase <i>reliance on imports</i>.</p> <p>Future <i>trade disruptions</i> may further impact the EU (blue) economy.</p>

Source: own elaboration

4.5. Policy recommendations

The previous fisheries chapter includes policy recommendations addressing the challenges identified above, namely:

- *Green and digital transition*: increase direct support to fisheries and aquaculture operators in their green and digital transition;
- *Competitiveness*: Develop market standards that ensure a level playing field in the production of seafood and other marine products imported into the EU.

The following additional policy recommendations emerge in relation to the Blue Economy related to the PECH Committee’s remit:

Policy Recommendation 10: Support Blue Economy operators in adapting to climate change and making the green and digital transitions

Existing initiatives supporting the twin transition are mainly at a high-level or targeting the technology and training providers that often focus on reskilling for emerging BE sectors such as offshore renewable energy. While this is certainly required, there is less direct support available for fisheries, aquaculture and other established BE sectors, such as coastal tourism, in adapting to climate change and making the green transition.

Policy Recommendation 11: Incentivise co-location of activities in marine developments to maximise the use of marine space

The displacement of traditional activities in limited marine space is a major challenge. EU policy provides a framework and guidance, leaving decisions to Member States, who prioritise large-scale renewable energy developments that make a direct contribution to emission reductions. These developments are certainly needed, but there is little incentive (and sometimes regulatory barriers) to co-locate marine activities to better maximise the use of marine space. Policy should be developed to promote and incentivise such approaches.

Policy Recommendation 12: Define Other Effective area-based Conservation Measures (OECMs) and develop a framework for their implementation to supplement the EU's MPA network

Further pressure is placed on marine space availability with the expansion of an ecologically coherent MPA network. The EU should explore which areas outside formally protected areas could be considered as OECMs based on defined criteria, and what contribution a network of such sites could make to conservation objectives. The development of OECMs should not compromise but complement the delivery of the EU's 2030 biodiversity strategy.

5. INTERNATIONAL OCEAN GOVERNANCE

KEY FINDINGS

The adoption of the **UN Agenda for Sustainable Development** in 2015 prompted the European Commission to adopt a Communication on an **International Ocean Governance Agenda** underscoring EU priorities for the conservation and sustainable use of the oceans. The Communication, which was updated in 2022, details the EU roadmap for strengthening global fisheries sustainability in accordance with the CFP and the rules and priorities adopted under the global multilateral framework.

CFP standards also apply to EU fishing vessels operating in **external waters**. CFP **tools** supporting international fisheries governance include Sustainable Fisheries Partnership Agreements (**SFPAs**) currently with 14 third countries; Cooperation with other **North-East Atlantic** coastal States on the management of stocks of common interest; and participation in Regional Fisheries Management Organizations (**RFMOs**) and Regional Fisheries Bodies (**RFBs**). The CFP is complemented by the two pillars of the EU **IUU Regulation** (the catch certification scheme and bilateral cooperation with third countries) and the coherence of **EU development** interventions.

EU policy on international ocean governance is based on its ratification of **various international agreements** such as the UN Convention on the Law of the Sea (**UNCLOS**) and the Port State Measures Agreement (**PSMA**). The EU played a proactive role in the recent adoption of two landmark international agreements on marine biological diversity of areas beyond national jurisdiction (**BBNJ Agreement**) in 2023 and the World Trade Organization (**WTO Agreement on fisheries subsidies**) in 2022. EU support for improved international ocean governance faces three main challenges:

- **Uneven playing field:** A resistance of some members of the international community to adhere to international standards underpinning fisheries governance
- **Lack of third country capacity:** in developing countries to ratify and/or implement international instruments supporting ocean governance
- **Changing geo-politics:** the shifting power of the EU with decreasing influence as flag state and increasing influence as market state

The EU should **continue its efforts** to the ratification and/or implementation of international instruments, including by Member States, continue to invest in **capacity-building** in developing countries, and consider the **use of trade-related instruments** to incentivise third countries to raise their standards of fisheries governance.

5.1. State of play

In July 2011, the Commission adopted a Communication on the external dimension of the CFP⁴² and proposed several actions to contribute to long-term sustainability worldwide through a leading role in driving forward the global and multilateral agenda promoting sustainable fisheries while strengthening its partnerships to address critical issues such as illegal, unreported and unregulated (IUU) fishing or reduction of overcapacity. This resulted in inclusion of a dedicated section (Part VI) in the basic CFP Regulation on the external policy with Articles 28 to 33 establishing the overarching governance objectives principles (e.g. alignment with EU international obligations and CFP standards) and specific objectives in relation to international fisheries organisations (i.e. Regional Fisheries Management Organisations - RFMOs), Sustainable Fisheries Partnership Agreements (SFPAs) and management of stocks of common interest. CFP tools are complemented by other EU initiatives including the IUU Regulation and EU cooperation programmes led by DG INTPA.

The UN 2030 Agenda for Sustainable Development⁴³ adopted in 2015 identified conservation and sustainable use of oceans as one of the 17 Sustainable Development Goals (SDG 14 – Life Below Water). For the first time, the conservation and sustainable use of the oceans are addressed with the world's other most pressing sustainability challenges in an overarching global policy agenda. The adoption of the UN 2030 agenda prompted the Commission to adopt in 2016 a first joint Communication⁴⁴ on an international governance agenda. This was updated in 2022 by a new joint Communication⁴⁵ to reflect emerging challenges such as the impacts of climate change, dangerous decline of biodiversity and geo-political instability. The updated Communication underscores EU priorities for strengthening global fisheries sustainability in accordance with the CFP and the rules and priorities adopted under the global multilateral framework. The key objectives identified by the Communication are as follows:

- strengthening the international ocean governance framework at global, regional and bilateral levels;
- making ocean sustainability a reality by 2030 by taking a coordinated and complementary approach to common challenges and cumulative impacts;
- making the ocean a safe and secure space as competition in international waters and challenges to the rules-based multilateral order are growing;
- building up international ocean knowledge for evidence-based decision-making to result in action to protect and sustainably manage the ocean.

In summary, the EU initiative seeks to improve the overarching framework encompassing international and regional processes, agreements, arrangements, rules and institutions through a coherent cross-sectoral and rules-based approach, in order to ensure that oceans and seas are sustainably managed.

⁴² COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on External Dimension of the Common Fisheries Policy. (COM(2011) 424 final).

⁴³ <https://www.un.org/sustainabledevelopment/development-agenda/>.

⁴⁴ JOINT COMMUNICATION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS International ocean governance: an agenda for the future of our oceans. JOIN/2016/049 final.

⁴⁵ JOINT COMMUNICATION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Setting the course for a sustainable blue planet - Joint Communication on the EU's International Ocean Governance agenda. JOIN/2022/28 final.

5.1.1. EU tools supporting international ocean governance

a. Access arrangements through Sustainable Fisheries Partnership Agreements

Bilateral fisheries agreements between the EU and non-EU countries have long been a feature of the CFP. The new framework for SFPAs⁴⁶ was laid down in Articles 28, 31 and 32 of the CFP Basic Regulation with the following general objectives:

- To contribute towards resource conservation and environmental sustainability through rational and sustainable exploitation of living marine resources of the coastal state;
- To contribute to continuing the activity of the European Union fleets and the employment linked to the fleets operating within SFPAs; and
- To support the development of a sustainable fisheries sector in partner countries.

According to the CFP Basic Regulation, SFPAs are governed by four key clauses:

- **The human rights clause:** breach of democratic principles and human rights may trigger suspension of the implementation of the SFPAs;
- **The exclusivity clause:** EU fishing vessels may engage in fishing activities in partner non-EU countries waters only if they are in possession of a fishing authorisation issued under the SFPAs;
- **The non-discrimination clause:** partner non-EU countries should undertake not to give more favourable conditions than those granted to EU fishing fleets to other fleets operating in the national waters;
- **The transparency clause:** the two parties commit to publish or exchange information on other fishing agreements and on catch and effort deployed in the waters of the non-EU country.

Other key notable governance principles of SFPAs are:

- **EU vessels shall only catch surplus of the allowable catch.** In a nutshell, the surplus of a stock may be defined as its annual potential catch at sustainable level minus the potential catch of the national fleet according to its capacity to harvest the entire allowable catch. **The surplus concept is not applicable to tuna and tuna-like species** which are highly migratory and mainly found in areas beyond national jurisdictions. For these reasons, the amount of tuna and tuna-like resources available for access in the framework of tuna SFPAs should take into account regional scientific assessments as well as conservation and management measures adopted by relevant tuna RFMOs.
- **CFP standards for monitoring, control and surveillance shall apply to EU vessels operating under SFPAs.** All SFPAs and their implementing protocols include provisions for timely submission of catch declarations, vessel monitoring system (VMS) and boarding of observers. In addition, all SFPAs seek a transition to an electronic reporting system (ERS) with sectoral support funding as appropriate.
- **Employment conditions of non-EU country seamen onboard EU vessels are governed by the ‘social clause’** introduced in all protocols. Working conditions shall meet the basic working rights laid down in the declaration of the International Labour Organisation (ILO), in particular

⁴⁶ According to Article 4.37 of the CFP Regulation (EU) [1380/2013](#), Sustainable Fisheries Partnership Agreement (SFPAs) means “an international agreement concluded with a third state for the purpose of obtaining access to waters and resources in order to sustainably exploit a share of the surplus of marine biological resources, in exchange for financial compensation from the Union, which may include sectoral support”.

the freedom of association, the effective recognition of the right to collective bargaining, and the elimination of discrimination. Finally, the protocols stipulate that the wages paid should not be lower than those paid to crews of national vessels or lower than the level set by the ILO.

In June 2024, there were 14 SFPAs with active implementing protocols, and six SFPAs without (the 'dormant' agreements). There are two categories of SFPAs:

- **'Tuna' SFPAs:** considering only access to the stocks of highly migratory species in the waters of partner non-EU countries. Highly migratory species are defined in Annex 1 of the United Nations Convention on the Law of the Sea (UNCLOS). Highly migratory species include tuna, tuna-like species, marlins, billfish species and some oceanic shark species.
- **'Multispecies' SFPAs:** considering access to different types of commercial species in the water of the partner countries. The species covered by these SFPAs consider access to small pelagic species (e.g. sardines, horse mackerel), demersal fish species (e.g. hake), crustacean species (e.g. shrimps, crabs), cephalopods species (e.g. octopus, squids) and highly migratory species.

The table below shows the SFPAs active in June 2024:

Table 14 - SFPAs between the EU and non-EU countries active in June 2024

Country	Type	Expiry date	Total EU contribution (EUR per year)	Sectoral support (EUR per year)
Atlantic Ocean				
Greenland	Multispecies	21.04.2025	13 950 754	2 931 000
Guinea Bissau	Multispecies	14.06.2024	15 600 000	4 000 000
Mauritania	Multispecies	15.11.2026	57 500 000	3 300 000
Cabo Verde	Tuna	19.05.2024	750 000	350 000
Côte d'Ivoire	Tuna	31.07.2024	682 000	352 000
Gabon	Tuna	28.06.2026	2 600 000	1 000 000
Sao Tome and Principe	Tuna	18.12.2024	840 000	440 000
Senegal	Tuna*	17.11.2024	1 700 000	900 000
The Gambia	Tuna*	30.07.2025	550 000	275 000
Indian Ocean				
Madagascar	Tuna	30.06.2027	1 800 000	1 100 000
Mauritius	Tuna	20.12.2026	725 000	275 000
Seychelles	Tuna	23.02.2026	5 300 000	2 800 000
Pacific Ocean				
Cook Islands	Tuna	13.01.2024	700 000	350 000
Kiribati	Tuna	01.10.2028	760 000	400 000
Total			103 457 754	18 473 000

Source: [DG MARE web site](#) (consulted 13.6.2024)

Note: * the SFPAs concluded with Senegal and The Gambia straddle these two categories. Their major focus is access to the stocks of highly migratory species, but they also include limited fishing opportunities for hake. By convention, these SFPAs are included in the scope of tuna SFPAs

Dormant SFPAs in June 2024 included Morocco, Equatorial Guinea and Liberia in the Atlantic Ocean, Mozambique in the Indian Ocean, Solomon Islands and Federated States of Micronesia in the Pacific Ocean. These seven SFPAs are dormant for different reasons. In the case of Morocco, the Protocol which ended in July 2023 has not been renewed pending the judgment of the Court of Justice on the legality

of the SFPAs expected late 2024. In the case of Liberia, negotiations on the renewal of the Protocol which ended in 2020 are suspended until the yellow card notified in 2017 in application of the IUU Regulation is lifted⁴⁷. For the five other SFPAs, implementing protocols have not been renewed due to a lack of mutual interest, which has lasted for many years. EU fishing vessels are not allowed to fish in waters under the regime of the dormant SFPAs because of the exclusivity clause.

According to a study published by the European Commission (2023)⁴⁸, between 2015 and 2020 the access component of SFPAs supported:

- Deployment of an annual average of 211 EU fishing vessels flying the flags of 13 different EU Member States⁴⁹ in the waters of the partner coastal States, representing 0.3% of the total number of EU vessels, but 6% and 19% of the total capacity of the EU fleet expressed in kW and GT respectively.
- Average annual EU catches of 302 912 tonnes of fisheries products in the waters of the partner countries, of which 49% are small pelagic species and 39% are tuna species. The average first sale value amounted to slightly more than EUR 410 million. About 90% of the catch in weight is sold on the EU market, after processing in a non-EU country for tuna species. Overall, catch of EU vessels under SFPAs represented 9% on average of total EU catch, and 3% on average of EU apparent consumption of fisheries products.
- Creation of total annual value added (direct and indirect) of EUR 477 million, with EUR 232 million benefiting to the EU and EUR 245 million benefiting to the partner non-EU countries. Partner non-member countries which could interact with the EU vessels through port calls, processing of EU catch and employment of national seamen are those deriving the higher percentage of added value (e.g. Seychelles, Côte d'Ivoire, and Mauritania).
- About 6 500 crew positions, including 3 600 jobs for EU nationals and 2 850 jobs for national of non-EU countries. Working conditions of nationals of non-EU countries onboard EU fishing vessels are governed by the 'social clause' included in all SFPAs.

According to the same 2023 study, the sectoral support component of SFPAs resulted in approximately EUR 200 million between 2015 and 2020 being channelled through the budgets of partner countries to contribute to fisheries governance. The sectoral support programmes agreed under the different SFPAs all included support to scientific research and capacity building for monitoring, control and surveillance, as well as support to public interventions directly benefiting the fishing sector in the partner countries according to national priorities, and particularly the artisanal fishing sector. For the SFPAs with the largest budgets (Guinea Bissau, Morocco before it became dormant in 2023, Mauritania, Senegal, Seychelles -see **Table 14**), the sectoral support programme was used to build infrastructures such as landing sites, research facilities or fisheries monitoring centres.

⁴⁷ As a result of the "zero-tolerance" approach to IUU fishing, the EU refrains from renewing SFPAs implementing Protocols with third countries officially subject to a formal notification concerning pre-identification as non-cooperating countries in the fight against IUU fishing (the yellow card).

⁴⁸ European Commission (2023c), Directorate-General for Maritime Affairs and Fisheries, Caillart, B., Cappell, R., Defaux, V. et al., *Evaluation and analysis of the Sustainable Fisheries Partnership Agreements (SFPAs) between the EU and third countries including an in-depth analysis of the sectoral support component of the SFPAs – Final report*, Publications Office of the European Union, <https://data.europa.eu/doi/10.2771/52188>.

⁴⁹ Denmark (DK), Estonia (EE), France (FR), Germany (DE), Greece (GR), Italy (IT), Latvia (LV), Lithuania (LT), Netherlands (NL), Poland (PL), Portugal (PT), Spain (ES) and the United Kingdom (UK). Spanish vessels represented 66% of the total number of EU vessels active under SFPAs.

b. Access arrangements outside the framework of SFPAs

EU fishing vessels of the distant water fleet, including tuna vessels and demersal trawlers, may conclude company-to-government arrangements to access the waters of non-EU countries not signatory of an SFPAs. According to the DG MARE database on fishing authorisations⁵⁰, EU operators in 2023 and 2024 concluded direct company-to-government access arrangements with Congo, Guinea, Falkland Islands, Sierra Leone and Namibia in Atlantic Ocean, Tanzania in the Indian Ocean, and Tokelau and Tuvalu in the Pacific Ocean.

To ensure EU vessels using these company-to-government arrangements meet sustainability criteria comparable to the vessels fishing under SFPAs, the EU adopted the **Sustainable Management of External Fishing Fleets (SMEFF) Regulation 2017/2403**, to manage the distant water operations of all EU-flagged vessels, regardless of the framework under which they operate.⁵¹ The SMEFF Regulation establishes standard eligibility requirements for all EU-flagged vessels, under which its flag Member State may only issue fishing authorisation to its vessel to fish outside European Union waters if it has received complete and accurate information about the vessel's planned operation that shows they are in line with the sustainability principles promoted under SFPAs, including the surplus principle. Another result of the SMEFF Regulation is the empowerment of the European Commission to maintain a database of fishing authorisations now published and available for download on DG MARE's website.

c. RFMOs and other bilateral/multilateral arrangements

Regional Fisheries Management Organisations (RFMOs)

Regional Fisheries Management Organisations (RFMOs) are established through international agreements concluded between States having an interest in the conservation and management of fisheries for straddling and highly migratory fish stocks as foreseen by the UNCLOS. The overarching goal of RFMOs is the long-term conservation and sustainable use of the fisheries resources under their purview and to protect marine ecosystems and biodiversity from fishery impacts. The management mandate of RFMOs applies in the high seas, but can also include areas under national jurisdictions in the case of highly migratory species.

In June 2024, the EU was party to 18 RFMOs⁵², including five RFMOs managing highly migratory species such as tuna and 13 RFMOs managing other types of fish stocks (see mapping of RFMOs in **Annex II**). According to DG MARE, this makes the EU the most prominent actor in RFMOs worldwide.

A notable feature of RFMOs compared to other regional cooperation mechanisms, is that conservation and management measures adopted are binding for the parties. The decision-making rule that prevails for most of the RFMOs is by consensus, with either some RFMOs providing for a qualified majority decision-making (usually two-thirds majority) as default or if no consensus can be reached⁵³. Conservation and management measures adopted by RFMOs include catch limits, capacity limits, technical measures such as spatial closures and limits on the number of Fish Aggregating Devices (FADs) in the case of tuna fisheries; measures to limit the impact of fishing on the ecosystem (protection of marine cetaceans, reptiles and seabirds, biodegradable fishing devices) and measures to establish

⁵⁰ <https://ec.europa.eu/oceans-and-fisheries/fisheries/fishing-authorisations/> accessed 28.06.2024.

⁵¹ Regulation (EU) 2017/2403 of the European Parliament and of the Council of 12 December 2017 on the sustainable management of external fishing fleets, and repealing Council Regulation (EC) No 1006/2008. OJ L 347, 28.12.2017, p. 81–104 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R2403>.

⁵² European Commission (2022a). Directorate-General for Maritime Affairs and Fisheries, *Regional fisheries management organisations of which the EU is a member*, Publications Office of the European Union, <https://data.europa.eu/doi/10.2771/073752>.

⁵³ Schatz, V. (2024) Provisions for nullification of conservation and management measures in RFMO objection procedures. *Marine Policy* 166, 106230. <https://doi.org/10.1016/j.marpol.2024.106230>.

common standards for monitoring, control and surveillance (logbooks, satellite tracking, observer coverage etc.).

Despite EU engagement in the work of RFMOs, promoting ambitious conservation and management measures remains challenging due to the interests of distant water fishing nations; the development aspirations of some coastal states; and the lack of political will of some parties to strengthen fisheries control. The EU has met resistance in RFMOs, whose decision-making is generally based on consensus, to strengthening the control of fishing activities and improving transparency, in particular on beneficial ownership of fishing vessels⁵⁴.

The capacities of RFMOs parties to contribute to the work of RFMOs (in data collection and reporting, conservation of fishing and non-fishing resources, fishing capacity and effort control and fight against IUU fishing, etc.) are often limited by financial, technical and human resources to satisfy RFMOs obligations. This problem for many coastal states, in particular developing States has been largely recognised as a problem that requires cooperative effort.

Some RFMOs are performing better than others in maintaining key fish stocks at good status (**Table 15**). For ICCAT and IOTC, which are the two RFMOs covering most EU tuna catch, there are concerns about the situation of certain stocks, particularly in the Indian Ocean with both yellowfin and bigeye being overexploited. Arguably, the situation of these stocks results from ineffective management measures and shortcomings in the compliance of certain parties.

Table 15 - Overview of the status of the stocks of main tuna species in the three oceans

Tuna species	Atlantic Ocean ICCAT	Indian Ocean IOTC	Western Pacific Ocean WCPFC	Eastern Pacific Ocean IATTC
Skipjack	Good	Good	Good	Good
Yellowfin	Good	Overexploited	Good	Good
Bigeye	Imbalanced	Overexploited	Good	Imbalanced
Albacore	Good	Good	Good	Good

Key:

Good	Good status (biomass and fishing effort indicators aligned with MSY)
Imbalanced	Imbalanced status (biomass or fishing effort indicator not aligned with MSY)
Overexploited	Overexploited (both biomass and fishing effort indicators not aligned with MSY)

Source: based on information published by ISSF (2024)⁵⁵

There is still a need for RFMOs to strengthen their conservation and management frameworks. Main areas include:

- stock conservation measures;
- reduction of the impacts of fishing on the environment;
- monitoring, control and surveillance, and
- evaluation of compliance.

⁵⁴ REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the application of Council Regulation (EC) No 1005/2008 establishing a community system to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing (the IUU Regulation). COM/2024/171 final <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2024:171:FIN>.

⁵⁵ ISSF. 2024. Status of the world fisheries for tuna. Mar. 2024. ISSF Technical Report 2024-02. International Seafood Sustainability Foundation, Pittsburgh, PA, USA <https://www.issf-foundation.org/about-issf/what-we-publish/issf-documents/issf-2024-02-status-of-the-world-fisheries-for-tuna-march-2024/>.

In addition, RFMOs need to address emerging issues such as:

- **Working standards:** promotion of working conditions aligned with standards of the ILO due to perceived instances of poor labour conditions and mistreatment of crew on fishing vessels (e.g. ongoing work of ICCAT and WCPFC); observer safety.
- **Climate change:** improving RFMO's parties understanding of the impact of climate change on stocks and associated ecosystems and build the capacity of developing States to address the impacts of climate change on tuna stocks and fisheries (e.g. tuna RFMOs).

Another area of development for the international community is **the establishment of new RFMOs** to address the lack of formal cooperation mechanisms for the management of certain straddling stocks. A priority for the EU could be the establishment of a RFMO for the management of non-tuna species (e.g. small pelagics) exploited in the EEZ of North-West African coastal States (between Morocco and Guinea Bissau) in view of the importance of the stocks for food security and the worrying signals on the exploitation status of the different stocks⁵⁶. Another priority in the longer term is the establishment of a RFMO to manage fisheries in the international waters of the Arctic Ocean as foreseen by the 2021 International Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean (see page 64).

Regional Fisheries Bodies

Regional Fisheries Bodies (RFBs) are cooperation mechanisms implemented by coastal States and distant water fishing nations. Unlike RFMOs, RFBs have an advisory mandate and decisions or coordinating mechanisms are not binding on their members. According to FAO⁵⁷, there are about 25 RFBs worldwide, including RFBs managing lake fisheries. RFBs of specific interest for the EU due to its responsibilities as coastal State and as flag State include:

Atlantic Africa

- The Fishery Committee for the Eastern Central Atlantic of the FAO (FAO-CECAF);
- the Sub-Regional Fisheries Commission (SRFC);
- the Fisheries Committee for the West Central Gulf of Guinea (FCWC);
- the Commission Régionale des Pêches du Golfe de Guinée (COREP);
- the Benguela Current Commission (BCC); and
- the Ministerial Conference on fisheries cooperation among African States bordering the Atlantic Ocean (ATLAFCO), know also under its French acronym of COMHAFAT).

Indian Ocean

- The Southwest Indian Ocean Fisheries Commission of the FAO (SWIOFC).

⁵⁶ FAO. 2023. *Report of the Ninth Session of the Scientific Sub-Committee, Nouakchott, Mauritania, 5–9 December 2022/Rapport de la neuvième session du sous-comité scientifique, Nouakchott, Mauritanie, 5-9 décembre 2022*. FAO Fisheries and Aquaculture Report No. 1412/FAO Rapport sur les pêches et l'aquaculture no 1412. Rome. <https://doi.org/10.4060/cc7106b>.

⁵⁷ Terje Løbach, T., Petersson, M., Haberkon, E. and Mannini, P. 2020. Regional fisheries management organizations and advisory bodies. Activities and developments, 2000–2017. FAO Fisheries and Aquaculture Technical Paper No. 651. Rome, FAO. <https://doi.org/10.4060/ca7843en>.

Pacific Ocean

- The Pacific Community (SPC); and
- the Pacific Islands Forum Fisheries Agency (FFA).

EU cooperation with RFBs is through dedicated support, in particular as implementing partners or direct beneficiaries of activities foreseen under regional development programmes managed by DG INTPA for issues in relation to improvement of scientific advice in support of the management of natural marine resources (i.e. BCC, FAO-CECAF, SWIOFC, SPC) and to the strengthening of monitoring control and surveillance capacities, including the fight against IUU fishing (i.e. SRFC, FCWC, COREP, FFA). The EU Long Distance Fisheries Advisory Council (LDAC) also concluded a MoU⁵⁸ with ATLAFCO to enhance capacity building in West Africa and fostering good practices at a regional level.

EU engagement in the management of stocks of common interest

As foreseen by Article 33 of the CFP Regulation on stocks of common interest, the EU implements cooperation mechanisms for the management of straddling stocks with different countries in the North-East Atlantic (the '**Northern agreements**'). With many of the targeted stocks shared across boundaries, the parties coordinate their management activities and quotas are exchanged to ensure they are fully utilised. Some of these stocks are managed through the North-East Atlantic Fisheries Convention (NEAFC), the RFMO set up to manage fish stocks in the region, while others are managed through agreements between the coastal states. In view of the importance of cooperation, the EU holds regular consultations on fishing opportunities as follows:

- **Bilateral consultations** with each of the following coastal States: United Kingdom, Norway and Faroe Islands. In the case of the United Kingdom, annual consultations through the Specialised Fisheries Committee are pivotal to ensure implementation of arrangements agreed through the Trade and Cooperation Agreement (TCA) governing the relationship between the EU and the UK after the Brexit as from January 2021. Consultations between the EU and the United Kingdom entail discussions on fishing opportunities for about 85 stocks subject to catch limits representing an EU production potential of 1.3 million tonnes⁵⁹, as well as agreement on arrangements for non-quota stocks. The current transitional period established by the TCA will end in 2026. After that, annual negotiations may no longer be reciprocal and might instead involving charging access fees.
- **Trilateral consultations** on certain stocks with the United Kingdom and Norway for stocks considered as jointly management by the three parties (cod, haddock, herring, plaice, saithe and whiting)⁶⁰.
- **Multilateral consultations** involving the EU, Faroe Islands, Iceland, Norway and the United Kingdom for the management of shared stocks of three small pelagic species (i.e. mackerel, Atlanto-Scandian herring, blue whiting). The sharing of quotas has been a major sticking point in the negotiations for more than a decade, most notably for Northeast Atlantic mackerel. The lack of agreement on quota allocation between the parties underpinned a suspension of the Marine Stewardship Council (MSC) certification for mackerel in 2019⁶¹.

⁵⁸ <https://www.ldac.eu/en/about-us>.

⁵⁹ Caillart, B, and Salz, P, 2022, Research for PECH Committee – Workshop on impacts of the EU-UK Trade and Cooperation Agreement on fisheries and aquaculture in the EU - Part III: Fishing opportunities aspects, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels [https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU\(2022\)690908](https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)690908).

⁶⁰ Agreed record of fisheries consultations between the European Union, Norway and the United Kingdom for 2024 - [Link](#)

⁶¹ <https://www.msc.org/media-centre/press-releases/press-release/msc-certificates-suspended-for-all-north-east-atlantic-mackerel-fisheries>.

The EU concluded fisheries agreements with Norway, Faroe Islands, and Iceland (the 'Northern agreements'), and more recently, with the United Kingdom according to the Trade and Cooperation Agreement (TCA) governing the relationship between the EU and the UK after the Brexit as from January 2021. These agreements, which are based on the principle of reciprocal resource access and do not involve any financial component, are extremely important to a large section of the EU fleet, especially the agreement with Norway and with the United Kingdom. Only the agreement with Iceland is dormant as no bilateral fisheries arrangement has been concluded since 2008.

d. IUU Regulation

In January 2010, Regulation 1005/2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing (the IUU Regulation) entered into force.⁶² The Regulation includes various important tools to control fishing activities under the responsibility of the EU as flag State, coastal State, and importantly as market State.

The IUU Regulation is based on two pillars:

- 1) **The catch certification scheme.** All fisheries imports entering the EU must be accompanied by import documents known as catch certificates. These import documents must be validated by the flag State (i.e. the country which authorises the vessel that caught the fish) to certify that the products were caught in compliance with national and international fishing laws, as well as conservation and management measures. According to the Commission's report on the application of the IUU Regulation⁶³, 93 non-EU countries have notified the Commission of their national authorities empowered to validate information contained in the catch certificate. Around 400 000 catch certificates and 59 000 processing statements were submitted to Member State competent authorities for imports in 2020-2021 with, a total of 93 refusals issued. Through the revision of the EU control system adopted in 2023⁶⁴, the EU introduced a major reform in the process by mandating the use of CATCH, an IT system to digitise the EU catch certification scheme as from 2026, and application of standardised EU risk identification criteria when verifying imports under the catch certification scheme to support harmonisation of import controls at EU borders.
- 2) **The bilateral cooperation with non-EU countries** aims at ensuring exchange of information through administrative cooperation. When the Commission has information suggesting potential shortcomings in non-EU country's compliance with its international obligations as a flag, coastal, port and market State, the 'carding system' may be triggered. The IUU 'carding system', empowers the Commission to notify a non-EU countries of the risk of being identified as a non-cooperating in the fight against IUU fishing (pre-identification or 'yellow card'). At this stage, the Commission engages in a formal IUU dialogue with the pre-identified country and establishes cooperation based on an action plan. In cases where a pre-identified country fails to resolve its shortcomings, the Commission can identify it as non-cooperating in the fight against IUU fishing ('red card'), and propose its listing to the Council. A red-carded country is

⁶² Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999. [OJ L 286, 29.10.2008, p. 1–32.](#)

⁶³ REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the application of Council Regulation (EC) No 1005/2008 establishing a community system to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing (the IUU Regulation). [COM/2024/171 final.](#)

⁶⁴ Regulation (EU) 2023/2842 of the European Parliament and of the Council of 22 November 2023 amending Council Regulation (EC) No 1224/2009, and amending Council Regulations (EC) No 1967/2006 and (EC) No 1005/2008 and Regulations (EU) 2016/1139, (EU) 2017/2403 and (EU) 2019/473 of the European Parliament and of the Council as regards fisheries control. PE/38/2023/REV/1 [OJ L, 2023/2842, 20.12.2023.](#)

liable to sanctions, including trade bans and various prohibitions such as prohibition to use EU ports by fishing vessels from listed countries, or prohibition for EU nationals to interact with the fishing sector of the listed countries. The Commission shall also propose denunciation of SFPAs concluded with listed countries, as it was the case with Comoros in 2018.

Since the entry into force of the IUU Regulation in 2012, 28 non-EU countries have been subject to the carding system (see **Annex III**). In June 2024, eight non-EU countries (Ecuador, Ghana, Liberia, Panama, Senegal, Sierra Leone, St Kitts and Nevis, and Viet Nam) were subject to a formal IUU dialogue triggered by a yellow card, and five non-EU countries were listed as non-cooperating (red card) and subject to sanctions (Cambodia, Cameroon, Comoros, St Vincent and Grenadines, Trinidad and Tobago). Seventeen non-EU countries had their yellow card or red card lifted following significant improvements in their capacities to fight IUU fishing, including non-EU countries amongst the main players in the global fisheries sector (e.g. Korea, Philippines, Taiwan, and Thailand).

e. EU development projects

The EU supports improvement of fisheries governance in non-EU countries through development programmes funded by the European Development Fund (EDF) and its successor, the Neighbourhood, Development and International Cooperation Instrument (NDICI) managed by DG INTPA. In view of the transnational dimension of the issues to be addressed, most EU interventions supporting fisheries governance are implemented at a regional level. In a recent past, the EU implemented the following main development programmes⁶⁵:

- improved Regional Fisheries Governance in West Africa (PESCAO) – EUR 16.5 million;
- Pacific-European Union Marine Partnership (PEUMP) – EUR 45 million co-funded by Sweden; and
- contribution of sustainable fisheries to the blue economy of Eastern Africa, Southern Africa and Indian Ocean region (E€OFISH) – EUR 28 million.

The involvement of the European Fisheries Control Agency (EFCA) in the implementation of activities related to the strengthening of the regional monitoring, control and surveillance framework improved the effectiveness of the programmes, and significantly contributed to the added value of EU involvement in these regional initiatives.⁶⁶ The three development programmes mentioned above are closed, or about to close. The EU is preparing regional successors which will keep support to regional fisheries governance in their core tasks, while broadening the scope of the interventions to the development of the Blue Economy. The programmes under preparation included (situation as at June 2024):

- The '*West Africa Sustainable Ocean Programme*' (WASOP) – EUR 59 million earmarked;
- the '*South-West Indian Ocean Programme*' (SWIOP) – EUR 58 million earmarked; and
- the programme '*Océan Durable et Économie Bleue en Afrique centrale*' (ODEBAC) – EUR 42 million earmarked.

These three programmes consider the involvement of the EFCA in the implementation of activities related to the strengthening of the regional monitoring, control and surveillance framework.

⁶⁵ European Commission (2022b). Directorate-General for International Partnerships, *Sustainable fisheries and aquaculture EU-funded projects – State of play*, Publications Office of the European Union, <https://data.europa.eu/doi/10.2841/446325>.

⁶⁶ Caillart, B., Macfadyen, G. and Adrien, B. -2022 PESCAO mid-term evaluation programme FED/2017/038-922. [Link](#).

In addition to regional programmes, EU bilateral cooperation programmes support fisheries governance in some countries such as Angola, Liberia, Mauritania and Mozambique⁶⁷.

5.1.2. International instruments supporting international fisheries governance

a. Binding instruments in force

The United Nations Convention on the Law of the Sea⁶⁸ (UNCLOS), adopted in 1982, provides the legal basis for ocean governance and fishing activities. It codifies the law of the sea primarily issued from customary law sources, defines maritime spaces and their exploitation along with responsibilities of States, including the utilisation of marine resources, the conservation of the marine environment and cooperation between other States. Among fisheries-related measures, UNCLOS establishes exclusive responsibility of the flag State over its fishing vessels operating on high seas and shall take appropriate measures such as the establishment of a register of vessels flying their flag, an authorisation regime to fish on high seas and appropriate monitoring, control and enforcement mechanisms⁶⁹. UNCLOS also recognises exclusive sovereignty and sovereign rights of the coastal State⁷⁰ for the purpose of exploring and exploiting, conserving and managing fishery resources respectively in territorial waters and in its exclusive economic zones (EEZ). Coastal States have an obligation to promote the optimum utilisation of fishery resources in their EEZs, as well as to adopt conservation and management measures ensuring that living resources are not endangered by over-exploitation taking into account the best scientific evidence available. In 2024, UNCLOS counts 169 Parties, the European Union being a Party since 1998.

The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks⁷¹ (UNFSA) came into force in 1995. The UNFSA aims to complete UNCLOS with additional measures ensuring long-term conservation and sustainable use of straddling and highly migratory fish stocks by strengthening the legal regime for their conservation and management through global, regional and sub-regional mechanisms such as the RFMOs⁷². Among other measures, the UNFSA requires for proper marking of fishing vessels, specified information on fishing operations, including vessel position, catch of target and non-target species, catch verification regime, transshipment regulations, and basic procedures for boarding and inspection on the high seas⁷³. The UNFSA also establishes a list of serious violations and introduces rights for the Port State to prohibit landings and transshipments if effectiveness of high seas measures has been undermined⁷⁴. In 2024, UNFSA counted 93 Parties, with the European Union being Party since 2003.

⁶⁷ Council of the European Union, document 8905/24 dated 17.04.2024. List of commitments presented by the European Union at the Our Ocean Conference (Greece, 15-17 April 2024).

⁶⁸ Text available on this link : https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf.

⁶⁹ Articles 92, 94, 117, 118, 119, 194, and 206 of United Nations Convention on the Law of the Sea .

⁷⁰ Articles 61 - 65 of United Nations Convention on the Law of the Sea .

⁷¹ Text available on this link :

https://www.un.org/oceancapacity/sites/www.un.org.oceancapacity/files/files/Projects/UNFSA/docs/unfsa_text-eng.pdf.

⁷² Articles 8 of the United Nations Fish Stocks Agreement.

⁷³ Articles 21 and 22 of the United Nations Fish Stocks Agreement.

⁷⁴ Articles 23 of the United Nations Fish Stocks Agreement.

The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas⁷⁵ (The Compliance Agreement) entered into force in 2003. It extends the role and control of flag States over their fishing vessels operating on the high seas. The Compliance Agreement also seeks to prevent the re-flagging practice of vessels fishing on the high seas under the flags of States that are unable or unwilling to enforce international fisheries conservation and management measures (the ‘flags of convenience’). In 2024, the Compliance Agreement counts 45 parties, the European Union being Party since 2009.

The Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing⁷⁶ (PSMA) entered into force in 2016. The PSMA is the first international treaty of its kind seeking to combat IUU fishing through the implementation of port state measures. The PSMA sets out minimum standards to access port and use port services by all foreign fishing vessels and vessels involved in fishing related activities such as transshipment or supply of fish. Among measures, Port States have rights to deny entry into its ports and the use of its ports when its national authorities have sufficient proof that the vessel is engaged in IUU fishing. The PSMA also increases Flag State responsibility, requiring post inspection actions at port after notification by a Port State of suspicion of IUU activities by one of its vessels. In 2024, the PSMA counted 79 Parties (or 78 Parties and 27 EU Member States), the European Union being Party since 2009.

The International Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean⁷⁷ was approved in 2018 by the eight members⁷⁸ of the Arctic Council as well as well as by China, Japan, South Korea and the European Union. The Agreement entered into force in 2021 and will remain in effect for an initial period of 16 years. It aims to prevent unregulated fishing in the high seas portion of the central Arctic Ocean, where sea ice coverage is decreasing. No fishing vessels flying the flag of the signatories States shall be authorised to commercial fisheries, until conservation and management measures are adopted. The confirmation of valuable fishing grounds might result in the establishment of an RFMO to manage the fishing area.

The International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) was adopted by the International Maritime Organization (IMO) in 1995 and entered into force in 2012. The STCW-F Convention is a binding treaty that sets certification and minimum training requirements for crews onboard of fishing vessels with the aim to promote the safety of life at sea and the protection of the marine environment. Flag States are responsible for the implementation of the Convention on board their vessels, independently from the nationality of crew members. As of June 2024, the STCW-F Convention has been ratified by 36 States, including 10 EU Member States⁷⁹.

The Work in Fishing Convention⁸⁰ (C188) was adopted by the International Labour Organization (ILO) in 2007 and entered into force in 2017. This Convention outlines a minimum standard for the employment of workers on fishing vessels, including minimum age, conditions of service, safety of workers, payments, repatriation, accommodations and other matters that apply to all commercial fishing operations. Ratifying states must establish a system for ensuring compliance with the

⁷⁵ Text available on this link :

<https://openknowledge.fao.org/server/api/core/bitstreams/aac6b68a-de61-4a05-b21d-8db69a531fa0/content>.

⁷⁶ Text available on this link : <https://openknowledge.fao.org/server/api/core/bitstreams/515b81dc-ad65-41c9-ab02-6ff081103cc3/content>

⁷⁷ Text available on this link : [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0315\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0315(01)).

⁷⁸ Canada, Iceland, the Kingdom of Denmark, Norway, the United States and the Russian Federation .

⁷⁹ Belgium, Denmark, France, Latvia, Lithuania, The Netherlands, Poland, Portugal, Romania and Spain.

⁸⁰ Text available on this link : https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C188.

requirements of the Convention including, as appropriate, inspections, reporting, monitoring, complaint procedures, appropriate penalties and corrective measures, in accordance with national laws. A port state that has ratified the Convention may inspect a visiting foreign vessel for compliance and may take measures necessary to rectify any conditions on board which are clearly hazardous to safety or health. The Work in Fishing Convention contributes to the fight against IUU fishing. The C188 is ratified by 21 Parties, including seven EU Member States⁸¹. The EU has mandated implementation of the main elements of the C188 ILO Convention through Directive 2017/159⁸².

To ensure the legality and safety of fishing operations, FAO, IMO and ILO have advocated for synchronised implementation of the above agreements and a joint FAO/IMO/ILO Working Group was created for this purpose⁸³.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora⁸⁴ (CITES), entered into force in 1975, and aims to regulate the international trade of wild animals and plants as to not threaten the survival of the species. The number of proposals to list commercially exploited fisheries species under the Convention's protection has been increasing over the past decade. The list of species protected by the Convention includes eels and sturgeons as well as over 100 species of sharks and rays. Most fisheries species are on **Annex II** which must be accompanied by an export permit or re-export certificate issued by the Management Authority of the State of export or re-export, which ensure that the trade will not be detrimental to the survival of the species. CITES is one of the largest conservation agreements, with 184 Parties, the EU being Party since 1995.

The Convention on the Conservation of Migratory Species of Wild Animals⁸⁵ (Bonn Convention, CMS) entered into force in 1980 and is an environmental treaty under the aegis of the United Nations Environment Programme. Parties to the CMS endeavour to act and adopt multilateral agreements to conserve such migratory species covered by the Convention and their habitats. Many marine mammals, marine birds as well as some fish such as sharks and rays species are listed in one of the two appendices to address trend of declining shark and ray populations⁸⁶. The CMS counts 133 Parties, the EU being Party since 1983.

b. Binding instruments not yet in force

The international agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ Agreement)⁸⁷ was adopted in 2023 and became the third implementing agreement to UNCLOS. It marks a vital step towards reversing destructive trends facing the ocean and restoring ocean health. Although the exploitation of fisheries resources is excluded from the scope, this Agreement provides measures which could impact the fisheries sector, such as the establishment of marine protected areas at a large-scale in the high seas.

⁸¹ Spain (2023), Denmark (2020), France (2015), Lithuania (2016), the Netherlands (2019), Poland (2019), Portugal (2019).

⁸² Council Directive (EU) 2017/159 of 19 December 2016 implementing the Agreement concerning the implementation of the Work in Fishing Convention, 2007 of the International Labour Organisation, concluded on 21 May 2012 between the General Confederation of Agricultural Cooperatives in the European Union (Cogeca), the European Transport Workers' Federation (ETF) and the Association of National Organisations of Fishing Enterprises in the European Union (Europêche) (Text with EEA relevance.). OJ L 25, 31.1.2017, p. 12–35.

⁸³ <https://www.fao.org/iuu-fishing/tools-and-initiatives/joint-working-group-on-iuu-fishing/en/>.

⁸⁴ Text available on this link : <https://cites.org/sites/default/files/eng/disc/CITES-Convention-EN.pdf>.

⁸⁵ Text available on this link : https://www.cms.int/sites/default/files/instrument/CMS-text.en_PDF.

⁸⁶ Resolution on Important Shark and Ray Areas: https://www.cms.int/sites/default/files/document/cms_cop14_res.14.7_important-shark-and-ray-areas_e.pdf, Agreement to improve information, management and conservation efforts for Blue shark ; Action plan for the Conservation of the Critically Endangered Mediterranean Angelshark :

https://www.cms.int/sites/default/files/document/cms_cop14_res.14.12_ssap-angelshark-med_e.pdf.

⁸⁷ Text available at <https://www.un.org/bbnj/>.

The Agreement is open for signature until September 2025. In June 2024, 91 parties signed it, including the EU and all its Member States, and eight ratified it. The EU ratification procedure is in progress⁸⁸. The EU will help developing countries prepare for its implementation. To this end, the EU has pledged EUR 40 million as part of a Global Ocean Programme and has invited other parties to do the same within their capabilities.

The World Trade Organization (WTO) Agreement on fisheries subsidies: The WTO Agreement on fisheries subsidies⁸⁹ was approved in 2022 after almost two decades of negotiation on the ban of harmful subsidies which are a key factor contributing to the poor state of global fisheries resources. The Agreement represents an historic achievement as it is the first WTO Agreement to focus on the environment, and the first multilateral arrangement supporting achievement of a SDG target (SDG target 14.6 on prohibition of certain forms of harmful fisheries subsidies). The Agreement includes a ban on subsidies that:

- contribute to IUU fishing,
- contribute to exploitation of overfished stocks, and
- are provided to fishing or fishing related activities in the unregulated high seas.

The Agreement foresees that technical assistance and capacity building is to be provided to developing members and least developed countries (LDCs) to implement the Agreement. In support of this assistance, a WTO voluntary funding mechanism is to be established, with the EU already pledging a contribution of EUR 1 million⁹⁰.

A fourth type of subsidy, **contributing to overcapacity and overfishing**, was not included in the final text as WTO members did not reach an agreement on relevant flexibility and exemptions for developing countries. The current agreement includes a “*sunset*” clause making provision for the termination of the agreement if WTO parties fail to agree on this fourth type of subsidy, unless WTO members decide otherwise. In June 2024, 52 members of the WTO accepted the Protocol, the EU accepted in June 2023. The Protocol will enter into force when at least two thirds of WTO members (109 members) accept the Agreement.

The Cape Town Agreement (CTA) on safety standards for fishing vessels⁹¹, adopted in 2012 under the auspices of the IMO, sets out minimum global standards for the design, construction, equipment and inspections of fishing vessel of 24 metres in length and above or equivalent in gross tonnes. The CTA will empower Port States to control minimum safety standards on fishing vessels. By raising security standards and allowing for inspection, the CTA is expected to contribute to the fight against IUU fishing and prevent marine plastic pollution from abandoned fishing nets and other equipment. The Agreement will enter into force once 22 States with a combined 3 600 eligible fishing vessels ratify or accede. In 2024, nine EU Member States⁹² had ratified the CTA.

⁸⁸ The European Parliament gave its consent in April 2024.

⁸⁹ Text available on this link : <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:WT/MIN22/33.pdf&Open=True>.

⁹⁰ https://ec.europa.eu/commission/presscorner/detail/en/IP_23_267.

⁹¹ Also designated as The Cape Town Agreement of 2012 on the Implementation of the Provisions of the Torremolinos Protocol of 1993 relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977 ([2012 Cape Town Agreement](#)).

⁹² Belgium, Croatia, Denmark, Finland, France, Germany, The Netherlands, Portugal and Spain.

5.1.3. Voluntary instruments adopted by the FAO providing guidance or mechanisms for implementation of international fisheries governance standards

Aside from the binding instruments, the international fisheries legal framework is composed of a range of soft law instruments, which provide methods and guidance to both facilitate the States in the implementation of binding instruments entered into force and to build national process supporting sustainable management of fisheries. Most of these tools are produced by the FAO Committee on Fisheries (COFI)⁹³.

The 1995 FAO **Code of Conduct for Responsible Fisheries** is probably the most widely diffused and used as a reference by States in the development and the management of fisheries. The Code sets standards of behaviour for responsible practices in exploitation of marine resources, with due respect for the ecosystem and biodiversity. In 2001, the **International Plan Of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing**⁹⁴ (IPOA-IUU), providing a toolbox for States to adopt their own National Plan of Actions (NPOA) to address IUU fishing, covering flag, port, coastal and market State responsibilities. The FAO has also published numerous voluntary guidelines to support improved fisheries governance: [Monitoring Flag State Responsibilities](#); measures on the [marking of fishing gear](#); to [regulate transshipment](#); to spread the development of [catch documentation schemes](#); to [manage fishing capacity](#); and to address policies, strategies and legal frameworks concerning [small-scale fisheries](#). COFI has also fostered the adoption of several **International Plan of Actions** to ensure management of specific species, such as sharks (1998)⁹⁵, and conservation of species impacted by fisheries such as marine birds (1999)⁹⁶ and marine mammals (2021)⁹⁷.

5.2. Key challenges

PESTLE analysis is used to **identify the key challenges**. This provides a comprehensive framework to consider the external factors that create challenges for operators within the fisheries and aquaculture sectors.

The text after **Table 16** below expands on the main issues summarised in. Sub-headings are by challenge/issue rather than by PESTLE as they may relate to more than one PESTLE category.

⁹³ Article XIV of the [Constitution of the United Nations Food and Agriculture Organization](#) (FAO).

⁹⁴ Text available on this link : <https://openknowledge.fao.org/server/api/core/bitstreams/a80c3bfb-1d5b-4ee6-9c85-54b7e83986a2/content>.

⁹⁵ Plan d'action International pour la Conservation et la Gestion des Requins (FAO, 1998), Text available on this link: <https://openknowledge.fao.org/server/api/core/bitstreams/2142757f-a36e-41ef-b8db-bd4ac7533fb2/content>.

⁹⁶ International Plan of Action for reducing incidental catch of seabirds in longline fisheries (FAO, 1999), Text available on this link: <https://openknowledge.fao.org/server/api/core/bitstreams/2142757f-a36e-41ef-b8db-bd4ac7533fb2/content>.

⁹⁷ Fishing operations - Guidelines to prevent and reduce bycatch of marine mammals in capture fisheries (FAO, 2021), Text available on this link : <https://openknowledge.fao.org/server/api/core/bitstreams/f9c84651-c10e-4155-9e7b-c483a57c826d/content#:~:text=They%20outline%20options%20for%20marine,fishing%20operations%20and%20other%20strategies>.

Table 16 - PESTLE analysis of International Ocean Governance challenges

Political	Economic	Social	Technological	Legal	Environmental
<i>Political or politically motivated factors that could affect the sectors.</i>	<i>Overall, economic forces that could affect sector operators.</i>	<i>Social aspects, attitudes, and trends that influence the sectors and target markets.</i>	<i>Technologies that can affect the way operators make, distribute, and communicate their products and services.</i>	<i>Current and future legal and regulatory requirements impacting the sectors.</i>	<i>Environmental forces impacting the sectors, e.g. location, surrounding environment, and natural resources used by operators.</i>
<p>Increased fragmentation of the international community</p> <p>Lack of political will of certain States to strengthen control over their national fleet</p> <p>Increased protectionism of fisheries resources by coastal States to ensure national food security in a context of stagnating catches</p> <p>Weakening political influence of the EU resulting from decreasing numbers of distant water fishing vessels</p>	<p>Increasing operating costs undermining the profitability of the EU distant water fleet</p> <p>More scrutiny on public funding resulting from the WTO Agreement of fishing subsidies</p> <p>Large reliance of the EU on imports from non-EU countries supply the single market for seafood</p>	<p>More stringent international standards on training and working standards of crew</p> <p>Aspirations of crew for improved working standards</p>	<p>Advanced technology increasingly available to fishing entities and managing authorities worldwide</p>	<p>Uneven enforcement of obligations stemming from international Treaties undermining the effectiveness of their provisions</p> <p>Lack of level playing field between EU fleet and non-EU country fleets</p>	<p>Decreasing biomass and changing stock distribution resulting from climate change</p> <p>Over-exploitation of most commercial stocks</p> <p>Increased needs for mitigating the impacts of fishing activities on the marine environment</p>

Source: own elaboration

5.2.1. Challenge 1: The resistance of some members of the international community to adhere to international standards underpinning fisheries governance.

Not all members of the international community share the same ambition to improve International Ocean Governance. In RFMOs, it is difficult to adopt conservation and management measures, including strengthened measures to deter IUU fishing, because of the consensus rule. This is compounded by **shortcomings in compliance**. In the case of SFPAs, some key principles such as the transparency clause and the non-discrimination clause are difficult to enforce, and utilisation of sectoral support is often below expectations. On international treaties, some **key instruments are only ratified by a few countries** or are approved but fall short of initial expectations (e.g. WTO Agreement on fisheries subsidies).

5.2.2. Challenge 2: The lack of capacity of developing non-EU countries to ratify and/or implement international instruments supporting ocean governance

Lack of technical and financial resources is clearly an issue for developing countries and particularly LDCs for implementing international instruments. This challenge is recognised by the international community, which provides flexibility arrangements/exemptions for these countries, and the establishment of specific development funds to support them. Nonetheless, the implementation of the carding process foreseen by the IUU Regulation suggests existence of a number of shortcomings in the implementation of international instruments, also evidenced by the inadequate compliance records outlined by the RFMOs.

5.2.3. Challenge 3: The shifting influencing power of the EU

The EU distant water fleet is on a downward trend due to insufficient economic performance resulting from increasing operating costs and decreased fishing opportunities in external waters, with limited opportunities to support for the EU in view of international disciplines on public subsidies. In 2021, the EU distant water fleet⁹⁸ comprised 242 fishing vessels, a decrease of 16% compared to the 288 vessels active in 2013⁹⁹. This results in a **decreased influence of the EU as a flag State in some RFMOs**, in particular in the Indian Ocean and in the Pacific Ocean. At the same time, the EU is the third largest world seafood market with an annual apparent consumption of 7.6 million tonnes in 2021) after China and Indonesia¹⁰⁰. The EU is also the second largest world importer of fisheries products (6.13 million tonnes worth EUR 31.9 billion in 2022) after China. This provides the EU with an **increasing global influence as a market State**.

⁹⁸ Defined by STECF as fishing vessels over 24 m LOA flying the flag of a Member State and fishing predominantly in non-EU waters.

⁹⁹ Scientific, Technical and Economic Committee for Fisheries (STECF) - The 2023 Annual Economic Report on the EU Fishing Fleet (STECF 23-07), Prellezo, R., Sabatella, E., Virtanen, J., Tardy Martorell, M. and Guillen, J. editor(s), Publications Office of the European Union, Luxembourg, 2023, [doi:10.2760/423534.JRC135182](https://doi.org/10.2760/423534.JRC135182).

¹⁰⁰ EUMOFA (2023). The EU fish market – [2023 edition](#).

5.3. Do EU policies address the challenges?

The challenges identified via the PESTLE analysis are mapped against the EU and international initiatives supporting international fisheries governance to explore the extent to which these policies:

- Explicitly recognise and address the challenge [strength].
- Recognise, but no or limited action to address the challenge [weakness].
- Do not consider the challenges [weakness].
- May negatively impact the sector's ability to address the challenges [weakness].

Table 17 - Mapping of International Ocean Governance instruments against PESTLE challenges

Policy areas relevant to International Fisheries Governance	P Political	E Eco- nomical	S Social	T Techno- logical	L Legal	E Environ- mental
Sustainable Fisheries Partnership Agreements (SFPAs)	S	S	S	S	S	S
Regional Fisheries Management Organisations (RFMOs)	S	W	S		S	S
Management of stocks of common interest	S				S	S
IUU Regulation	S	S		S	S	S
Promotion and implementation of international standards governing sustainability of global fisheries	S		S	S	S	S

Source: own elaboration

Note: S = explicitly addresses the challenge (strength); W = mentioned but no or limited action (weakness)

Political: the Joint Communication of the Commission on the international governance agenda clearly reaffirms the ambition of the EU in taking a leading role in International Ocean Governance and implementation of SDG 14. Some significant recent results have been achieved, namely the BBNJ Treaty and the WTO Agreement on fisheries subsidies. However, improved ocean governance requires a collective approach. The EU acts as bridge-builder and driving force in international negotiations within the frameworks of SFPAs, RFMOs and international treaties, but the results of the negotiations depend on the compromises reached with other members of the international community to achieve a consensus. Recent experience shows that negotiations can be difficult due to the declining influence of the EU as a flag State, and diverging interests between the parties, in particular between coastal States and distant water fishing nations. In the North-East Atlantic, the political landscape has evolved, with Brexit reshaping fisheries relations in the North-East Atlantic, and the climate crisis changing distribution of fish stocks.

Economic: the growing EU market demand for fisheries products from non-EU countries acts as a strong economic incentive for most global operators in the fisheries sector. This gives the EU a significant responsibility as a market state to ensure that imported products comply with sustainability standards. With the IUU Regulation and its enhanced implementation modalities resulting from the reformed Control Regulation, the EU has achieved significant results in the international cooperation

against IUU fishing while making the single market more difficult to access for IUU fisheries products. As envisaged by the Commission Communication on International Ocean Governance, EU marketing standards for fisheries products could be revised to ensure fair competition between domestic products subject to stringent CFP rules and imported products not necessarily subject to equivalent rules, without constituting trade barriers.

Social: considerations on working standards of personnel working on fishing vessels have gained importance over the last few years to ensure decent working conditions and fair remuneration of workers. This materialised through the social clause within SFPAs, and international instruments such as the ILO C188 convention on working standards in fisheries. However, the number of countries having ratified the IMO and ILO conventions relevant to fisheries is relatively low, including EU Member States, and significant progress is needed to ensure enforcement of their provisions.

Technological: transfers of technology are generally not included in the scope of international instruments, with some exceptions (SFPAs promoting cooperation between EU operators and the fishing sector in the non-EU countries, the BBNJ Treaty considering transfer of marine technology). However, implementation of international provisions, in particular those focusing on fisheries control and fight against IUU fishing increasingly rely on utilisation of modern technologies such as electronic reporting systems, vessel monitoring systems, digitalisation of information for port control and catch documentation schemes (including the catch certification scheme implemented through the EU IUU Regulation). Modern technologies support improved control and enhance the effectiveness of the measures through easier sharing of information between relevant parties, and enhanced opportunities for cross-checking of information submitted by operators.

Legal: RFMOs reviews of compliance of their contracting parties and the carding procedures implemented by the EU under the IUU Regulation show that there may be gaps between the commitments made by countries and the reality. There are many reasons for this, and they may stem from a combination of a lack of political will and insufficient national technical and financial capacity, in particular for developing countries. The EU can help to improve the situation through various mechanisms (dialogue through the IUU Regulation, the governance clauses of SFPAs, and financial support to capacity building) provided for in international treaties or EU interventions under bilateral or regional cooperation programmes.

Environmental: according to FAO (2024)¹⁰¹, in 2021 38% of the global catch originated from stocks outside sustainable limits, and the proportion of overexploited stocks was increasing. This shows that ensuring environmental sustainability of exploitation of fish stocks remains a challenge to be addressed by the international community, with due consideration of impacts of fishing on the environment. EU engagement in RFMOs and support to RFBs, and bilateral interventions within the framework of SFPAs are particularly relevant to improve the situation, as well as EU bilateral and regional development and international cooperation programmes. Recent experience shows that international treaties such as the CITES regulating trade of endangered, threatened or protected (ETP) species and the CMS on conservation of migratory species can further support international initiatives for the protection of ETP marine species subject to targeted or accidental fishing mortality such as diadromous species¹⁰², sharks and rays, and marine mammals.

¹⁰¹ [FAO \(2024\)](#) *The State of World Fisheries and Aquaculture 2024 – Blue Transformation in action*. Rome.

¹⁰² Diadromous fish are fish species which migrate between saltwater and freshwater environments like eels and sturgeons.

5.4. Opportunities, challenges and prospects

Table 18 below presents a SWOT analysis summarising the main elements to emerge from the above analysis. Strengths and weaknesses relate to ‘internal’ aspects i.e. of the policies themselves, while Opportunities and Threats relate to ‘external’ factors not specifically related to policy content.

Table 18 - SWOT of EU policies and initiatives relating to international fisheries governance

Strengths	Weaknesses
<p>Leading role of the EU in the implementation of international standards, supported by a strong CFP governance framework in EU waters (<i>leading by example</i>) and zero tolerance approach to IUU fishing.</p> <p>Availability of <i>EU funding</i> to support international developments, including capacity building.</p> <p><i>Leverage effect</i> of the strong position of the EU as market State.</p>	<p>Decreasing influence of the EU as flag State in external waters.</p> <p>Not all EU Member States ratified some key international instruments (i.e. C188 of the ILO on working standards in fisheries, STCW-F and the Cape Town Agreement of the IMO).</p> <p>Requirement to reach a consensus in RFMOs and international fora.</p>
Opportunities	Threats
<p>International <i>commitment</i> to sustainably manage and protect marine and coastal ecosystems through <i>SDG 14</i> of the United Nations 2030 agenda.</p> <p>Forthcoming <i>entry into force</i> of key international instruments such as the <i>BBNJ Treaty</i> and the <i>WTO Agreement on fisheries subsidies</i>.</p> <p>Utilisation of <i>trade instruments</i> to strengthen consideration of sustainability standards for imported fisheries products.</p>	<p><i>Widening gap</i> between the aspirations of the EU and some coastal States as regards allocation of <i>fishing opportunities</i> and technical measures in <i>external waters</i>.</p> <p>Uneven implementation and enforcement of international standards by developing States.</p> <p>Impact of <i>Brexit</i> on fisheries relations with non-EU countries in the <i>North-East Atlantic</i>.</p> <p>Changing distribution of <i>fish stocks</i> resulting from <i>climate change</i>.</p>

Source: own elaboration

5.5. Policy recommendations

Policy Recommendation 13: Support the entry into force of the international treaties adopted but not yet into force, and ratification of existing instruments

The international community recently adopted key international treaties supporting International Ocean Governance such as the BBNJ Agreement and the WTO Agreement on fisheries subsidies. The EU should encourage and support non-EU countries to ratify these instruments, contributing to the fight against IUU fishing and the conservation and sustainable management of marine resources. Some international instruments are in force, but are ratified by a limited number of countries. This includes the Port State Measures Agreement of the FAO. As the effectiveness of these instruments depends largely on the network of its contracting parties, the EU should further support broader accession to these treaties to extend the geographic coverage and implementation of their provisions.

Policy Recommendation 14: Continue to encourage EU coastal Member States to ratify relevant IMO and ILO Conventions

Not all coastal EU Member States ratified the ILO C188 convention on working standards in fisheries and the IMO conventions on training standards in fisheries and safety of fishing vessels. The EU cannot ratify these conventions on behalf of its Member States, but it should actively encourage Member States to do so.

Policy Recommendation 15: Continue to invest in capacity building of developing non-EU countries to support implementation of the provisions of international instruments

The EU should continue to utilise its existing technical and financial instruments to further support capacity building of developing non-EU countries, in areas supporting improved fisheries and ocean governance such as scientific research and monitoring, control and surveillance of fishing activities under their responsibilities. This entails strengthening the effectiveness of SFPAs (access and sectoral support components), technical and financial contributions to the work of RFMOs, funding development and cooperation programmes involving fisheries governance, and capacity building programmes foreseen by international instruments such as, but not limited to, the FAO's Global Capacity Development Programme to support the implementation of the PSMA.

Policy Recommendation 16: Take further leverage of the EU influence as market State to incentivise international progress towards sustainable fisheries

The EU should consider using trade-related instruments to ensure that fisheries products imported from non-EU countries are aligned with the sustainability standards imposed on EU producers through the CFP to incentivise exporting non-EU countries to enhance their fisheries management frameworks. An EU initiative could consider utilisation of the opportunities provided by the Common Market Organisation, and in particular the marketing standards (see page 19), or the broader ongoing Commission's proposal for a sustainable EU food system¹⁰³ seeking to mainstream sustainability in all food related policies.

¹⁰³ https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy/legislative-framework_en.

6. POLICY RECOMMENDATIONS AND CONCLUSIONS

The previous sections show key challenges facing EU Fisheries, Aquaculture, the Blue Economy and international ocean governance, which are briefly summarised below. Mapping these against EU level policies led to recommendations for strengthened EU policy to address those challenges.

6.1. Common Fisheries Policy – Fisheries

The key **challenges** for the fisheries sector, which need appropriate policy support are:

- adapting to and mitigating climate change and restoring biodiversity;
- responding to changing but uncertain market conditions and demand for EU-caught fish;
- adoption of new technologies and digital tools by operators and governing institutions.

Policy Recommendations

1: Increase direct support, address constraints and introduce innovative funding mechanisms to fisheries sector operators for green and digital transition.

Existing initiatives supporting the twin transition are mainly high-level or targeting technology and training providers. EMFAF is not sufficient in terms of scale or delivery mechanism to support operators in the twin transition. Fleet capacity definitions and limits may also be a barrier. Technical support and funding mechanisms are needed for the sector to adapt to the impacts of climate change (e.g. changing sea conditions and fish distributions).

2: Develop a fisheries-specific technology policy

Technology provides opportunities and challenges for the sector and its governance. Policy on artificial intelligence (AI) and digital tools is disparate and spread across various policy instruments. Given the importance of technology and future digitalisation, a single overarching fisheries sector policy on technology (with related implementation and support mechanisms) would be beneficial (and should be coherent with other EU policies related to this topic).

3: Develop market standards that ensure a level playing field in the production of seafood and other marine products imported into the EU.

The European Green Deal (EGD) requires EU operators to work to higher environmental and social standards, and to provide transparency for consumers. This needs to be supported by market policy and rules to ensure a level playing field with non-EU imports, which is particularly important for the import-reliant seafood sector. This market support is likely to be via enhanced market standards requiring minimum environmental and social standards and recognising higher standards.

4: Increase policy support for the fisheries sector labour force

The fisheries sector struggles to compete with other sectors for labour. Policy needs to help ensure recruitment to replace an ageing workforce, upskill personnel, and aid transition within and out of the fisheries sector.

5: Tighten policy content and implementation mechanisms to better support environmental objectives

Quotas are still sometimes set due to political compromise and regionalised conservation measures are slow to be adopted. Across many policy provisions and requirements (e.g. fisheries control), the

speed and quality of implementation by Member States is variable and stronger sanctions, besides withholding EMFAF, many be needed if Member States are not fulfilling their obligations.

6: Re-build trust between sector stakeholders and EU institutions through review of policy development, implementation and evaluation processes

Stakeholder involvement in policy development is critical to ensure policy is fit for purpose and implementation supported. This requires reducing administrative burden and simplification, but also reviewing the processes for policy development, implementation and evaluation that involve EU institutions and fisheries sector stakeholders.

6.2. Common Fisheries Policy – Aquaculture

Evaluations of the Open Method for Coordination (OMC), a framework for aquaculture cooperation in areas of EU/Member State shared competence, suggest this shared competency works well. However, there are still **challenges** impacting growth of the sector, especially in the face of climate change and increasing input costs.

Policy Recommendations

7: Increase emphasis on growing and diversifying EU aquaculture to meet EU food security and environmental objectives.

EU aquaculture has sustainable growth potential that has not been realised. There is a need for greater policy ambition to achieve this and to provide the necessary structural support for increased and diversified aquaculture production. This may need quantitative growth objectives in the framework of the 2021 guidelines and a review of regulatory and other barriers¹⁰⁴ to investment.

8: Consider a long-term strategic realignment of EU aquaculture to adapt to, and benefit from, the expected consequences of climate change.

Climate change represents a fundamental challenge to aquaculture, but also opportunities as sea temperatures rise, including new finfish species and the high productivity of low trophic species. This requires geographic and structural realignment, supporting existing aquaculture operations to adapt to changing conditions and supporting new or relocated aquaculture development as environmental conditions change. Support Member States on climate change-related strategies in their planning and Operational Programmes, as well as practical measures such as encouraging offshore aquaculture in more stable environmental conditions.

9: Support the development of coexistence between aquaculture, local communities and other marine economic activities.

Growth in aquaculture will require a wider appreciation of the role of the sector in contributing to EU food security as global food production systems are increasingly challenged. Although included in the 2021 guidelines, there is a need to facilitate this recognition across a wide range of EU policies. This could have three distinct, but related strands: (i) encouraging engagement with local communities and integrating aquaculture business within the local blue economy, (ii) develop coexistence opportunities with other coastal businesses such as tourism, fishing and wind farming and (iii) increase the visibility

¹⁰⁴ For instance the regulation on organic production, given its importance to aquaculture .

and acceptability of farmed seafood as a sustainable alternative to other protein sources, especially if imported from outside the EU.

6.3. The Blue Economy

In 2021, to integrate the Blue Economy into the European Green Deal and the Recovery Plan for Europe, the Commission adopted “A [new approach for a sustainable blue economy in the EU](#)”, which currently drives EU policy on the Blue Economy. Key **challenges** facing fisheries and aquaculture as part of the Blue Economy are the demand for marine space; ensuring fair green and digital transition; and global competitiveness.

Policy Recommendations

10: Support existing Blue Economy operators in adapting to climate change and making the green and digital transitions.

Existing initiatives supporting the twin transition are focused on the technology and training providers looking at reskilling for emerging Blue Economy sectors such as offshore renewable energy. While this is certainly required, there is less direct support available for fisheries, aquaculture and other established Blue Economy sectors, such as coastal tourism, to adapt climate change and make the green transition.

11: Incentivise co-location of activities in marine developments to maximise the use of marine space

EU policy provides a framework and guidance, leaving decisions to Member States, who prioritise large-scale renewable energy developments that make a direct contribution to emission reductions. To date there is little incentive (and sometimes regulatory barriers) to co-locate marine activities to better maximise the use of marine space. Policy should be developed to promote and incentivise co-location.

12: Define Other Effective area-based Conservation Measures (OECMs) and develop a framework for their implementation to supplement the EU’s MPA network.

Further pressure is placed on marine space availability with the expansion of an ecologically coherent MPA network. The EU should explore which areas outside formally protected areas could be considered as OECMs based on defined criteria, and what contribution a network of such sites could make to conservation objectives. The development of OECMs should not compromise but complement the delivery of the EU’s 2030 biodiversity strategy.

6.4. International Ocean Governance

The EU plays a proactive role in International Ocean Governance, but EU support for improved International Ocean Governance faces three main **challenges**:

- resistance of some nations to adhere to international standards underpinning fisheries governance;
- lack of capacity in developing countries to ratify and/or implement international instruments supporting ocean governance;
- the shifting power of the EU with decreasing influence as flag State and increasing influence as market State.

Policy Recommendations

13: Support the entry into force of the international treaties adopted but not yet into force, and ratification of existing instruments

The EU should encourage and support non-EU countries to ratify recently adopted key international treaties supporting ocean governance. Some international instruments are in force, but are ratified by few countries, which reduced their effectiveness. The EU should further support accession to these treaties to extend their geographic coverage and implementation.

14: Continue to encourage coastal EU Member States to ratify relevant IMO and ILO Conventions

Not all coastal EU Member States ratified the ILO C188 convention on working standards in fisheries and the ILO conventions on training and safety. The EU should actively encourage Member States to ratify these conventions.

15: Continue invest in capacity building of developing non-EU countries to support implementation of the provisions of international instruments

The EU should increase capacity building of developing non-EU countries through: strengthening the effectiveness of SFPAs; technical and financial contributions to RFMOs; funding development and cooperation programmes involving fisheries governance; and capacity building programmes associated with international instruments, e.g. implementation of the PSMA.

16: Leverage EU influence as market State to incentivise international progress towards sustainable fisheries

The EU should use trade-related instruments to ensure that fisheries products imported from non-EU countries meet sustainability standards and exporting non-EU countries are incentivised to enhance their fisheries management frameworks. This may involve the marketing standards and the Commission's proposal for a sustainable EU food system¹⁰⁵.

¹⁰⁵ https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy/legislative-framework_en.

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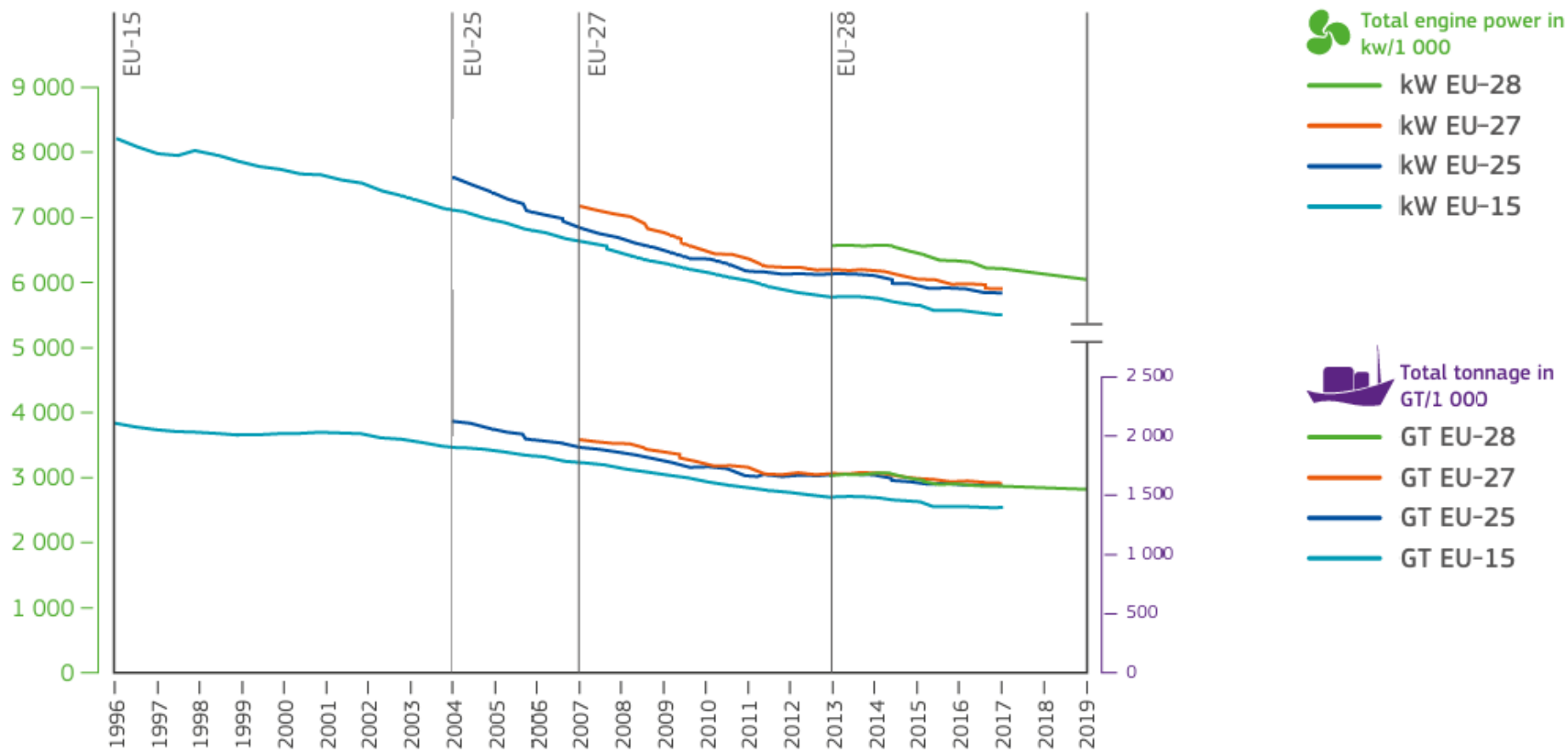
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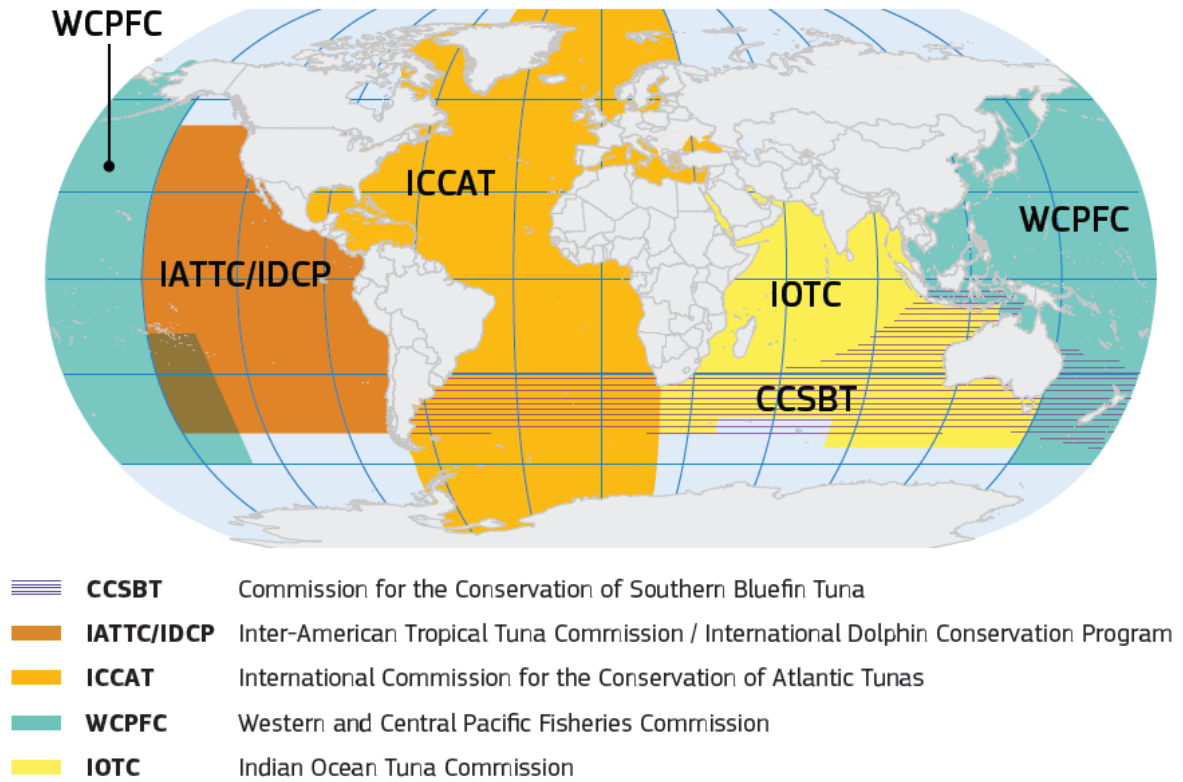
ANNEX I: EVOLUTION OF EU FISHING FLEET CAPACITY BETWEEN 1996 AND 2019



Source: European Union (2022)

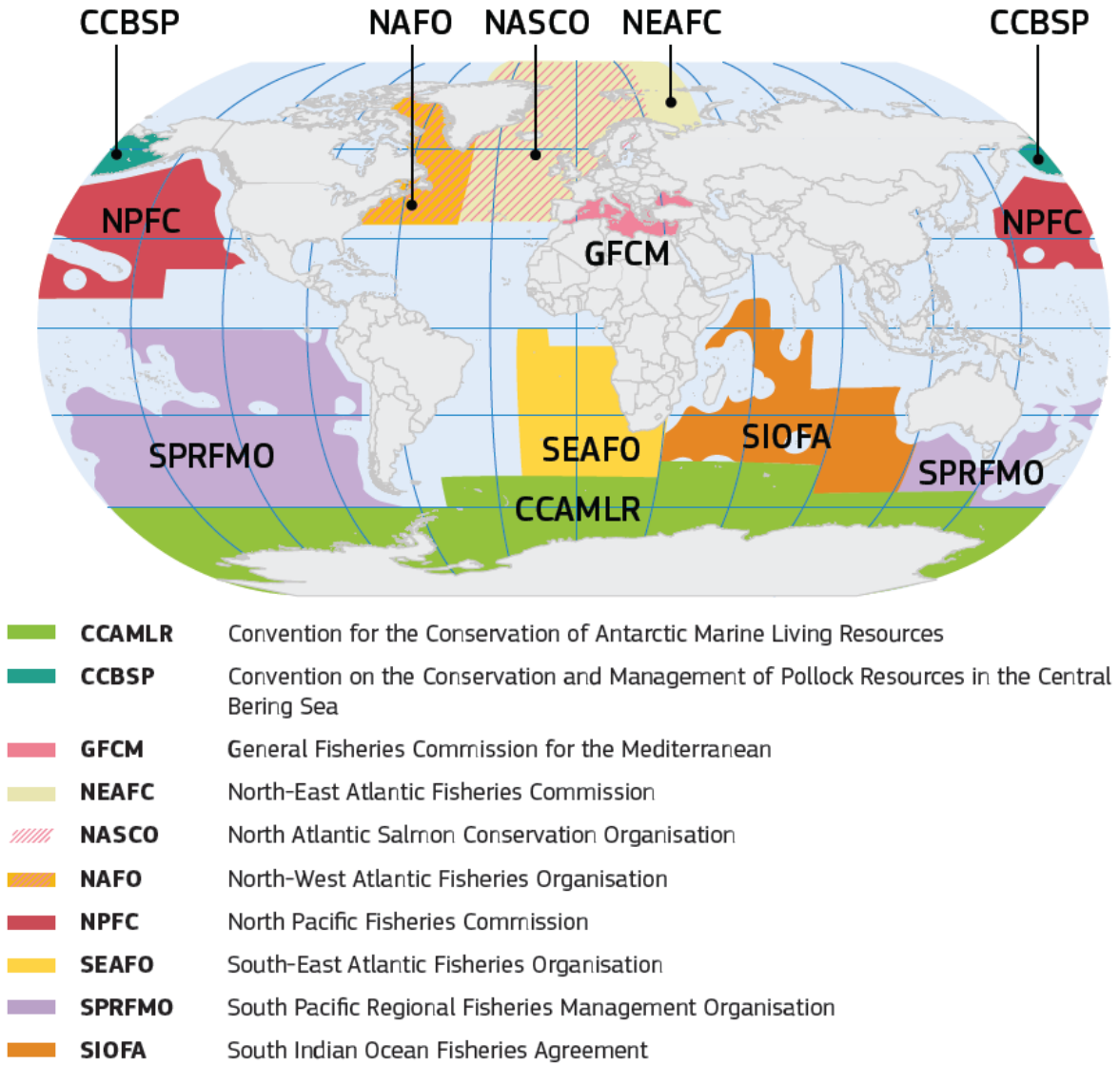
ANNEX II: REGIONAL FISHERIES MANAGEMENT ORGANISATIONS

Map 1: RFMOs for highly migratory fish stocks (tuna and associated species)



Source: DG MARE

Map 2: RFMOs for non-tuna species



Source: DG MARE

ANNEX III: IMPLEMENTED IUU PROCEDURES

Table: State of play of IUU procedures implemented by the Commission (29/05/2024)

Country	Pre-Identification	Pre-Identification Revoked	Identification	Listing	Delisting
Belize	November 2012	N/A	November 2013	March 2014	December 2014
Cambodia	November 2012	N/A	November 2013	March 2014	
Cameroon	February 2021	N/A	January 2023	February 2023	
Comoros	October 2015	N/A	May 2017	July 2017	
Curaçao	November 2013	February 2017			
Ecuador	October 2019				
Fiji	November 2012	October 2014			
Ghana	1. November 2013 2. June 2021	October 2015			
Kiribati	April 2016	December 2020			
Korea	November 2013	April 2015			
Liberia	May 2017				
Panama	1. November 2012 2. December 2019	October 2014			
Papua New Guinea	June 2014	October 2015			
Philippines	June 2014	April 2015			
Republic of Guinea	November 2012	N/A	November 2013	March 2014	October 2016
Senegal	May 2024				
Sierra Leone	April 2016				
Solomon Islands	December 2014	February 2017			
Sri Lanka	November 2012	N/A	October 2014	February 2015	June 2016
St Kitts and Nevis	December 2014				
St Vincent and Grenadines	December 2014	N/A	May 2017	July 2017	
Taiwan	October 2015	June 2019			
Thailand	April 2015	January 2019			
Togo	November 2012	October 2014			
Trinidad and Tobago	April 2016	N/A	September 2023	November 2023	
Tuvalu	December 2014	July 2018			
Vanuatu	November 2012	October 2014			
Vietnam	October 2017				

Source: DG MARE website https://oceans-and-fisheries.ec.europa.eu/fisheries/rules/illegal-fishing_en

This study provides an overview of the Common Fisheries Policy and other EU policies related to Fisheries, Aquaculture, the Blue Economy and International Ocean Governance. It describes the current and future challenges they face. Furthermore, the research assesses the strengths and weaknesses of EU policies in addressing these challenges, leading the authors to make a number of specific policy recommendations.

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