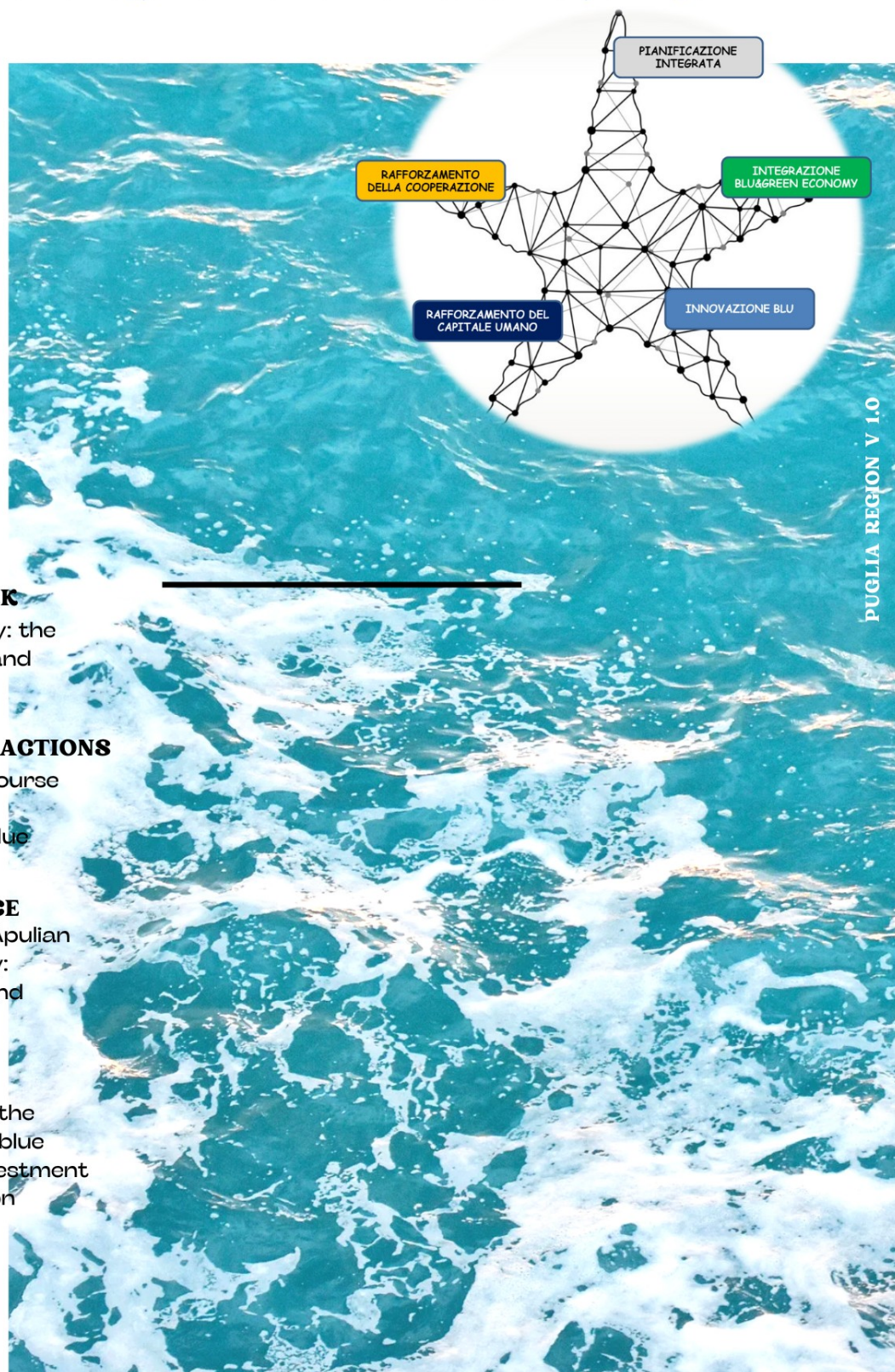


# #BLUEVISION2030

The strategy for a sustainable blue economy in Puglia



## REFERENCE FRAMEWORK

Blue Economy: the  
global vision and  
strategies

## STRATEGIC ACTIONS

Puglia: : the course  
towards a  
sustainable blue  
economy

## GOVERNANCE

Leading the Apulian  
blue economy:  
institutions and  
stakeholders

## FUTURE

Projects and the  
future of the blue  
economy: investment  
and innovation

**A sea of opportunities:  
innovation, sustainability and  
blue growth for the future of  
Puglia**

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## INTRODUCTION

The term ‘blue economy’ refers to any economic activity related to the oceans and seas. According to the UNDP definition, the concept of the *blue economy* emphasises fairness and takes into account the health of the ocean, as it strives to balance the three dimensions of sustainable development: economic, social and environmental. This interpretation shared by the European Commission in the document ‘A new approach for a sustainable *blue economy* in the EU, Transforming the EU *blue economy* for a sustainable future’ (of 17 May 2021), promotes sustainable growth and development from economic activities that minimise environmental degradation, biodiversity loss and unsustainable use of resources, while maximising economic and social benefits.

Overcoming the sectoral approach in maritime activities and the conditioning of national political boundaries, looking at the principle of cohesion – which guides the EU – are further reflected in the Territorial Agenda for EU 2020, which states: *Maritime activities are essential for territorial cohesion in Europe. The Marine Strategy Framework Directive and EU Integrated Maritime Policy call for coordinated actions from Member States on maritime spatial planning. Such planning should be integrated into the existing planning systems to enable harmonious and sustainable development of a land-sea continuum.*

Territorial and maritime cooperation between places in different countries helps to better exploit development potential and to address common challenges. By joining forces across borders, including through Interreg programmes and projects, a critical mass for development can be created and synergies promoted while reducing economic, social and environmental fragmentation and negative externalities. Rising sea levels, pollution, rising water temperatures and the frequency of extreme weather events have shifted economic activities to new areas by changing marine ecosystems. The humanisation of coastal and maritime areas, combined with the effects of climate change, natural disasters and erosion, puts pressure on marine resources to such an extent that land-sea management is necessary through **integrated land and maritime spatial planning**, at least at European level, which goes beyond the administrative boundaries of each Member State, generating positive effects on the environment and attracting investments in the *blue economy* sectors (tourism, energy, trade, aquaculture, marine resources, etc.).

The *blue economy* represents a strategic sector for Puglia, with a significant impact on the economic, social and environmental development of the Region. According to the Svimez report, Puglia was the most dynamic Italian region in 2019-2023, with GDP growth of 6.1%.<sup>1</sup> Currently, the Apulian maritime sector involves over 70,000 employees and contributes about 5% to the regional GDP. With more than 900 km of coastline, Puglia is a natural hub for activities related to fishing, coastal tourism, shipbuilding, offshore renewable energy and marine research. In this context, the Apulia Region wishes to lay the foundations for the implementation of an integrated and strategic vision for the development of the regional *blue economy*, called #BlueVision2030, describing the actions, tools and governance for a vision of sea development designed to meet the challenges of growth, environmental protection and innovation of the production and training systems that will characterise the new decade.

To do this, we need to analyse the main factors of regional development, i.e. the set of environmental, economic and cultural conditions and characteristics that have favoured and will continue to favour the expansion of the potential of the *blue economy*.

Starting with the **holistic factor: environment, participation and inclusion**. The geographical conformation of the European and regional maritime territory represents an initial blue territorial capital, fueled by the interactions between maritime and land activities. Therefore, the activities of the *blue economy* are not only found in coastal areas or islands, but also in the internal territories, beneficiaries by virtue of trade in goods and services. However, this interaction increases the economic,

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<sup>1</sup> Svimez, 2024, Svimez Communicates. Available at [https://press.regione.puglia.it/documenti/65725/218377/ITA\\_SvimezComunica\\_19\\_06\\_2024.pdf/f32fa29a-158b-c90a-f610-dbd2dcfe0d0?t=1718822122069](https://press.regione.puglia.it/documenti/65725/218377/ITA_SvimezComunica_19_06_2024.pdf/f32fa29a-158b-c90a-f610-dbd2dcfe0d0?t=1718822122069)

environmental and social impact on the marine environment, which must be taken into account in spatial planning choices.

In addition to being a sector that involves different actors, considered ‘multi-stakeholder’, the *blue economy* can be defined as **multidisciplinary**, involving a number of thematic areas. For its development, therefore, appropriately qualified professionals are needed, able to apply advanced technologies with an integrated and responsible approach: a “new marine-maritime scientist of the 21st century” capable of managing a transversal and multidisciplinary perspective.

The professions related to the *blue economy* require constant development and updating both in the technical (materials, mechanics, electronics and computer science) and linguistic (foreign languages) and relational fields. With the implementation of the *sustainable blue economy* approach, both at European and local level, new types of work will emerge, many of which have yet to be invented. Blue knowledge and training are therefore areas to invest in. This is why it is important to proceed in parallel on both sides: on the one hand, the care and development of local and regional planning; on the other hand, the ability to seize the opportunities linked to the next cycle of European and regional programming, both in terms of transnational interconnection and in the field of innovation.

The **integration factor follows: policies, interventions and projects**. The [Smart Specialization Strategy \(S3\)](#) of the Puglia Region is a key tool to direct investments in research and innovation, promoting sustainable economic growth and the competitiveness of the territory. As part of the Blue Economy, the Region has developed targeted strategies to exploit maritime potential, with an Entrepreneurial Discovery Process (**EDP**) approach, involving companies, research centres and institutions in defining innovation priorities. Just think of the:

- **Port and smart logistics** – efficiency and sustainability in port areas through the use of AI, deep tech, IT and robotics;
- **Blue energy** – development of offshore and port energy hubs for the ecological transition;
- **Bioeconomy and aquaculture** – innovation in marine resource management and sustainable production;
- **Coastal and cultural tourism** – enhancing maritime heritage for sustainable and technologically advanced tourism;
- **shipbuilding and smart boating** – evolution of the boating industry with innovative materials and digital solutions.

The development of the *blue economy* can be strategic for some areas of Puglia, such as those of the provinces of Brindisi and Taranto, already suited to maritime activities and where industrial reconversion processes and measures to combat unemployment are necessary. It is therefore crucial to strengthen policies and actions that can have a positive impact on the growth of skills and human capital. No less important, the growing availability of European, national and regional financial instruments to support blue growth and sustainability makes it possible to invest in strengthening European territorial cooperation, in particular that between the Adriatic and Ionian regions and more generally that of the entire Mediterranean basin.

Finally, the **growth, research and innovation factor**. The regional blue vision aims to help achieve the objectives of the European Green Deal by mainstreaming biodiversity, mobility and more. The *blue economy* contributes to climate change mitigation by developing offshore renewable energy, decarbonising maritime transport and greening ports, making the economy more circular by renewing standards for fishing gear design, ship recycling and decommissioning offshore platforms<sup>3</sup>. The development of green infrastructure in coastal areas aims to preserve biodiversity and landscapes, to the benefit of tourism and the coastal economy.

The marine environment as a whole has been under unsustainable human environmental pressure for almost a century. A cross-cutting aspect to be taken into account in all policies related to the sea is therefore that of social and environmental sustainability, with a view to integrating the blue and green economy, through the early identification of the impacts and opportunities of all measures and projects, for an effective multifunctional use of the marine space. It is crucial that any *investment in the blue economy* generates long-term social and economic benefits by protecting, restoring diversity, productivity and resilience of marine ecosystems and relying on clean technologies, renewable energy and circular material flows to achieve zero emissions.

In this context, the #BlueVision2030 Strategy is not a simple document, but the result of an institutional process launched in 2022, a concrete commitment to consolidate and enhance our *blue economy*, a sector of crucial importance for our territory. The context in which we move is clear: at international, European and national level, the *blue economy* is at the centre of attention. The European Commission, with its agenda for a "Sustainable *blue economy*", points the way: climate neutrality, circular economy, biodiversity protection, climate adaptation, sustainable food production and responsible management of maritime spaces. The European Green Deal, the Biodiversity Strategy 2030, the National Sea Plan and the Integrated National Energy and Climate Plan 2030 reinforce this vision, creating synergies between economic development and environmental protection. Puglia, with its long coastline and rich maritime tradition, cannot be left behind.

The document defines **five priority areas for action**: Blue Innovation: investing in research and technological development, from marine energy to biotechnology and underwater robotics; Integration between Blue and Green Economy: promoting offshore renewable energy and developing sustainable ports; Integrated planning: adopt integrated coastal management tools to protect our coasts and marine habitats; Strengthening cooperation: Participate in European networks and transnational projects to share experiences and opportunities; human capital: investing in specialist training and creating new job opportunities in the maritime sector.

These priority areas translate into 18 integrated and sustainable development goals and 83 concrete actions for growth and innovation, for a sustainable and circular maritime economy that preserves biodiversity, reduces resource consumption and combats climate change.

The governance of "#BlueVision2030" is a model of participation and collaboration, involving a Steering Committee, a Technical-Scientific Committee and Thematic Working Groups.

The strategy is also implemented through the B-VISA project, funded by the Interreg South Adriatic Programme 2021-2027, which aims to strengthen skills, test new technologies and monitor the impact of our policies.

Puglia actively promotes the participation of citizens and stakeholders through co-design and transparency processes.

Finally, a web portal will be set up to integrate and make accessible information on the blue economy of the region.

The #BlueVision2030 stems from a process launched on 27 June 2022, with Regional Executive Decision No 916, defining, as guiding principles, the objectives of the regional S3 on the *blue economy* and aims to become the instrument for guiding and linking regional strategic programmes in this sector, based on multiple sources of funding. #BlueVision2030 represents the holistic and wide-ranging vision that aims to identify the priorities of the regional policies and lines of action and investment of the Puglia Region in line with the following objectives:

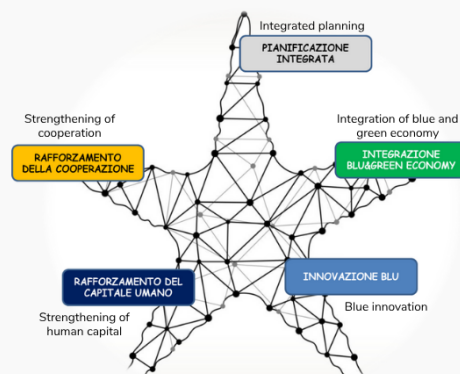
- a) enhancing the sea resource by preserving the marine and coastal ecosystem by combating negative anthropogenic and climate impacts;
- b) enhancing marine and underwater cultural assets to coastal ones by strengthening the interconnection between sea and land, including in tourism activities;
- c) foster the decarbonisation of the economy and support the production of energy from marine renewable sources;
- d) stimulate research, development and dissemination of new technologies and *open blue innovation*;
- e) link investments in the *blue economy* sectors to the development of production chains with high innovative and technological potential;
- f) increase opportunities for the acquisition and development of specialised and advanced skills and good employment by coordinating them with talent attraction actions.

For this reason, it envisages a systemic approach, by integrating its objectives with all programming documents and regional intervention policies, promoting cultural change in the blue area, making sustainability the driving force for changing the economy of the regional sea and embracing new economic opportunities.

# #BLUEVISION2030

The strategy for a sustainable blue economy in Puglia

A sea of opportunities:  
innovation, sustainability, and blue growth  
for the future of Puglia



## REFERENCE FRAMEWORK

Let's explore the blue economy ecosystem, built on three pillars: environmental sustainability (ecosystem protection), economic development (innovation and maritime employment), and social cohesion (equitable benefits and community engagement). Discover how these pillars shape the blue economy at global, European, national, and regional levels.

## OBJECTIVES, ACTIONS, AND MEASURES

Puglia, through Smart Puglia 2030, is moving from objectives to action for the blue economy, leveraging its S3 strategy and the MaSSBE partnership. The "Starfish" Strategy guides development across five dimensions: innovation, integration, planning, cooperation, and human capital. To realise this vision, the Region is mobilising financial resources, with a strong focus on innovation and cooperation.

## STRATEGY CAPITALISATION

The B-VISA 2030 project, led by Puglia, extends the regional Blue Economy strategy to Albania and Montenegro. Through transnational cooperation, the sharing of best practices, and the definition of joint action plans, it aims to create a sustainable development ecosystem in the southern Adriatic, strengthening governance and promoting innovation.

## DRIVERS OF DEVELOPMENT

For a prosperous and inclusive blue economy in Puglia, a strategic approach is required that leverages regional development factors and the skills of the quadruple helix. This involves connecting maritime sectors, protecting the environment, engaging communities, and fostering collaboration among diverse stakeholders, to achieve sustainable and innovative growth.

## GOVERNANCE

The Steering Committee (strategies), Technical-Scientific Committee (advisory), Working Groups (operations), Institutional Tables (coordination), and Networks/Partnerships (collaboration) form a complex yet effective governance system. This system aims for the sustainable development of the blue economy by integrating expertise and resources to address environmental, economic, and social challenges.

## PARTICIPATORY PROCESS

Puglia adopts a participatory approach for its blue economy strategy, involving citizens and stakeholders. Through consultations, questionnaires, and discussion tables, it aims to create an inclusive and dynamic strategy. The goal is sustainable development of maritime and coastal resources, based on the contributions of all stakeholders.

Version 1.0

FIGURE 1 MAP OF THE DOCUMENT



# 1 THE REFERENCE FRAMEWORK

The *blue economy* ecosystem is the set of economic activities, actors and resources that interact with each other to promote the sustainable use of the oceans, seas and marine resources. It is based on three main pillars: **environmental sustainability**, **economic development** and **social cohesion**.

1. **environmental sustainability.** The marine ecosystem is fragile and vulnerable to various factors, including pollution, overexploitation of resources and climate change. The *blue economy* is based on the idea that the use of marine resources must be carried out responsibly, without compromising the ability of ecosystems to regenerate and maintain biodiversity. In this context, **marine renewable energy**, **sustainable fisheries**, **ecological tourism** and **integrated management of marine resources** are key activities;
2. **economic development.** The *blue economy* ecosystem promotes innovation and job creation in areas such as **offshore energy**, **marine biotechnology**, **port logistics**, **sustainable shipping**, **marine litter management** and **blue tourism**. The development of new technologies, such as marine wind and solar energy, **desalination solutions** and **smart port infrastructure**, offers huge economic potential for coastal regions, generating new employment opportunities and incentivising sustainable investment;
3. **social cohesion.** The *blue economy* must promote an **inclusive approach**, which not only stimulates economic growth, but also fosters social inclusion, creating opportunities for **local communities** and strengthening the **resilience** of coastal populations. Policies and investments should ensure that economic benefits are distributed equitably, promoting job creation, the improvement of local infrastructure and the involvement of **local communities** in decisions relating to the management of marine resources.

## 2.1 The international context

Already in 1975, the European Commission and Mediterranean countries joined forces to address environmental issues under the **United Nations Environment Programme (UNEP)**. The result of this synergistic action is the **Mediterranean Action Plan (MAP)**.

Under the auspices of UNEP/MAP, a Framework Convention on the Protection of the Mediterranean Sea against Pollution was adopted in 1976 and amended two decades later to include in its scope the key concepts adopted at the historic 1992 Rio Conference as well as coastlines. UNEP/MAP and the Contracting Parties to the Barcelona Convention - 21 Mediterranean countries and the European Union - have progressively erected a single and comprehensive institutional, legal and implementation framework that integrates the building blocks essential for sustainability in the Mediterranean.

At global level, the **United Nations Convention on the Law of the Sea (UNCLOS)**, adopted in 1982 in Montego Bay (Jamaica) and entered into force in 1994, is the main international treaty governing the use and management of the seas and oceans, as well as the exploitation of marine resources, considered as a common heritage of humanity. The Treaty defines the rights and responsibilities of States over marine waters, regulates freedom of navigation, the protection of the marine environment and the settlement of maritime disputes.

By Resolution 72/73 of 2017, the United Nations declared 2021 – 2030 the Decade of Marine Sciences for Sustainable Development, aiming to mobilise the scientific community, governments, the private sector and civil society around a joint research and technological innovation agenda for a clean, healthy, predictable ocean in its current and future conditions, safe, sustainable, transparent and inspiring. This is the essence of *Ocean Literacy*, i.e. Ocean Literacy or Ocean Education, designed to spread the understanding of human influence on the ocean and the influence of the ocean on humans.

Among the 17 goals included in the **2030 Agenda** for Sustainable Development, with **objective 14** ‘*Conserve and sustainably use the oceans, seas and marine resources for sustainable development*’, it is emphasised

that careful management of the global ‘sea’ resource is the basis for a sustainable future. Rising sea levels, pollution, rising water temperatures and the frequency of extreme weather events have shifted economic activities to new areas by changing marine ecosystems. The increasing use of *the sea* resource, combined with the effects of climate change, natural disasters and erosion, puts pressure on marine resources to such an extent that land-sea management is necessary through **integrated land and maritime spatial planning**, at least at European level, which goes beyond the administrative boundaries of each Member State, generating positive effects on the environment and attracting investments in the *blue economy* sectors (tourism, energy, trade, aquaculture, marine resources, etc.). In 2023, after almost ten years of discussions and negotiations, a new international treaty to protect marine biodiversity in areas outside national jurisdiction, called the **BBNJ Agreement** or **High Seas Treaty**, was adopted by the United Nations. The treaty, which will enter into force after ratification by at least 60 states, complements the United Nations Convention on the Law of the Sea (UNCLOS) by regulating the governance of the high seas, which covers about 64% of the global ocean. Its objective is to conserve and sustainably manage marine biodiversity in international waters, balancing economic and environmental interests.

## 2.2 The European context

European legislation on the *blue economy* has historically been based on three Directives:

- The **Water Framework Directive (2000/60/EC)** stipulates that the protection of waters by Member States must be based on natural geographical formations and that the geographical reference unit for the management of the basin is the ‘river basin district’, an area of land and sea consisting of one or more neighbouring river basins and their groundwater and coastal waters.
- The **Marine Strategy Framework Directive (2008/56/EC)**, which aims to achieve ‘good environmental status’ for EU marine waters by integrating measures to conserve biodiversity and reduce pollution. In order to achieve good environmental status of marine waters by 2020, Member States were required to develop ecosystem-based strategies for their marine waters, to be reviewed every six years.
- In 2012, with the Communication from the European Commission “**Blue Growth. Opportunities for sustainable growth in the marine and maritime sectors**” COM(2012) 494 recognised the crucial role of the *blue economy* for economic growth and jobs in the EU. The strategy looks at sectors with the greatest potential for growth and innovation, such as Renewable Energy, Aquaculture, Coastal and Maritime Tourism, Marine Biotechnology, Marine Resource Extraction.
- The **Maritime Spatial Planning Framework Directive 2014/89/EU** requires EU countries to draw up maritime spatial plans, i.e. to map all human activities in their marine waters and identify their territorial development characterised by efficiency, safety and sustainability. MSP acts beyond borders and individual sectors to ensure that human activities related to the sea are characterised by efficiency, safety and sustainability.

Subsequently:

- Communication [COM\(2014\) 254 final Innovation in the Blue Economy: realising the growth and employment potential of our seas and oceans](#) i outlined the strategy to innovate the *blue economy* sectors in order to exploit their potential for growth and jobs, and to deliver environmental benefits, in relation to: knowledge and data gaps regarding the state of the oceans, seabed resources, marine life and risks to habitats and ecosystems; dispersion of research activities in marine and maritime sciences, hampering interdisciplinary learning and slowing down progress in key technologies and innovative economic sectors; shortage of scientists, engineers and skilled labour able to apply new technologies in the marine environment.

- Communication [COM\(2017\) 183 of the Commission Initiative for the Sustainable Development of the Blue Economy in the Western Mediterranean](#) was developed in close cooperation with the countries concerned and the Secretariat of the Union for the Mediterranean. It outlines the main challenges, the shortcomings that need to be addressed and possible solutions. The Framework for Action presents the proposed priorities and their added value, details actions and projects and sets out quantitative objectives and deadlines to monitor progress over time. The initiative, which promotes coordination and cooperation between the ten countries, aims to: ensuring greater security and protection, promoting sustainable blue growth and job creation, and preserving ecosystems and biodiversity in the Western Mediterranean region.
- The European **Green Deal**<sup>2</sup> (COM(2019) 640 final) laid the foundations for an ecological transformation of the European economy, with a set of legislative, financial and policy measures to reduce greenhouse gas emissions, protect biodiversity and promote resource efficiency. The Blue Deal represents its marine component, in close interaction and reciprocity with Green interventions according to the principle '*there is no Green without Blue*'. Protecting and restoring marine ecosystems for sustainable and resilient fisheries is therefore part of the Commission's efforts to achieve a more coherent implementation of the EU's environmental policy and the Common Fisheries Policy with its three sustainability pillars: environmental, economic and social. The development of offshore renewable energy is also encouraged, including floating wind and wave and tidal energy, which could cover a quarter of the EU's energy needs by 2050. In 2020, following the COVID-19 pandemic, the ambitious Comprehensive Plan for European Recovery earmarked significant resources from the EU budget and the temporary NextGenerationEU (NGEU) instrument to promote the green transition towards a fairer, more resilient and sustainable European economy for future generations.
- Commission Communication [COM\(2020\) 380 EU Biodiversity Strategy for 2030. Bringing nature back into our lives](#) is a key element of the European Green Deal, as it presents a comprehensive, ambitious and long-term plan to protect and restore the natural environment and ecosystems in the European Union. The main actions to be carried out by 2030 include: the creation of protected areas covering at least 30% of the land and sea area of the EU, the restoration of degraded ecosystems across the EU, the allocation of economic resources for the protection of biodiversity. The Strategy highlights the need to further strengthen the protection of marine ecosystems: the objective of protecting 30% of the surface of the sea implies an increase of 19% in protected areas and the creation of strictly protected areas for the restoration of habitats and fish stocks.
- Driven by this new sensitivity, in 2021 the Commission overtook the 2012 Communication on Blue Growth and introduced a new approach to the *blue economy* with the [Communication 'Transforming the EU blue economy for a sustainable future'](#) (COM/2021/240 final). The strategy highlights the need for an ecological and digital transition in maritime sectors to ensure sustainable economic development and the protection of marine ecosystems, aligning activities in the *Blue Economy* sectors with the objectives of the Green Deal. The proposed actions aim to contribute to the EU's climate neutrality, biodiversity protection and economic resilience by intervening in sectors such as aquaculture, fisheries, renewable energy, maritime transport, green shipping, shipbuilding and coastal tourism. The strategy also emphasises the importance of research, skills, innovation and cooperation between countries and maritime users. In the same year, the [Mission 'Restore our Ocean and Waters by 2030'](#) of the Horizon Europe programme, the European Union Framework Programme for Research and Innovation for the period 2021-2027, was established. The Mission funds projects to protect and

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<sup>2</sup>Submitted by the European Commission on 11 December 2019 – COM(2019) 640 final, available at [https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01a75ed71a1.0006.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01a75ed71a1.0006.02/DOC_1&format=PDF)

restore sea and water health by 2030 through research and innovation, citizen engagement and investment in the blue economy. The mission's new approach addresses the ocean and waters in a holistic way, aware of their key role in achieving climate neutrality and restoring nature. The mission contributes to the objectives of the EU Green Deal by protecting 30% of EU waters, restoring marine ecosystems and 25,000 km of free-flowing rivers, preventing and eliminating pollution, reducing plastic litter at sea, avoiding nutrient losses and minimising the use of chemical pesticides by 50%, as well as making the *blue economy* climate neutral and circular. The Mission supports regional engagement and cooperation through area-based "beacons" in major sea/river basins: Atlantic-Arctic, Mediterranean, Baltic-North Sea and Danube-Black Sea. The Mission's lighthouses are sites to pilot, demonstrate, develop and deploy the Mission's activities in the EU's seas and river basins.

## 2.2.1 The turning point of the sustainable blue economy

The Communication "Transforming the EU *blue economy* for a sustainable future" is structured in such a way as to address the issue of the *blue economy* in a comprehensive and integrated way, but specific sectoral frameworks that aim to regulate particular activities such as fisheries, aquaculture, marine energy, transport, natural resource management, research and innovation must also be considered within the complex and articulated European regulatory framework.

### 2.2.1 Fishing

For example, in the fisheries and aquaculture sector, the most recent reform was implemented by **Regulation (EU) No 1380/2013**, adopted in December 2013 with the aim of ensuring that EU fishing activities are environmentally sustainable in the long term and that their management is consistent with the achievement of economic, social and employment benefits. To this end, the Regulation introduced the objective of achieving the exploitation of all stocks at sustainable levels and various instruments to achieve it, such as multiannual plans. Adopted in the same period, [Regulation \(EU\) No 1379/2013](#) laid down rules on the common organisation of the markets in fishery and aquaculture products. The Regulation has given the sector greater responsibility for managing the supply of fishery products and focuses on the production and marketing plans of recognised producer organisations.

On 21 February 2023, the Commission published Communication COM(2023)103 [‘The Common Fisheries Policy, Today and Tomorrow: a Fisheries and Oceans Pact for sustainable, innovative, inclusive and science-based fisheries management’](#): the implementation report on the Common Fisheries Policy considers that the current basic regulation is fit for purpose and proposes improvements in several areas of its implementation, such as better consideration of the social dimension of the CFP, the application of a broader ecosystem approach to move towards the establishment of multi-annual TACs and greater transparency of the criteria used by Member States for the allocation of quotas.

The Communication is part of a broader ‘Fisheries and Oceans Package’, which also includes an ‘Implementation Report on the Common Market Organisation’ and Communication COM(2023)102 [‘Action Plan to Protect and Restore Marine Ecosystems for Sustainable and Resilient Fisheries’](#). The Action Plan aims to ensure good conservation conditions for the marine environment, which is under pressure from climate change and ocean pollution, in order to preserve healthy fish stocks and rich biodiversity and to ensure medium and long-term prospects for EU fishing communities.

This Communication is followed by COM(2023)100 [“On the energy transition of the fisheries and aquaculture sector”](#), in which the Commission proposes to reduce dependence on fossil fuels and to move towards a climate-neutral fisheries and aquaculture sector, in line with one of the ambitions of the European Green Deal to achieve climate neutrality in the EU by 2050. It proposes measures to



support the sector in accelerating the energy transition, improving fuel efficiency and shifting to renewable and low-carbon energy sources.

### 2.1.3 Aquaculture

As regards the aquaculture sector, [the Communication from the Commission “Strategic Guidelines for a more sustainable and competitive EU aquaculture for 2021-2030” COM\(2021\) 236 final](#) is the fourth and most recent strategy, following the previous COM(2002)0511, COM(2009)0162, COM(2013)0229. In line with the Farm to Fork Strategy and the European Green Deal, the Communication sets out new strategic guidelines for aquaculture in a sustainable way, so that it can help decarbonise the economy, combat and mitigate climate change, reduce pollution, facilitate better conservation of ecosystems, and be part of a more circular management of resources. To achieve this vision, the EU aquaculture sector will need to achieve the following interlinked objectives: (1) building resilience and competitiveness; (2) Participate in the green transition; (3) Ensuring social acceptance and consumer information; (4) Strengthen knowledge and innovation.

The [Commission Communication COM\(2022\) 592 final “Towards a strong and sustainable algae sector in the EU”](#) examines the potential of algae in the EU and outlines a coherent approach, including targeted actions, to support the development of algae cultivation and production. Algae is considered an underexploited resource that could provide sustainable food and feed, as well as pharmaceuticals and nutraceuticals, plant biostimulants, packaging of biological origin, cosmetics and other non-food products (e.g. biofuels). The Communication identifies 23 actions to: (1) improve the governance framework and regulations; (2) improve the business environment; (3) closing knowledge, research, technology and innovation gaps; (4) Increase social awareness and market acceptance of algae and algae products in the EU.

With regard to state-owned maritime concessions, Directive 2006/123/EC (so-called "Concession Directive") is of great importance. Bolkestein), which provides that state-owned maritime concessions are awarded by public tender and on which a long and tortuous adoption process is occurring in Italy.

Environment and biodiversity remain at the heart of the European agenda, consolidating land-sea interaction.

### 2.1.4 Maritime Transport, Marine Renewable Energy, Safety

In the field of maritime transport, the Communication **COM(2009) 8 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strategic Objectives and Recommendations for the EU Maritime Transport Policy until 2018** identifies a number of challenges to be addressed, including: EU maritime shipping in the face of globalisation of markets and increased competitive pressure; human resources, maritime skills and know-how; the long-term objective of achieving zero-waste, zero-emission maritime transport, improving maritime transport security and preventing terrorism and piracy; exploiting the full potential of short-distance maritime transport; maritime research and innovation; promoting innovation and technological research and development in order to improve the energy efficiency of vessels, reduce their environmental impact and improve the quality of life at sea.

As regards renewable energy, in 2014 the Commission published the [Blue Energy](#) Action Plan to support the development of ocean energy. This is, in particular, the energy generated by wave motion, tides, the conversion of thalassothermal energy and saline gradient energy.

In 2020, the Commission published Communication [COM\(2020\) 741 final of 19.11.2020 ‘An EU Strategy to harness the potential of offshore renewable energy for a climate-neutral future’](#). This strategy aims to increase the EU's production of electricity from offshore renewable energy sources from 12 GW in 2020 to over 60 GW by 2030, and then to 300 GW by 2050.

The [TEN-E Regulation](#) ‘on guidelines for trans-European energy infrastructure’, which entered into force in June 2022, introduced non-binding [regional agreements for the deployment of off-shore renewable energy. In January 2023, EU countries agreed on non-binding targets plus ambitions for offshore renewable energy production of 111 GW by 2030 and 317 GW by 2050.](#)

In 2021, the Commission adopted a package of proposals (known as the ‘Fit for 55’ package) under the European *Green Deal* to make EU climate, energy, land use, transport and taxation policies fit to reduce net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. Some of the proposals cover all or part of maritime transport, including:

- a proposal to include maritime transport emissions in the EU Emissions Trading System for the first time. Parliament adopted in plenary the new rules and the final acts (Directive (EU) 2023/959 and Regulation (EU) 2023/957) were adopted in May 2023;
- a proposal to revise the Alternative Fuels Infrastructure Regulation (AFIR), which notably requires ships to have access to clean electricity in major ports. Parliament adopted the new rules in plenary and the final act (Regulation (EU) 2023/1804) was adopted in May 2023;
- a proposal on the use of renewable and low-carbon fuels in maritime transport (FuelEU Maritime) amending Directive 2009/16/EC. Parliament adopted the new rules in plenary in July 2023. The Final Act (Regulation (EU) 2023/1805) was adopted on 13 September 2023. The revision includes measures to ensure that the greenhouse gas intensity of fuels used by the maritime transport sector gradually decreases over time, from a reduction of 2% in 2025 to 80% by 2050.

In 2023, the Commission published Communication COM(2023)268 entitled ‘Maritime [Safety: at the heart of clean and modern maritime transport](#)”, accompanied by proposals for the revision of five relevant legislative acts in order to modernise EU maritime safety rules and prevent water pollution from ships.

## 2.1.5 Research and Innovation

Communication [COM\(2009\) 466 from the Commission to the Council and the European Parliament. An Integrated Maritime Policy for better governance in the Mediterranean](#) is part of the specific actions launched by the Commission in accordance with its Maritime Policy Action Plan. It highlights the mechanisms and instruments for implementing an integrated approach to the management of maritime activities in the Mediterranean basin, stressing the need for an overall strengthening of maritime governance and cooperation with partners in third countries in the Mediterranean.

In response to the need to launch comprehensive marine research and to collect and integrate marine data for the sustainable development of maritime activities, in 2008 the Commission launched the European Strategy for Marine and Maritime Research, which proposes concrete measures and mechanisms to improve marine and maritime research, namely Communication [COM\(2008\) 534 final from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on a European Strategy for Marine and Maritime Research. A coherent European Research Area to promote the sustainable use of the oceans and seas.](#)

Of importance is the enhancement of the ‘**Blue dimension**’ of the **Smart Specialisation Strategies** promoted by DG REGIO and DG MARE through the *S3 Community of Practice*: Smart Specialisation Strategies support policy makers, regional and national authorities and other stakeholders involved in research and innovation to connect Blue Growth investment platforms and regional innovation initiatives. One in five EU regions, including Puglia, is specialising in at least one *blue economy* sector.

Communication [COM\(2010\) 461 from the Commission to the European Parliament and the Council. Oceanographic Knowledge 2020 Marine Data and Observations for Smart and Sustainable Growth](#) in 2010 the Commission adopted the Marine Knowledge Strategy 2020, which aims to improve the use of scientific knowledge on Europe's seas and oceans through a coordinated approach to data collection and assembly. Three objectives are set for the improvement of oceanographic knowledge:

1. reduce operational costs and delays for those using marine data and as a result: supporting the competitiveness of private industry in the global economy and addressing the challenge of sustainability; improve the quality of public decision-making at all levels; strengthening oceanographic scientific research; 2. increase competition and innovation between users and re-users of oceanographic data, allowing wider access to proven quality, rapidly available and consistent data; 3. improve the reliability of knowledge on oceans and seas, thus providing a stronger basis for managing future change.

Over the last decade, the European Union has developed key data infrastructures and ocean services such as:

- [Copernicus Marine Service \(CMEMS\)](#);
- [Copernicus Data and Information Access Services \(DIAS\)](#);
- [European Marine Observation and Data Network \(EMODnet\)](#).

The first prototype of the ***basic infrastructure of the European Digital Twin Ocean***, ***EDITO***, ***was presented at the Digital Ocean Forum 2024***. Its ambition is to make ocean knowledge readily accessible to citizens, entrepreneurs, scientists and policy makers by providing them with an innovative set of visualisation, interactive and user-driven tools. This knowledge will help design the most effective ways to restore marine and coastal habitats, support a sustainable blue economy, and mitigate and adapt to climate change. Leveraging existing European science and resources, the European DTO will provide coherent, high-resolution, multidimensional descriptions of the ocean. This includes its physical, chemical, biological, socio-ecological and economic dimensions, with forecast periods ranging from seasons to multiple decades.

## 2.3 The national context

Legislative **Decree No. 201 of 17 October 2016** is the national transposition of the Directive on European Maritime Planning (89/2014/EU). The guidelines have divided the marine waters that can be planned into three areas: the Western Mediterranean Sea, the Adriatic Sea, the Ionian Sea together with the Central Mediterranean Sea. Each maritime area covers an area in which the interests and competences of different regions are projected: Puglia is involved in the last two, which will each have to be the subject of a different maritime spatial plan. Through Maritime Space Planning (MSP), national authorities can use tools such as Particularly Sensitive Marine Areas, Avoidance Areas and Traffic Separation Schemes to protect MPAs from the risk of maritime accidents and limit opportunities for collisions with cetaceans. Maritime spatial planning should also pursue and coordinate, with a view to *blue growth*, objectives relating to the promotion of the use of energy from renewable sources, the conservation and sustainable exploitation of fisheries resources, the conservation of natural habitats, the development of the trans-European transport network, the safety of offshore oil and gas and water installations.

Other regulations and plans that are important from a planning point of view cover the different sectoral areas.

The Integrated National Energy and Climate Plan 2030 sets a target for Italian offshore wind: the document is being updated in the light of the more ambitious objectives set out in the European Green Deal.

The **National Strategic Plan for Aquaculture (PNSA)** is the government tool for planning aquaculture activities in Italy. The NSP 2021-2027 was recently drafted by CREA – Centre for Livestock and Aquaculture. The new NSPA-Italy is the reference document that the central administration wants to provide to regional administrations and *stakeholders*, in order to align Italian aquaculture policy with what is suggested by the new strategies adopted in the context of the Green Deal and in particular by the Farm to Fork Strategy, the 2030 Biodiversity Strategy, which are part of the broader *context of the blue economy* and the integration of aquaculture activities with the maritime economy. The NSPA 2021-2027 identified the following priority themes:

1. Protection of biodiversity;
2. Maritime spatial planning;
3. Animal health and welfare;
4. Scientific research and digitalisation;
5. Communication to the consumer and social acceptability of aquaculture;
6. The strategic role of the regions;
7. Participatory local development – CLLD;
8. International cooperation.

As with the 2014-2020 programming, the NSPA is an annex to the new Operational Programme of the European Maritime, Fisheries and Aquaculture Fund (EMFAF) 2021-2027. The Fund is the main source of funding for aquaculture and can be complemented with regional and national allocations. As provided for in the 2021-2027 EMFAF OP, the implementation of part of the measures relating to maritime spatial planning will be delegated to the Regions.

Since 2010, Italy has adopted a **National Strategy for Biodiversity (SNB)** following the commitments made by Italy with the ratification of the Convention on Biological Diversity (CBD, Rio de Janeiro 1992).

The current SNB 2030 is the instrument through which Italy intends to contribute to the international objective of ensuring that by 2050 all ecosystems on the planet are restored, resilient and adequately protected.

**Legislative Decree No 190 of 13 October 2010** transposes **Directive 2008/56/EC** and establishes the Marine Environment Strategy. It establishes rules for the planning and management of marine



resources, including the monitoring and assessment of the ecological status of waters. It also introduces the concept of “ecosystem approach”, to balance environmental protection with the economic development of maritime activities.

The **Prime Ministerial Decree of 10 October 2017** approves the **Programme of measures** for the achievement and maintenance of good environmental status of marine waters. The programme includes specific actions to reduce pollution, protect biodiversity and promote the sustainability of maritime activities. It includes cooperation between central and regional authorities to implement coordinated measures and subject the results to public and Community scrutiny.

The **Ministerial Decree of 15 February 2019** updates the definition of ‘good environmental status’ and sets environmental targets for marine waters. It is an integral part of the implementation of **the Marine Strategy Framework Directive** (Directive 2008/56/EC) and is based on 11 ecological descriptors that include biodiversity, fish resources and water quality. The aim is to ensure the protection of the marine ecosystem and the sustainable use of resources.

The **PNIEC 2024** (Integrated National Energy and Climate Plan) of July 2024 foresees significant growth for offshore wind, with the aim of installing 2 GW by 2030 and reaching 10 GW by 2050. The plan focuses mainly on floating wind, particularly suitable for deep Italian waters, with development potential in southern regions such as Puglia, Sicily and Sardinia. The expected contribution for offshore wind will be crucial to cover around 10% of national energy needs, contributing to decarbonisation and the reduction of energy imports.

The **2023-2025 Sea Plan**, approved on 31 July 2023 by the Interministerial Committee for Sea Policies, outlines a national strategy to turn the sea into an engine for sustainable development for Italy. The central objective is to optimise the use of Italian maritime spaces, ensuring integrated planning of economic and environmental activities. In line with EU Directive 2014/89, the plan aims to develop renewable energy projects, such as wind and offshore photovoltaics, exploiting the energy potential of Italian waters. The establishment of the **Exclusive Economic Zone (EEZ)** and the proclamation of the **contiguous zone** are fundamental steps to affirm Italian sovereignty over marine resources and improve the management of maritime spaces.

The document pays particular attention to the modernisation of trade routes and ports. The aim is to strengthen motorways **of the sea** by promoting intermodal transport in order to reduce the environmental impact and improve the competitiveness of the Italian logistics system. In this context, supporting the digitalisation and simplification of administrative procedures is a crucial element in facilitating port operations. Another key point of the plan concerns the protection of fish resources and the development of sustainable aquaculture. Through targeted measures, the aim is to ensure the protection of marine ecosystems and the conservation of biodiversity, including through the strengthening of marine protected areas. The Sea Plan also envisages investments in innovation and ship-building, key sectors for maintaining Italy’s competitiveness on the international scene. The transition to alternative and low-carbon fuels is a key element to decarbonise maritime transport and align the sector with European climate policies. The governance of this ambitious project is entrusted to the **Interministerial Committee for Maritime Policies (CIPOM)**, which will coordinate initiatives and monitor progress annually.

## 2.4 The regional context

The analysis of the data carried out by the Interdepartmental Working Group of the Apulia Region, supported by ARTI and Asset, revealed 21 regional legislative or regulatory initiatives in force concerning the *blue economy* sectors.

[The Regional Coastal Plan \(D.G.R. No 2273 of 13 October 2011 - BURP No 31 of 29 February 2012\)](#) (PRC) is the instrument governing the use of the areas of State Maritime Property, with the aim of ensuring the correct balance between the protection of the environmental and landscape aspects of the Apulian coast, the free use and development of recreational tourist activities.

With regard to **integrated coastal management**, [Regional Law No 17/2015 – ‘Rules on the protection and use of the coast’ governs](#) the exercise of administrative functions related to the management of maritime property and territorial sea areas conferred by the State pursuant to Article 117 of the Constitution, identifying the functions in the hands of the Region and those conferred on municipalities. In implementation of the provisions of the aforementioned regional legislation, Regional Regulation No 1/2020 - "Rules governing the procedure for granting state-owned maritime property for the construction of structures dedicated to recreational boating" defines the matter relating to the issue of concessions of state-owned maritime property and territorial sea for the construction and management of structures dedicated to recreational boating.

By Executive Decision No 00497 of 7 October 2024, the document ‘Framework for the Structure of the Ports System of the Apulia Region’ – DRAFT – was adopted as a tool for the reconnaissance of the consistency and the first ordering of regional ports in terms of structural equipment and services, declined in relation to the main functions that characterize both port infrastructures and the landing areas spread along the Apulian coasts.

With **regard to planning**, the Apulia Region has already carried out ‘*Planning and development of regional fisheries and aquaculture*’ with *Regional Law No 43 of 2017* and is committed to contributing to the definition of Maritime Spatial Planning and Integrated Coastal Zone Management (the EU Strategy for the Adriatic-Ionian Region).

With regard to land-sea interactions and landscape protection, the Puglia Region identifies the current **Regional Territorial Landscape Plan** as a reference planning tool in line with which to set specific objectives and identify planning units.

On **26 May 2022**, the Regional Executive approved by Regional Executive Decision No 761 the proposal for **maritime spatial planning of the Apulia Region** pursuant to Legislative Decree No 201 of 17 October 2016 ‘Implementation of Directive 2014/89/EU establishing a framework for maritime spatial planning’, followed by the Decree of the President of the Council of Ministers of 1 December 2017 approving the Guidelines containing the guidelines and criteria for the preparation of maritime spatial plans on the basis of which the Apulia Region provided its contribution.

**With regard to territorial cooperation**, it is worth mentioning first of all Regional Executive Decision No 1436 of 24 October 2022 on the IPA Italy-Albania-Montenegro (Southern Adriatic) programme (Interreg VI-A). Acknowledgement of the decision of the European Commission and approval of the programme. It pursues the development and cooperation strategy of the APULIA, MOLISE, ALBANIA and MONTENEGRO territories through five policy objectives, in line with the objectives of Regulation (EU) 2021/1060 and Regulation (EU) 2021/1059, namely Smarter Eu, Greener Eu, More Connected Eu, More Social Eu, Governance.

[Law No 157 of 23 October 2009 ratifying and implementing the Convention on the Protection of the Underwater Cultural Heritage, with annex, adopted in Paris on 2 November 2001, and rules adapting the national legal system](#) approves the Convention on the Protection of the Underwater Cultural Heritage. Executive Decision No 199 of 4 August 2022 ‘BlueMed PLUS’ approved by Regional Executive Decision No 1830/2021 acknowledges the Apulia Road Map and the identification

of the implementation path, namely the adaptation to the Apulian context of the Roadmap and Action Plan of the ‘Blumed’ project, based on a sustainable multidisciplinary model for the management, enhancement and expanded accessibility of the region’s underwater cultural heritage.

With regard to **tourism**, reference is made [to Regional Law No 11/1999 – ‘Rules governing accommodation facilities pursuant to Articles 5, 6 and 10 of Law No 217 of 17 May 1983, tourist activities for public use managed under concession arrangements and non-profit associations’](#) and [Regional Law No 2/2015 – ‘Rules for the knowledge, enhancement and recovery of trebuchets’](#) by which the Puglia Region recognises historical trebuchets located along the Apulian coast, as defined in Article 2(1), as assets of great identity and landscape value to be safeguarded, enhanced, recovered or restored.

Regional Executive Decision No 191 of 14 February 2017 Approving the Region's Strategic Tourism Plan

Puglia 2016/2025, called ‘Puglia 365’, aims to build a shared and participatory vision and strategy for tourism in Puglia.

1890 [Recognition of Cultural Routes and Routes - Guidelines, definitions](#) and criteria for the recognition of cultural routes and routes in line with the strategic objectives of the regional planning for the protection and enhancement of cultural, landscape and tourist heritage.

Also to be mentioned, in relation to fishing tourism and fishing tourism, are [Regional Law No 13/2015 – Disciplina del pescaturismo e dell’ittiturismo](#) and [Regional Law No 30/2018 – Amendments to Regional Law No 13 of 23 March 2015 \(Disciplina del pescaturismo e dell’ittiturismo\)](#).

With regard to **policy recommendations**, also linked to transnational cooperation projects in which the Puglia Region is involved, the [Policy recommendations to improve coordination among EU Cohesion Programs are considered. Med Policy Schemes for Innovation in the BBt sector \(Deliverable strategico project B-Blue\)](#) providing recommendations for the coordination of Macroregional Strategies for the 2021-2027 programming period of cohesion policy and Med policy schemes on: aquaculture, fishing, processing by-products and waste valorisation; algae production for high value compounds; Sustainable Integrated Multitrophic Aquaculture (IMTA) or Innovation in Aquaculture. Also worth considering is the [Memorandum of Understanding \(MOU\), Deliverable of the Interreg Smart Adria Blue Growth project](#), for the development of the *blue economy* sector in Italy, Albania and Montenegro.

Coastal **protection is another important area for regional regulation**. The [Guidelines for the management of beached plant biomass –Regional Executive Decision No 822 of 6 June 2022 \(published in BURP No 86 of 1 August 2022\)](#) concern the eco-sustainable management of beached plant biomass, while the ‘Guidelines for the seasonal maintenance of beaches– [March 2020 version’ Regional Executive Decision No 657 of 12 May 2020](#) (published in BURP No 74 of 22 May 2020), as amended by Regional Executive Decision No 906/2021, define good practices for the seasonal maintenance of beaches, contributing to the conservation of coastal heritage. The [Regional EIA Law of 7 November 2022](#) ‘Organisation and procedures for carrying out administrative functions in relation to environmental assessments and authorisations’ obviously also covers the issue of the sea and coastal areas, as well as the previous [Regional Law No 44 of 14 December 2012 ‘Regional rules on strategic environmental assessment’](#), concerning the assessment of the effects of certain plans and programmes on the environment.

Regional [Executive Decision No 2442 of 21 December 2018 on the Natura 2000 network. Identification of Habitats and Plant and Animal Species of Community Interest in the Apulia Region](#) aims to protect animal and plant species.

Linked to the economy of the sea and the protection of the coasts are the regional laws that have established natural parks in coastal areas, and in particular:

- [Regional Law No 25/2002](#) establishing the Regional Natural Park ‘Bosco e paludi di Rauccio’;

- [Regional Law No 28/2002](#) establishing the ‘Salina di Punta della Contessa’ Regional Natural Park,
- [Regional Law No 6/2006](#) establishing the ‘Porto Selvaggio e Palude del Capitano’ regional natural park;
- [Regional Law No 20/2006](#) establishing the ‘Isola di S. Andrea e litorale di punta Pizzo’ Regional Natural Park;
- [Regional Law No 30/2006](#) establishing the Regional Natural Park ‘Costa Otranto-S. Maria di Leuca e Bosco di Tricase’;
- [Regional Law No 31/2006](#) establishing the Regional Natural Park ‘Coastal Dunes from Torre Canne to Torre S. Leonardo’;
- [Regional Law No 13/2007](#) establishing the ‘Litorale di Ugento’ regional natural park;
- [Regional Law No 30/2020](#) establishing the ‘Costa Ripagnola’ and ‘Mar Piccolo’ regional natural parks.

In addition, [Regional Law No 9/2004](#) Reclassification of the natural parks of Porto selvaggio and Lama Balice - Amendment to Article 27 of Regional Law No 19 of 24 July 1997 (Rules for the establishment and management of protected natural areas in the Apulia Region).

Between coastal planning and economic development, [Regional Law No 43 of 3 November 2017 ‘Planning and development of regional fisheries and aquaculture’](#) aims to create a system of sustainable development, based on local resources, aimed at exploiting and networking the productive potential of the fisheries and aquaculture sectors, by supporting innovation, involving the world of research and activating cross-sectoral economic levers.

With regard to the regional laws concerning **the energy issues of the economy of the sea**, it is worth mentioning:

- [Regional Law No 34/2019](#), the fundamental objective of which is to promote the production of electricity from renewable sources in order to contribute to the reduction of greenhouse gas emissions, reduce dependence on fossil fuels, improve the quality of life, reduce harmful emissions into the atmosphere to accelerate the transition to a *clean economy*, promote an economy based on the closure of production cycles, efficient, resilient and sustainable, recognising hydrogen as an alternative fuel to fossil sources through its production with electricity produced from renewable sources;
- [Regional Executive Decision No 1205 of 9 August 2022](#) concerning guidelines for the preparation of a proposal for a Regional Hydrogen Strategy and [Regional Executive Decision No 658 of 11 May 2022](#) establishing the Regional Hydrogen Observatory;
- [Regional Executive Decision No 1799 of 5 December 2022](#), which provided for the approval of the final document of the Regional Hydrogen Strategy, #H2Puglia2030, which provides for initiatives related to maritime transport and desalination.

[Regional Law No 2/2018](#) ‘Guidelines for the development, environmental sustainability and economic and social cohesion of the territory of Taranto’ addresses the specific problems of the city of Taranto and its territory, in their regional, national and international importance, related to the crisis in the steel industry and the effects it has generated on the local community, placing in Article 8 the implementation of a ‘Taranto Futuro Prossimo’ Strategic Plan as a tool for consultation, useful for promoting the necessary and desired change in development guidelines, through integrated actions, geared to environmental remediation, sustainability and the dissemination of distributed production systems for energy from renewable sources.

[Regional Executive Decision No 556 of 20 April 2022](#) approves the proposal for a regional programme under the ERDF-ESF+ 2021-2027 programming period. In this regard, under Priority:2-Green Economy, support is provided for the implementation of systems for the production of energy from renewable sources, modernisation of plants and green hydrogen. In the case of plant modernisation, the focus of the intervention on energy exceeding self-consumption is conditional on the



adoption by the owners of the plants subject to intervention of measures for the benefit of end-users, including domestic end-users, residing in the territories in which the plants are located or neighbouring, which guarantee improved economic conditions in terms of the purchase of electricity through long-term energy purchase contracts (PPAs) or the creation of Energy Communities, as well as support for collective self-consumption, and/or implement technological solutions aimed at improving the local energy distribution system, in order to bring about progressive territorial energy independence, a reduction in energy costs and encourage the creation of *carbon neutral* areas.

Another important issue in the *blue economy* is **maritime transport**. Regional Executive [Decision No 551 of 20 April 2022](#), [Regional Law No 51/2021 laying down 'Provisions for establishing the 2022 budget and the 2022-2024 multiannual budget of the Region of Puglia – 2022 Regional Stability Law', Article 68 'Measures relating to maritime cabotage'. Implementing provisions. The amendment to the 2022 and multiannual budget for 2022-2024 pursuant to Article 51\(2\) of Legislative Decree No 118/2011, as amended](#), intends to establish a connection service between Manfredonia and the Tremi Islands. For 2022, the link will be of an experimental nature.

In the nautical and tourism sector, on 14 October 2022, on the occasion of the XVIII Brindisi Boat Show, the 'Memorandum of Understanding for the establishment of a network of professions and culture of the sea of Puglia' was signed, ratified by the Regional Executive with Regional Executive Decree No 431 of 3 April 2023, with the aim of analysing and studying the training needs and key professional figures in the nautical sector, identifying and describing the professional figures involved in the reference context, promoting initiatives relating to the nautical sector and creating laboratories of ideas aimed at reconstructing marine culture.

With regard to **drinking water**, the [Regional Executive Decision No 1690 of 28 October 2021](#) approved the programme of measures on regional wells, consisting of the installation of metering/counter systems, remote control and video surveillance. On [the other hand, Regional Executive Decision No 1536 of 30 September 2021](#) took note of the plan of measures to adapt the purifiers managed by AQP to Ministerial Decree No 185/03 with a view to the reuse of purified waste water.

With regard to **economic development**, the recognition of the *blue economy* as part of Apulia's specialisation strategy is of great importance. First [of all, the Regional Executive Decision No 209 of 20 February 2018 'Blue Growth and the Strategy for Smart Specialisation – Guidelines and priorities for intervention in regional programming'](#), which stressed the great importance of activating new strategic levers, involving all Apulian territories, which bring the *Blue economy* to the centre of development and innovation policies. The resolution also established the reconnaissance, in collaboration with the ARTI strategic agency, of the regional innovative system in order to identify the possible sectors of the economy of the sea in Puglia and the lines of action to support this potential that can be pursued through regional, national and European instruments. The *blue economy* was then included in the region's smart specialisation strategy as one of the main drivers of change by [Regional Executive Decision No 569 of 27 April 2022 approving the document 'Smart Puglia 2030 – Smart Specialisation Strategy \(S3\)'](#).

The regional strategy on the *blue economy* was therefore taken up by Regional Executive [Decision No 916 of 27 June 2022 – Blue vision 2030 in Puglia: towards a regional blue economy strategy](#) which has decided on this definition of a regional *blue economy* strategy and its *governance* system .

The **2020-2045 Area Plan** for the Apulia Optimal Territorial Area provides for the following desalination plants for the Region:

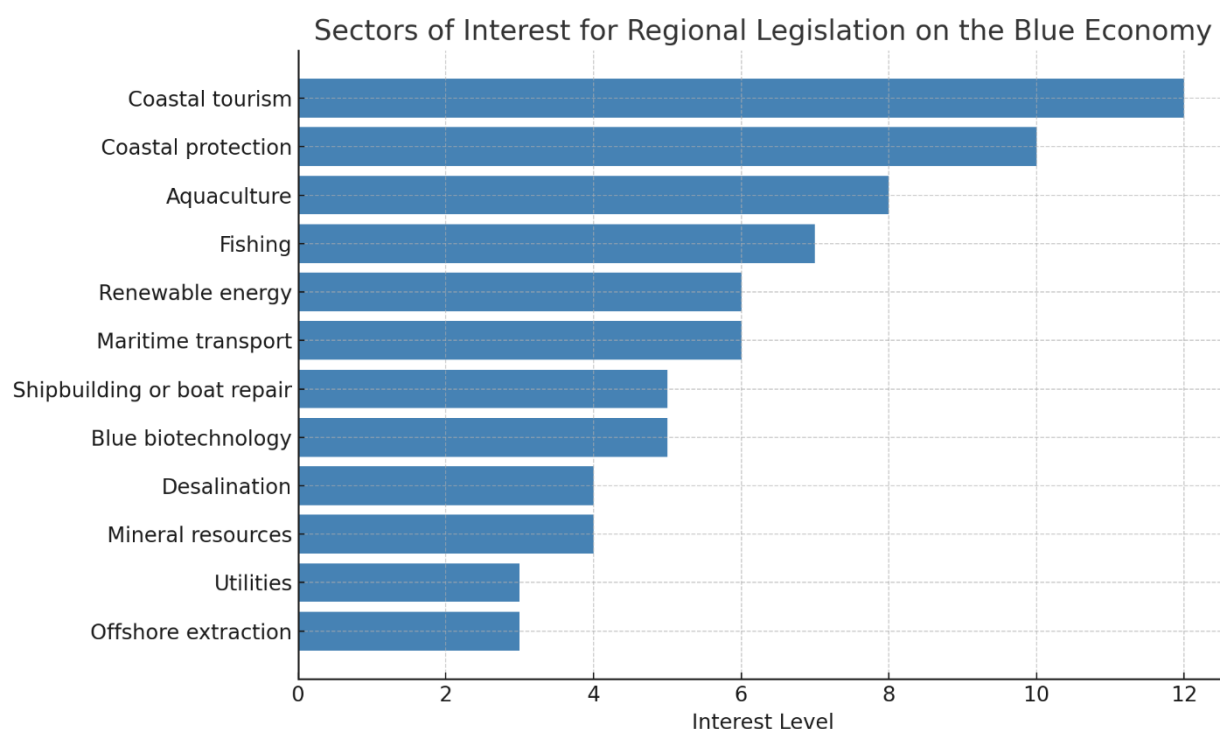
- desalination plant for the water supply of the Tremiti Islands. It is a plant aimed at overcoming the problems of supplying the islands through ship / tanker, with an estimated cost of € 3.5 million;
- desalination plant for the water from the brackish spring of the river Tara. It is planned to use drinking water from the Tara river in the countryside of Taranto, where low-salinity water (1.8-2.5 g/l) is available, using reverse osmosis technology. The amount of the intervention

is estimated at €55 million and the completion of the plant is estimated at December 2026. It is estimated by the AQP that, at maximum potential and net of the energy savings resulting from the reduction of extraction from the Salento wells and the energy savings given by the production of green energy through the attached photovoltaic plant, the Taranto desalination plant will consume 15,594 MWh/year, including the relaunch plant at the Taranto tank (AQP, 2024);

- desalination plant in the countryside of Brindisi. It is a system for the production of drinking water from seawater using reverse osmosis technology capable of resolving critical water supply issues in the Salento area fed by the Sinni Pertusillo scheme. Preparatory activities are currently underway to define the treatments necessary for desalination, as well as preparatory activities to prepare a Feasibility Document for the Project Alternatives (morphology, bathymetric and biocenotic characterisation of the marine area in front of the plant, modelling of the meteomarine and correntimetric climate, sampling and chemical analysis of marine waters aimed at their annual characterisation) for a total cost of around EUR 240 000. The PdA estimated an amount of €100 million for the implementation of the intervention. However, this amount may be revised during the preparation of the DocFAP, on the basis of the results of the preparatory activities currently in place, which could show the need to provide for new works not foreseen in the initial study.

By Regional Executive Decision No 1484 of 4 November 2024, the Regional Executive adopted the **update of the Regional Environmental Energy Plan (PEAR)**. Adoption of the draft plan and formalisation with a view to launching the strategic environmental assessment procedure.” Apulia is assumed to have an overall installation target of 641 MW of offshore wind by 2030, just under one third of the Italian target indicated in the NECP of July 2024.

The graph below illustrates the importance of the various sectors in regional legislation. It is clear that coastal tourism and coastal protection are particularly relevant areas in regional legislation followed by aquaculture and fisheries.



**Figure 2** Areas of interest of the regional legislation on the blue economy: number of indications expressed by regional structures. Source: Data processed by ARTI based on data collected by the Interdepartmental Working Group of the Puglia Region, 2023

There is a clear coincidence between the sectors in which regional legislation has developed and the sectors of the *blue economy* of greater economic importance in the Apulian production system. It is an important element especially if related to the implementation of initiatives and projects that have promoted these sectors. To name a few developed in Puglia:

- Coastaltourism: Green Pilgrimage, The rout\_net BlueMed, SmartMed, UnderwaterMuse Tourism4all, INHERIT;
- aquaculture and fisheries: Appesca, Aquarium, Acquacoltura Pugliese 4.0, Puglia FishLife-Style and Ecological Fisherman;
- Coastal protection: Triton, Cascade, Stream

With regard to **strengthening specialist training** in the *blue economy*, by Regional Executive Decision No 1942 of 21 December 2023, the Regional Executive launched the *SKILLS project 'High LEVEL and market-respondent Competences for a Blue and Digitalised Smart and skilled South Adriatic'* under the Inter-reg I.P.A. SOUTH ADRIATIC Italy-Albania-Montenegro 2021-2027 programme, with the aim of improving the availability of qualified skills and abilities to strengthen the development of key economic sectors in the South Adriatic.

The interlinkages between many of the projects carried out confirm and determine the need for more coordinated and less 'duplicative' action than both the actions and initiatives promoted by the Region and those in which the Region and its structures participate.

By Executive Act No 497 of the Apulia Region of 7 October 2024, the 'Framework for the Structure of the Ports System of the Apulia Region' was adopted, close to the approval stage. The Framework of Structure of the System of the Ports of the Apulia Region is based on the reconnaissance, purposely conducted, of the consistency of the current Apulian harbour truths and is proposed which instrument for the first ordering of the regional portualità in terms of structural endowments and services, and in reason of the main functions that characterize the various sites, they are the strictly understood harbour infrastructures or the numerous diffused within of landing place along the coasts of the Apulia. The priority objective of the Framework is to provide the cognitive and operational tools to effectively guide regional planning action for the enhancement of ports, also in the desirable path towards the development of specific planning tools at the regional scale.

### 2.4.1 The regional day of the coast

The establishment of the Regional Coastal Day (Puglia [Regional Law No 14/2024](#)) marks a fundamental turning point in the management of the coastal system, promoting an integrated vision involving all actors involved in the protection and enhancement of the sea and its resources.

Through this legislative instrument, the Apulia Region:

- Recognises the strategic and identity value of the coast, supporting initiatives to study, protect and enhance it, also in collaboration with educational institutions;
- adopts management policies based on an eco-systemic approach, encouraging the involvement of institutions and public participation for a conscious and sustainable use of natural resources;
- promotes, in synergy with the Harbourmasters' Corps - Coast Guard and other institutional entities, the integrated management of the coast, ensuring effective coordination between the coastal communities and the competent authorities.

## 2 BLUE ECONOMY IN PUGLIA: FACTORS OF DEVELOPMENT

Apulia, with its approximately 900 km of coastline bordering the Adriatic and Ionian Seas, has an extraordinary environmental heritage, an ancient maritime vocation and important port infrastructures, and certainly has great development opportunities linked to the economy of the sea.

The *blue economy* represents a strategic sector for Puglia, with a significant impact on the economic, social and environmental development of the region. According to the Svimez report,<sup>3</sup> Puglia was the most dynamic Italian region in the period 2019-2023, with GDP growth of 6.1%.

Currently, the Apulian maritime sector involves over 70,000 employees<sup>4</sup> and contributes about 5% to the regional GDP. With more than 900 km of coastline, Puglia is a natural hub for activities related to fishing, coastal tourism, shipbuilding, offshore renewable energy and marine research.

In this context, the Apulia Region wishes to lay the foundations for the implementation of an **integrated and strategic vision** for the development of the regional *blue economy*, called **#BlueVision2030**.

The regional strategy is underpinned by four key pillars:

- adopting a holistic approach, recognising the interconnectedness of the economy, the environment and society;
- the implementation of integrated policies, which harmonise sectoral interventions with spatial planning;
- support for growth, research and innovation, to promote the development of cutting-edge technologies;
- the creation of a collaborative regional ecosystem, fostering synergy between institutions, businesses, universities and citizens.

### 2.1 Holistic factor: Environment, Participation and Inclusion

Puglia has been included in one of the 15 EBSA (Ecologically or Biologically Significant Area), that is "*special area that serves important purposes... ..to support the healthy functioning of the oceans and many services it provides*" in the Mediterranean Sea and included in the Repository.

As such, EBSAs are appropriate candidates for priority conservation actions due to their characteristics meeting the identified CBD criteria:

- uniqueness or rarity;
- particular importance for the stages of the life history of the species;
- importance for threatened, endangered or declining species and/or habitats;
- vulnerability, fragility, sensitivity or slow healing;
- biological productivity;
- biological diversity;
- naturalness.

The dynamics affecting the *blue economy* of the regional territory are characterized by the following strengths:

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<sup>3</sup> Svimez report, 2024, The economy and society of the Mezzogiorno. The mill. Available at <https://online.fliphtml5.com/utfnt/ekpq/#p=1>

<sup>4</sup> Unioncamere – Centro Studi delle Camere di Commercio Guglielmo Tagliacarne, 2024, XII Report on the Economy of the Sea, The National and Territorial Dimension of Development. Available at [https://www.frlt.camcom.it/sites/default/files/content\\_editing/news/file/XII%20Report%20on%27Economy%20of%20mare.pdf](https://www.frlt.camcom.it/sites/default/files/content_editing/news/file/XII%20Report%20on%27Economy%20of%20mare.pdf)  
[https://www.frlt.camcom.it/sites/default/files/contento\\_redazione/notizie/file/XII Rapporto sull%27Economia del mare.pdf](https://www.frlt.camcom.it/sites/default/files/contento_redazione/notizie/file/XII_Rapporto_sull%27Economia_del_mare.pdf)



- growing tourism sector and presence of marine and coastal areas with great touristic and naturalistic potential;
- the presence of 3 Marine Protected Areas and an extensive NATURA2000 network (including regional local management initiatives called BLUE OASIS);
- deep-rooted tradition in the sector, fisheries and growth potential in the aquaculture sector and related skills;
- competitive business fabric in the nautical, fishing and tourism sectors;
- branched regional innovation system, including non-traditional actors;

and the following weaknesses:

- reduction of fish stocks and impairment of marine flora and fauna resulting from overexploitation of fisheries resources and habitats;
- structural deficiencies in port areas and landing points and over-segmentation of the fish supply chain;
- inadequate regulatory system and standards for the development of emerging sectors of the *blue economy*;
- reduction of the competitive advantage of the regional port system linked to the geographical centrality in the Mediterranean;
- intensive use of marine resources.

The Puglia Region intends to preserve and increase the value of the sea and the seafaring vocation as paradigmatic identity elements of the Apulian community and territory, acting appropriately through the levers of sustainable development and adopting an integrated and ecosystem approach, intends to:

- foster the development and fair and sustainable harmonious use of the sea and its resources by ensuring the management and maintenance of the ecosystem in a healthy, productive and resilient condition so that it can be a source of well-being and can provide the community with the necessary goods and services considering the cumulative impacts of the different maritime sectors, enhancing positive synergies between uses of the sea and minimising, where possible by resolving, conflicts between uses of the sea in favour of the most sustainable uses for the marine ecosystem;
- contribute to and develop a planning and management of marine and maritime activities integrated and coordinated with those on land, ensuring ecological continuity and compatibility of uses between land and sea and preserving the landscape value of coastal territories, solving or minimizing the critical issues generated by land-sea interactions and enhancing their synergies;
- promoting the conservation, rational use and biological rebalancing of aquatic ecosystems, fish fauna and flora, the socio-economic development and modernisation of fisheries and aquaculture;
- contribute to the development of supply chain infrastructure, including producer markets, wholesale fish markets, ports and landing points;
- implement a strategy aimed at creating a sustainable and integrated development system based on local resources, aimed at exploiting and networking the productive potential of the fisheries and aquaculture sectors, by supporting innovation, involving the world of research and activating cross-sectoral economic levers;
- enhance the strategic role within the Mediterranean by virtue of its geographical location by enhancing cross-border and international cooperation activities;
- bring the *blue economy* to the center of development and innovation policies by adopting new strategic levers both in traditional sectors such as fishing which is subject to a constant contraction of local fish resources and in which innovation is necessary in terms of economic and environmental sustainability and in expanding sectors such as the blue bioeconomy in which research, development and experimentation are an essential competitive factor.

Apulia, given its specific characteristics, should favour an extensive and holistic interpretation of the *blue economy*, taking advantage of its enormous synergies and at the same time focusing on the most innovative and high-growth areas. The economy of the Apulian sea is **indeed a sector with ample room for improvement** in terms of product quality and efficiency of industry and associated services, and the picture of the opportunities and impacts that external (climate and environmental crisis) and internal factors (infrastructure equipment, skills, propensity to innovation in companies, etc.) can determine in this area are still partly to be explored.

### **Industrial conversion**

The development of the economy of the sea is strategic for some areas of Apulia, such as those in the provinces of Brindisi and Taranto, which are already dedicated to maritime activities and where **industrial conversion** processes and measures to combat unemployment are needed. Indeed, the centrality of the *blue economy* was also set out in the Strategic Plan for the Development and Enhancement of Taranto's territory '*Taranto Futuro Prossimo*', promoted by the Puglia Region with the municipality of Taranto and with the support of ASSET, the *Regional Strategic Agency for the Eco-sustainable Development of the Territory*. The Strategic Plan, which was implemented pursuant to Regional Law No 2 of 25 January 2018 '*Guidelines for the development, environmental sustainability and economic and social cohesion of the territory of Taranto*', is a tool for consultation, useful for promoting the necessary and desired change in development guidelines, through integrated actions aimed at environmental rehabilitation and sustainability for the city. The Province of Brindisi has also embarked on a process of '*Support the Just Transition of Italian Territories*' to draw up an Action Plan for the Province of Brindisi.

Safeguarding natural resources means acting on a number of fronts, from **coastal** to **renewable energies** and **sewage treatment plants**; from the protection and enhancement of the **environment** and landscape, to the sustainable development of **tourism** and the economy; up to the **maritime** sector, in order to make maritime **transport** greener (pursuing the objective of achieving zero-emission ports, as highlighted in the Sustainable and Smart Mobility Strategy) and invest in promoting **training, the circular economy, employment** and the development of the *blue economy* sectors.

### **Training**

The multidisciplinary nature of the *blue economy* is clear from the above: for its development, appropriately qualified **professionals** are needed, able to apply advanced technologies with an integrated and responsible approach with constant development and updating, both in the technical (materials, mechanics, electronics, computer science and biotechnology) and linguistic (foreign languages) and relational fields, enhancing the ancient crafts related to the sea. In this regard, it should be noted that, as part of the strategic project '*High LEVEL and market-respondent Competences for a Blue and Digitalised Smart and skilled South Adriatic – SA SKILLS*', three *Skills Definition Labs* (interactive workshops led by experienced facilitators) were organised between September and November 2024, aimed at analysing employment trends in the main *blue economy* sectors in Puglia (Sustainable coastal tourism, Port and nautical activities, Marine renewable energy and blue biotechnologies) and contributing to the definition of the specific skills required by the labour market. In addition, the work of the Network of Professions and Culture of the Sea of Puglia has led to the construction of a 'mapping of the Education and Training offer' present and feasible in Puglia in the logistics, tourism and nautical sectors related to the *blue economy*.

### **Participation and inclusion**

The *Blue Economy*, with its focus on the sustainable development of marine and coastal resources, offers a unique opportunity to rethink tourism in an inclusive way. In this context, the [C.Os.T.A.](#) Project of the Puglia Region emerges as a pioneering initiative. With funding of 1.3 million euros, this project is committed to creating tourism accessible to all, breaking down the barriers that limit the use of the territory by people with disabilities or special needs. Integrating the principles of the Blue Economy, C.Os.T.A. promotes a model of tourism development that enhances the Apulian coastal

heritage, while ensuring that this heritage is usable by every individual. Through collaboration between tourism operators, public bodies and third sector organisations, the project develops pilot networks that improve the accessibility of tourism facilities, coastal areas and hinterland, demonstrating how environmental sustainability and social inclusion can and should go hand in hand.

## 2.2 Integration factor: policies, interventions and projects

The interest and focus on the *blue economy* in Puglia has a strong component linked to the elaboration of studies and analyses and of activities and initiatives financed both by the Structural Funds and by European research programmes and interregional cooperation.

In Outlook Report No 2/2020 Blue economy published by ARTI, with the aim of presenting the Apulian *blue economy* sector by analysing its key characteristics with specific attention to its innovative dimension, twelve sectors of the Apulian *blue economy* were analysed:

- seven *core* sectors, where most business activities have developed, i.e. aquaculture, shipbuilding and repair, desalination, offshore oil and gas extraction, fisheries, coastal protection, maritime transport;
- five *non-core* sectors, which in the Region are currently only partially or potentially affected by the marine theme (biotechnologies, renewable energy, mineral resources, tourism and utilities).

These sectors permeate, in different ways, the regional administrative apparatus such as, for example, the various departments that intervene on the *blue* theme in planning, but also through actions related to European funds (Economic Development, Environment, landscape and urban quality, Agriculture, rural and environmental development, Tourism, cultural economy and enhancement of the territory, Budget, General Affairs and Infrastructure, Mobility, Labour Policies, Education and Training), the Managing Authority, as well as Strategic Agencies and Bodies.

In recent years, the Apulia Region has launched a series of initiatives in the *blue economy* area, which exemplify, in a particularly significant way, the choice of change as the basic strategy of the Regional Administration and the assumption of ‘networking’ and multidisciplinary as privileged working methods.

This mapping of projects and initiatives by the Puglia Region was a reconnaissance action, coordinated by the Steering Committee referred to in section 4.2.1 below, developed in autumn 2022.

The analysis is the result of an analysis of the information sent by the regional structures concerning the Departments promoting Regional Executive Decision No 916 of 27 June 2022, namely the Department for Economic Development, the Department for the Environment, Landscape and Urban Quality, Agriculture, Rural and Environmental Development, Tourism, the Economy of Culture and Development of the Territory and the Budget, General Affairs and Infrastructure, in addition to 3 Strategic Agencies and a Regional Company. Specifically, the mapping of recent *blue economy* projects and initiatives in Apulia involved representatives from 6 Departments and 11 Sections, ARTI, ARPA, ASSET and the AQP, for a total of 18 respondents.

For the analysis of the initiatives, a data collection matrix was used for:

1. areas of interest of the *blue economy* by sectors of interest and strategic focus;
2. activities carried out in the last 3 years divided by:
  - a. projects funded by EU Territorial Cooperation Programmes;
  - b. projects financed by other European funds or national or regional programmes;
  - c. institutional activities;
  - d. forums and events.

Since the survey carried out for the three-year period 2019-2022, Puglia has participated in 54 European *blue economy* projects. Of these, 29 projects were funded under European Territorial Cooperation (ETC) and 25 projects were funded by other funds or programmes (e.g. EMFF, ERDF-ESF). While

from a purely numerical point of view there is a balance between projects financed by cooperation programmes and funds under regional management, from the point of view of the resources used there is a greater incidence of funds under indirect management, also due to the overall availability of the latter's appropriations for the Puglia Region in the 2014-2020 programming period.

The projects financed by the Interreg European Territorial Cooperation Programmes, which concern the *blue economy* sectors in Puglia, find a high participation of the so-called quadruple helix (institutions, industry, research and civil society) to mean the consolidation of a methodology of action that sees coordination and networking between the different actors of the regional ecosystem as central, with the common objective of promoting the development of innovation, new technologies of transnational cooperation. This is one of the added values of transactional cooperation that, beyond the size of the economic resources employed, fosters an exchange of know-how and innovative practices and the development of collaborative approaches that create knowledge communities and networks of excellent stakeholders. The Blue Boost project, for example, funded 35 small innovative projects of 10,000 euros (in Croatia in Zadar County; in Italy in the regions of Marche, Puglia and Friuli Venezia Giulia; in Greece in the regions of Western Greece and Central Macedonia; and in Albania in the provinces of Durres, Vlora, Saranda and Shengjin) through the innovation voucher scheme, which provided for the development of joint projects by companies, universities, research centres and consultancy companies, both locally and transnationally. Five of these projects concerned Apulian SMEs and universities, encouraging the creation of relationships between the actors of the quadruple helix that have been preserved beyond the duration of the project.

As stated above, among the initiatives carried out by the Apulian regional structures, information was also collected on institutional activities and on the organisation of and participation in forums and events of national and international importance.

The institutional activities recorded were mainly divided into monitoring and planning activities. Among the monitoring activities, the following can be mentioned in particular:

- marine-coastal water bodies within the meaning of the Water Directive (2000/60/EC);
- marine waters within the meaning of the Marine Strategy Directive (2008/56/EC);
- bathing water within the meaning of the Bathing Directive (2006/7/EC);
- waters intended for the life of molluscs within the meaning of Legislative Decree No 152/2006.

Moreover, to remember the preliminary activities and opinions for the release of authorizations to the use of the sea and its resources and for the compatibility of the Municipal Plans of the Coasts to the regional planning (PRC) and for the marine state property concessions for the realization of harbour infrastructures dedicated to the nautical one from diporto.

With regard to the organisation of forums/events dedicated to the *blue economy* organised or in which there was a significant presence of the Region, we would highlight the series of Future4Puglia thematic webinars that, in 2020, deepened knowledge of the characteristics of certain sectors of particular importance in the context of the Apulia Smart Specialisation Strategy, including: Economic Development and Maritime Transport, Recreational Boating and Aquaculture.

The initiative [#IlmarediPuglia, blue economy: development strategies](#) organised during Fiera del Levante in 2018.

With regard to participation in forums/networks dedicated to the *blue economy*, Puglia is represented in the Territorial Committee of the National Cluster BIG (Blue Italian Growth) and at the Inter-Mediterranean Commission of the Conference of Peripheral and Maritime Regions (CRPM). In addition, he is present at the National Technical Tables of the National Network System for Environmental Protection (SNPA): Offshore industrial installations; Eutrophication; Sea-monitoring; Marine Strategy; Protection of the Sea and Coasts.

Areas of interest include both the so-called “traditional” sectors and the “emerging” sectors of the *blue economy*, as previously defined. Regional interest is mainly focused on “traditional” sectors,

including Biological Marine Resources, with 12 respondents involved, Coastal Tourism (11), Maritime Transport (7) and Naval Construction and Repair (6).

Among the most representative projects in the traditional sectors, we can mention the APPESCA and Aquaculture 4.0 projects on marine biological resources. APPESCA plans to carry out surveys on the Apulian fishing sector and to monitor resources useful for planning activities with a view to sustainability, with particular reference to the analysis of the state of Apulian fishing ports.

Acquacoltura Pugliese 4.0 is instead an important project for the development of sites and infrastructures related to Apulian aquaculture and for the reduction of the environmental impacts of the interventions that saw the collaboration of the Region and the most important regional research institutes.

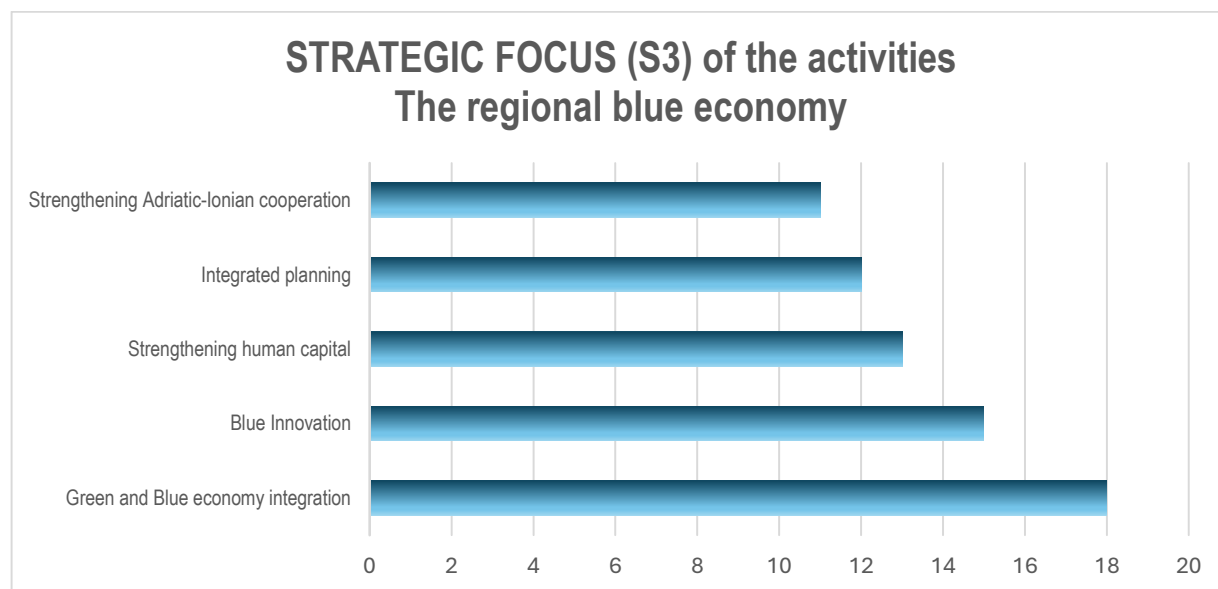
The Blue Med and Underwater Muse projects both addressed underwater cultural heritage, while being funded by different programmes; This is one of many cases where it is highlighted how important and useful is the coordination and pooling of information and the results of different regional projects to develop synergies.

Regional initiatives include regional projects funded by the **ERDF-ESF ROP 2014-2020** to support entrepreneurship and research in "blue" areas such as: *Future in Research* and *DEPARTMENTS*, *PIN*, *Innonetwork* and *Innolabs*.

Among the projects financed by OP EMFF 2014-2020, APPESCA, ACQUACOLTURA PUGLIESE 4.0, PUGLIA FISHLIFESTYLE, IL PESCATORE ECOLOGICO.

In addition, there are activities carried out within the APQ Sviluppo Locale, APQ Italia Navigando, **P.O. FESR 2007-2013** 'Implementation of physical models necessary to verify the feasibility of projects relating to tourist ports provided for in the regional programming'.

The graph below shows the relationship and convergence between the focus and activities of the regional structures that participated in the mapping presented in the previous chapter: there is a fairly uniform distribution of respondents' interest across all strategic focus areas.



**FIGURE STRATEGIC 3** focus of the activities on the blue economy of the structures of the Puglia Region: number of indications expressed by regional structures. Source: Data processed by ARTI on survey of the Interdepartmental Working Group of the Puglia Region

Convergence on *the theme of Green and Blue Economy* Integration stands out with all 18 respondents mentioning this strategic focus. For example, the CASCADE project, funded by the Interreg Italy-Croatia 2014-2020 programme in which ARPA Puglia collaborated, developed a series of coordinated maritime spatial planning and integrated coastal zone management actions to improve knowledge and assess the vulnerability of coastal and marine ecosystems in Italy and Croatia, with the ultimate goal



of restoring endangered species and supporting integrated management in 11 pilot areas, including the Torre Guaceto marine protected area. The Apulian Aqueduct's interventions on seawater desalination plants are also significant, namely:

- Tara watermaker (TA), capable of treating up to 1,000 l/sec of brackish water and producing up to 630 l/sec of drinking water (approximately 19.87 million cubic meters of drinking water per year): financed by NRRP funds;
- Brindisi watermaker, capable of treating up to 2,400 l/s of sea water and producing up to about 1,050 l/sec of drinking water (about 31.5 million m<sup>3</sup>/y);
- Tremiti Islands desalination plant, capable of treating up to about 27.8 l/s of sea water and producing up to about 11.6 l/sec of drinking water (considering a partial operation of the plant during the winter period, productivity can vary between 110 and 180 thousand m<sup>3</sup>/y); Manfredonia desalination plant, currently not provided for in the PdA 2020-2045 in view of the need to carry out in-depth checks on the location of the plant and its impact on vulnerable areas due to saline contamination by the current PTA.

The Department of Tourism, Economics of Culture and Territorial Enhancement has been one of the most active regional players, having participated in 11 Interreg projects over the last three years, as well as coordinating important measures on ERDF and FSC funds that have also concerned coastal tourism and tourist reception.

Many resources were deployed and used by Acquedotto Pugliese for the construction of purification plants which, in the three-year period 2019-2021, completed the adaptation and upgrading of purification plants amounting to €195 million; a biogas cogeneration plant from sewage sludge (with a power of 0.4 MW); 9 hydroelectric power plants (total installed power of 5.2 MW); 5 new refinement plants at the purification plants of Barletta, Trani, Conversano, Ruvo-Terlizzi and Sternatia.<sup>5</sup>

Finally, the extreme integration of the strategic focus and their complementarity are confirmed. Investments in Blue Innovation are, for example, favored by Green Integration and the blue economy and require the Strengthening of human capital. An example of integration between strategic focus is the Interreg Greece-Italy Triton project, in which the Department for Economic Development participated with the support of ARTI. The project arose from the need to reduce the consequences of coastal erosion and to establish appropriate environmental control systems. Triton envisaged the creation of a transactional *summer school* with the aim, in fact, of strengthening human capital, but also of proposing *best practices* in the field of integrated planning. Another expression of integration is the Green – Blue initiative, favoured by initiatives on sustainable tourism (coastal and marine) and in this area there are many projects carried out (e.g. Cohen, Due mari, BlueMedPlus, Inherit, Medusa).

*The link* between the integration of the *blue economy* and integrated planning is the Apulian Aquaculture 4.0 project, which combines planning for the development of sites and infrastructure linked to Apulian aquaculture with the reduction of environmental impacts. In addition, several projects have enhanced geo-spatial monitoring of marine waters and *warning mechanisms* that facilitate integrated planning.

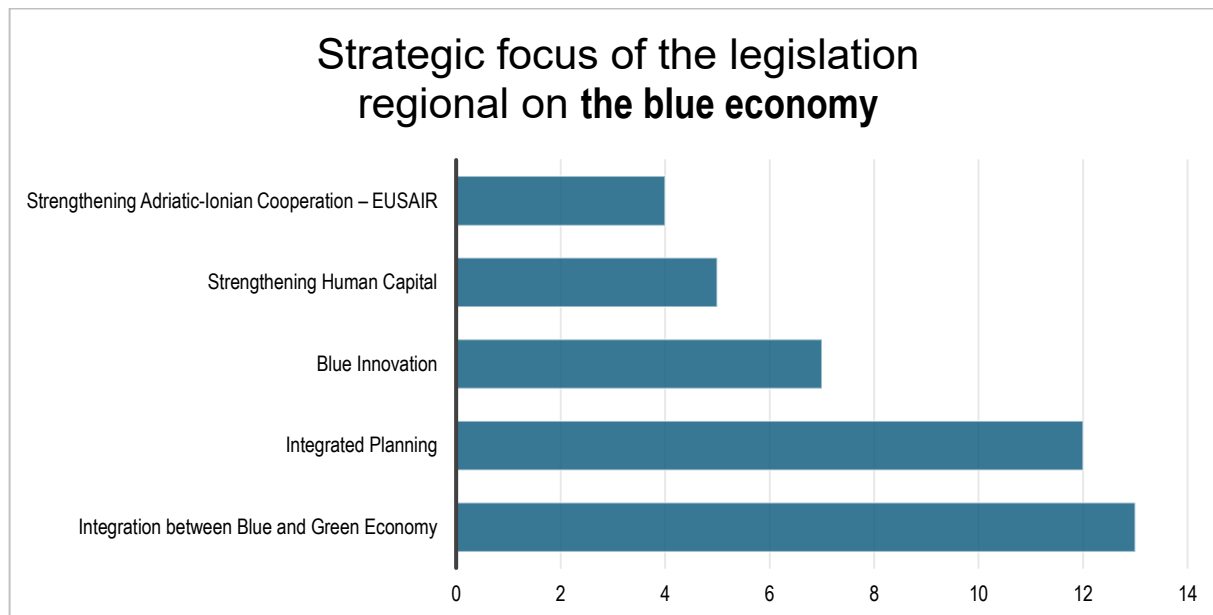
With regard to the relationship between the strategic focus and the regulatory and regulatory initiatives mapped out in paragraph 2.3, the graph below shows the prevalence of the integration between Blue and Green Economy and Integrated Planning, with 13 and 12 initiatives on the subject respectively. In line with the European guidelines, Apulia affirms *the principle 'there is no Green without Blue'*, as demonstrated, for example, by the draft law 'Provisions for the recovery of waste at sea and in inland

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<sup>5</sup> If the reference period is 2019-2021, the aging plants are the 5 indicated above; otherwise the completed refinement plants are Barletta, Trani, Conversano, Ruvo-Terlizzi, Sternatia, Cassano delle Murge, Santa Cesare Terme, Sammichele di Bari, San Donaci, Ugento, Faggiano, Andria, Manfredonia, Gravina di Puglia and Massafra.

waters and for the promotion of the circular economy’ approved on 24 October 2019, which represents a real green revolution for the waters of the Mediterranean Sea.

In the analysis of the regional regulatory documents, the *strategic focus* of the regulatory initiatives was indicated, taking up those indicated in the Smart Puglia 2030. The graph below summarizes the data highlighting the prevalence of the Integration focus between Blue and Green Economy and Integrated Planning, in line with the most recent European indications.



**FIGURE STRATEGIC 4** focus of regional legislation on the blue economy: number of indications expressed by regional structures. Source: Data processed by ARTI based on data collected by the Interdepartmental Working Group of the Puglia Region, 2023

In particular, the primacy of the Strategic Focus on Integration between *Blue and Green Economy* corresponds to the projects participated in and/or promoted by the Apulia Region. Here too, the ‘*there is no Green without Blue*’ principle is affirmed and projects have been carried out in this direction, for example on ‘sustainable’ fishing nets and the reuse of fishing nets (Aether and Investinfish project), or studies on the recovery of aquaculture and fisheries waste (B-Blue project).

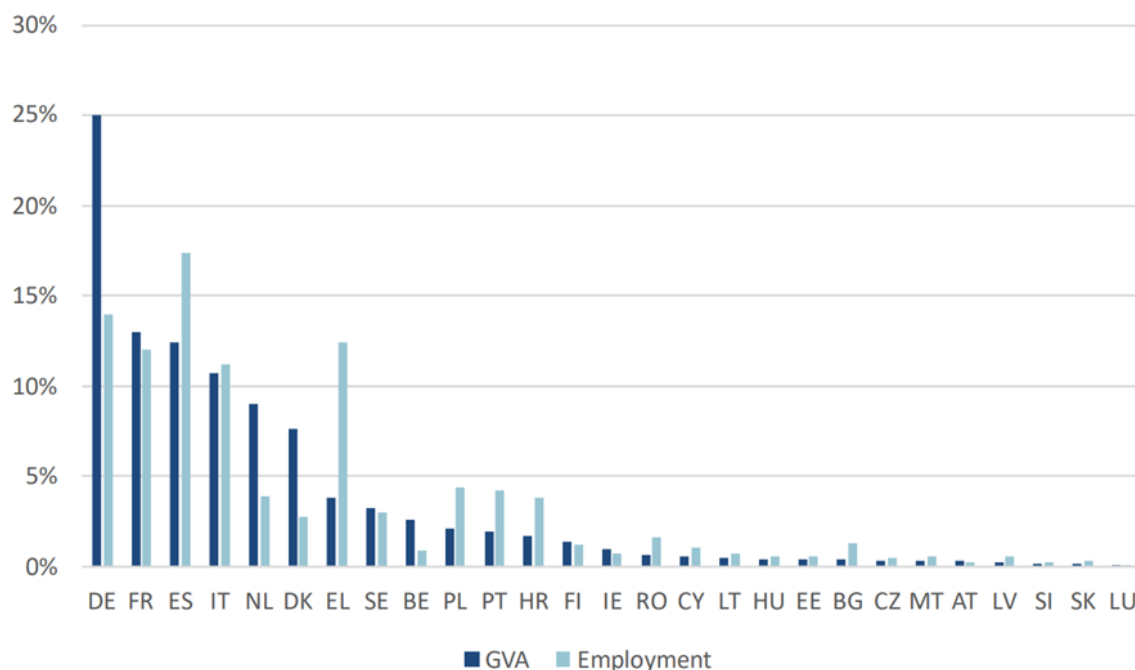
Integrated planning is the second most important focus on *blue economy* legislation. This is a consequence of the centrality of maritime spatial planning and its numerous implications on policies and on the economic and environmental system. Also with respect to integrated planning there are several regional project interventions that underline its importance, for example the Apulian Aquaculture 4.0 project that combines planning for the development of sites and infrastructures related to Apulian aquaculture with the reduction of environmental impacts. In addition, there are several projects that have enhanced geo-spatial monitoring on marine waters and on “warning” mechanisms that facilitate integrated planning.

In conclusion, the *blue economy* for Puglia represents a valuable investment both in the short and long term, able to produce solutions that combine development and employment with social and environmental sustainability. The Blue Vision has the ambition to identify strategic lines and priority actions to better coordinate regional action on the subject, to seize synergies and avoid duplication, to offer a holistic and systemic vision, obtained through the involvement of citizens and regional stakeholders.

## 2.2 Growth driver, research, innovation: The potential of the blue economy

According to data from the European Union's EU *Blue Economy* Report 2024, the EU's established *blue economy* sectors directly employ almost 3.59 million people and generate around €623.6 billion in turnover and €171.1 billion in gross value added (GVA). In the EU (27 Member States), Germany, Spain, Italy and France are the largest contributors to the established sectors of the EU Ox Economy: together they account for 61% of GVA and 55% of employment.

National contribution to the EU Blue Economy, percentage (EU27 = 100%) in terms of employment and GVA, 2021



**FIGURE 5** Blue economy contribution share of employment and gross value added in EU-27 countries. Source: EU blue economy Report 2024 on Eurostat (SBS) and DCF data

The leading sectors are 'living resources' (fisheries and aquaculture) with 543,000 people employed, +4% employment (compared to 202) and +27% GVA of €22 billion; marine renewable energy (off-shore wind) with 14,000 people employed, +258% of employment generated and +326% of GVA equal to 3 billion euros; shipbuilding and repairs with 312,000 people employed, +18% employment and +54% of GVA equal to 18 billion euros.

Interesting is the figure for the emerging desalination sector, which is growing to 3.4 billion m3 of desalinated water per year in the EU in 2024. Also significant is the market value achieved by Blue Biotechnology, which foresees a growth rate (CARG) of about 7% by 2032: Italy is third – after Germany and France – with 10% of the total market value among the member countries.

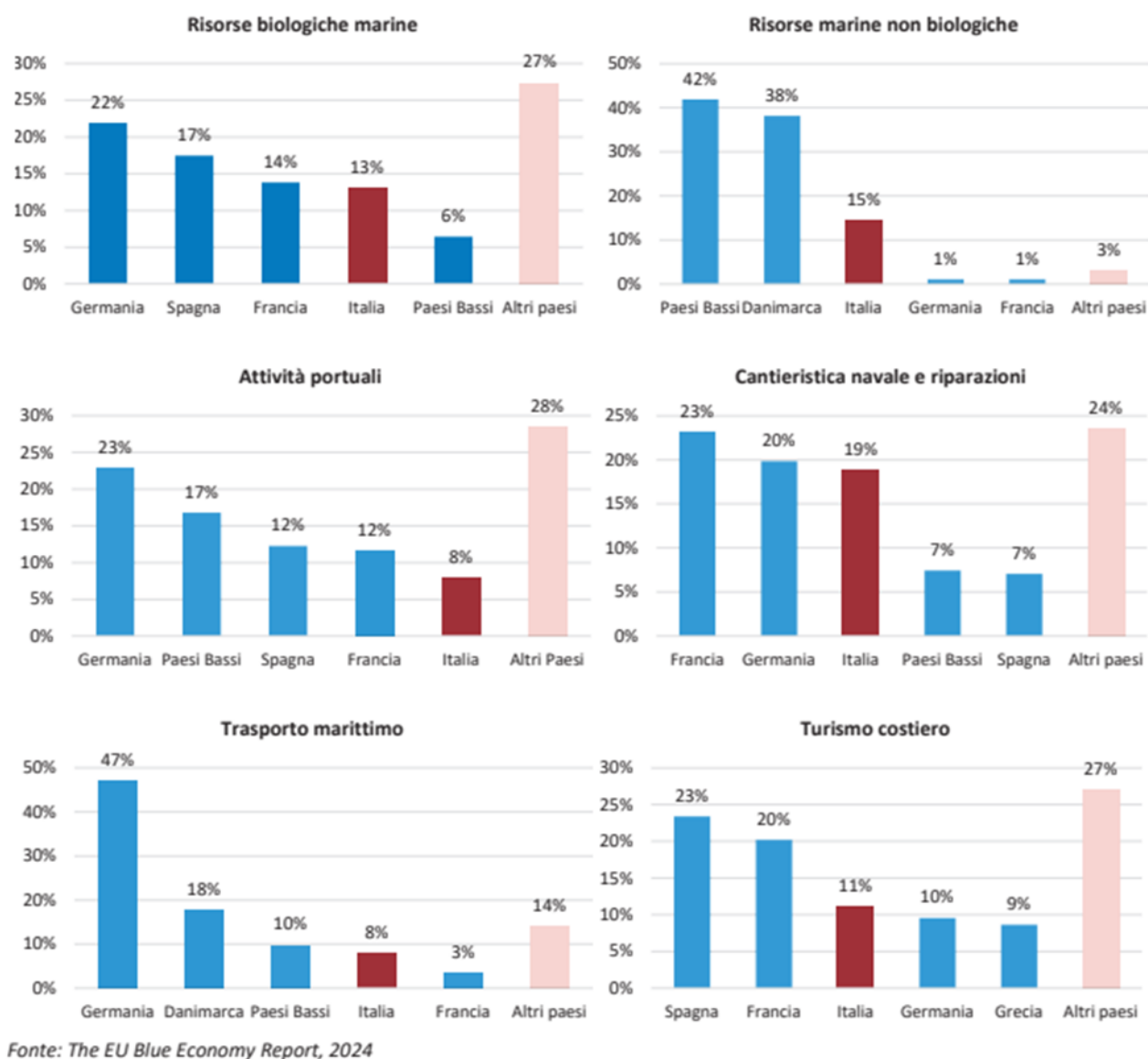


FIGURE EUROPEAN 6 ranking of blue economy sectors by sector value added (2021 data). Source: Unioncamere, Tagliacarne, Ossemare 2024 on EU blue economy Report 2024

The Apulian territory with about 900 km of coastline<sup>6</sup> is the third Italian region by coastal extension and is the fourth Italian region by number of residents in coastal / coastal areas with about 2 million inhabitants.

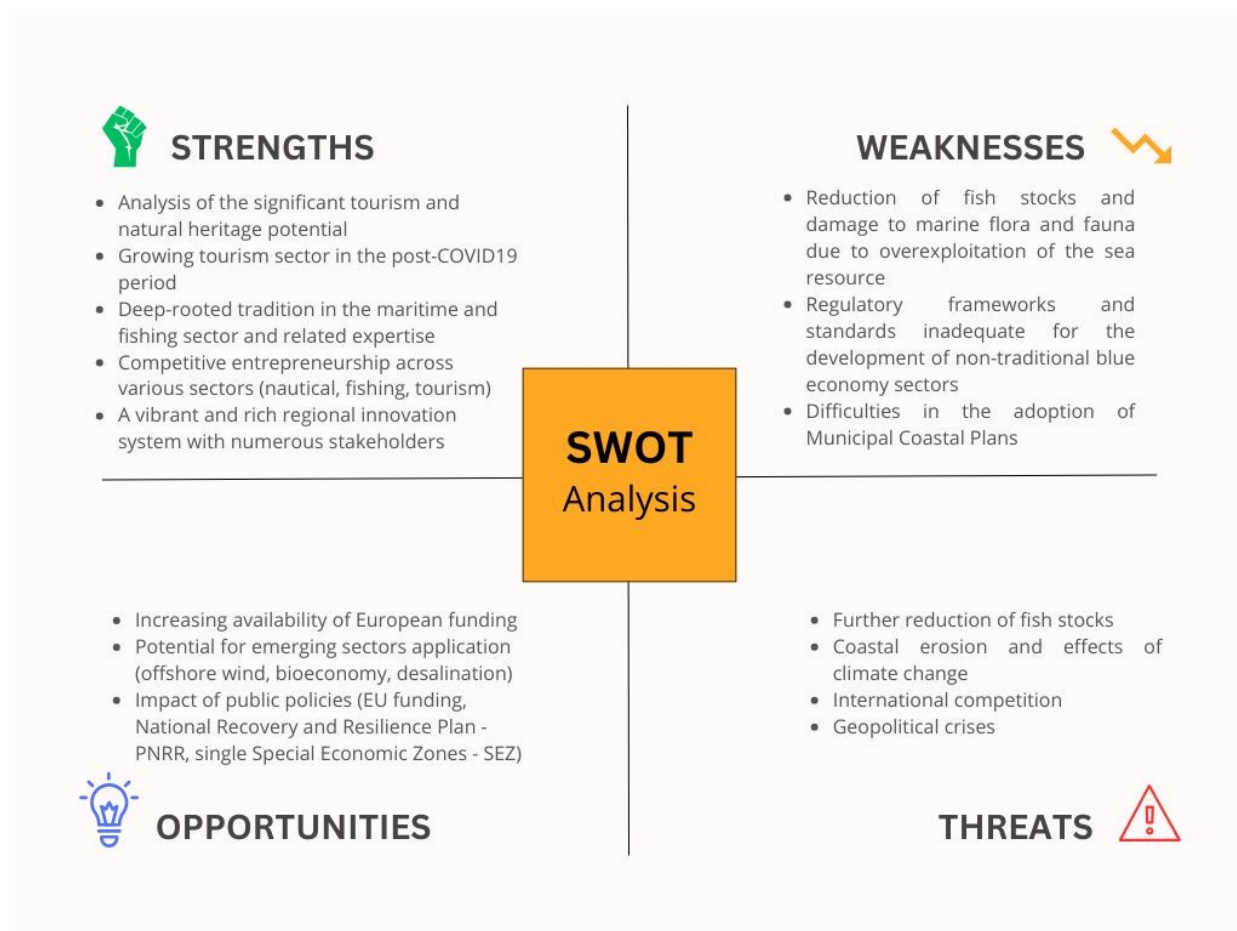
Developments in the *blue economy* in the region have potential in:

- growing tourism sector and the presence of areas with great touristic and naturalistic potential;
- deep-rooted tradition in the maritime and fisheries sector and related expertise;
- competitive entrepreneurial fabric in different sectors of the *blue economy* (i.e. nautical, fishing, tourism);
- broad regional innovation system, including non-traditional actors;

and some weaknesses:

<sup>6</sup> Regional Coastal Plan, 2011 [http://www.sit.puglia.it/portal/portale\\_pianificazione\\_regionale/Piano%20Regionale%20delle%20Coste/Documenti](http://www.sit.puglia.it/portal/portale_pianificazione_regionale/Piano%20Regionale%20delle%20Coste/Documenti)

- reduction of fish stocks and impairment of marine flora and fauna due to over-exploitation of the sea resource;
- delays in the adoption of the Municipal Coastal Plans;
- standard regulatory system not adequate for the development of non-traditional sectors of the blue economy;
- the geographical centrality in the Mediterranean no longer gives the regional port system a real competitive advantage.



**FIGURE SWOT 7** analysis of the blue economy of Puglia (schematization from #SmartPuglia2030). Source: ARTS

Data on the national and regional *blue economy* are collected annually from the [National Report on the Economy of the Sea of Unioncamere – Tagliacarne Institute](#).

Apulia has a production specialisation in the *blue economy* sectors, in terms of the number of businesses, added value and employment. In fact, it is among the leading Italian regions in terms of the impact of value added and the number of *blue economy* employees on the regional economy, in both cases exceeding the national average. The added value of the Apulian *blue economy* is 5% of the economy in 2022, well above the national average of 3.7%. The figure is and continues to grow compared to 4.3% in 2021 and 4.1% in 2020. Also in terms of employment, Puglia recorded a positive value with 5.3% above 4.1% of the national average.



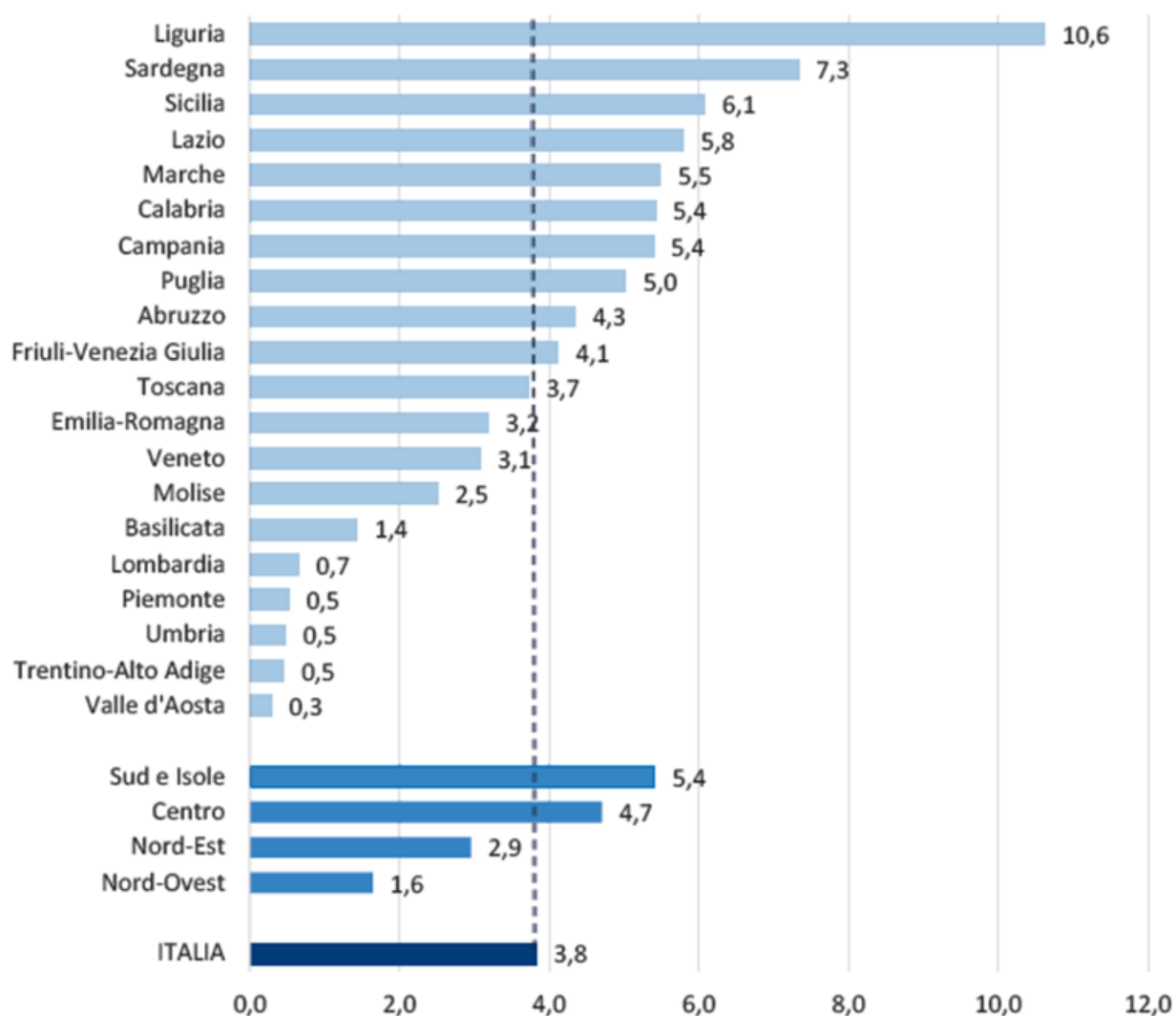
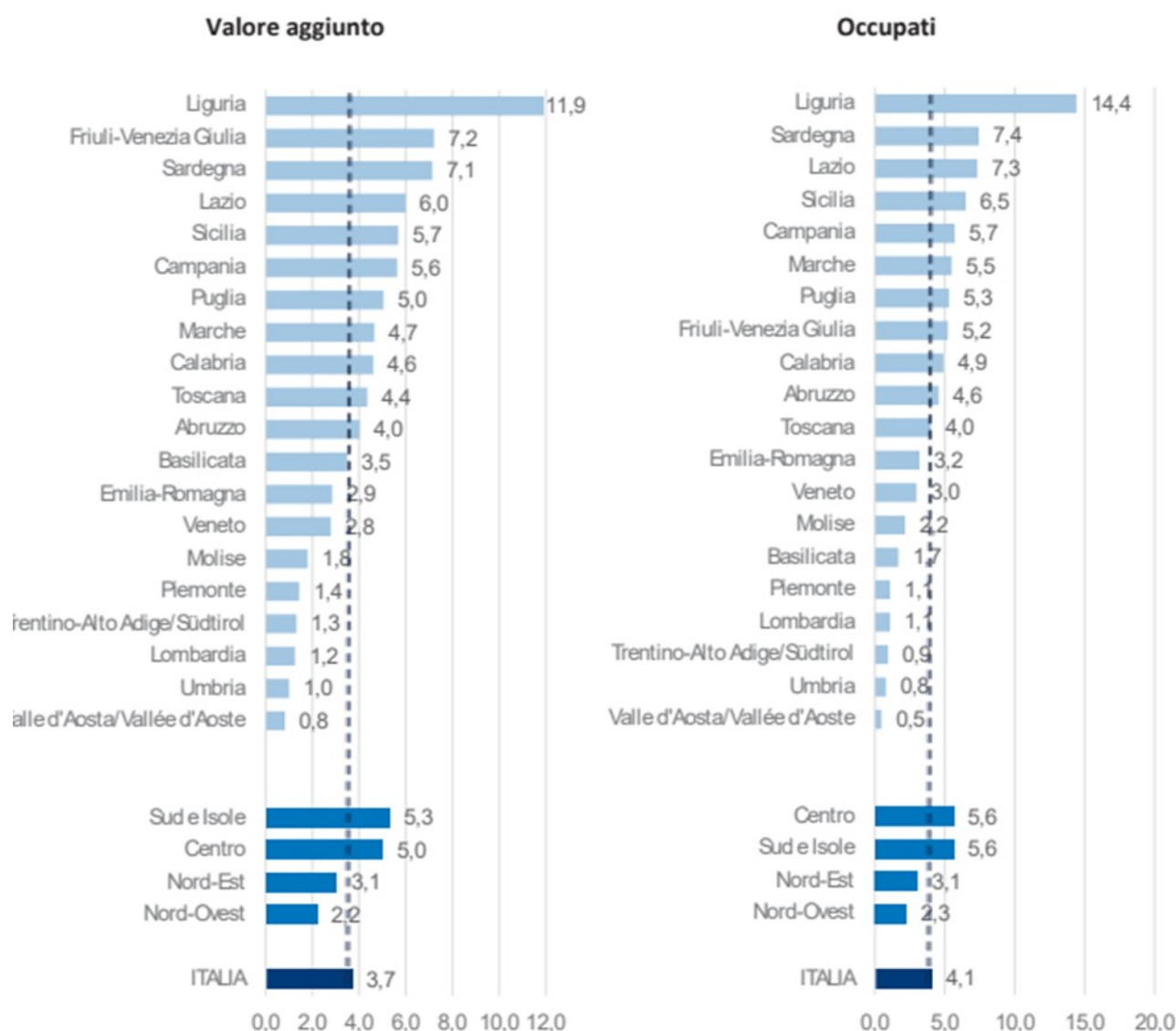


FIGURE REGIONAL 8 ranking based on % blue economy out of total economy (2022 data) Source: Unioncamere, Meat cutter, Observe 2024

Moreover, with more than 19,000 companies (an increase of +3.6% compared to 2021), it is the 4th Italian region in terms of the number of *blue economy* companies.



**FIGURE 9** Share of blue economy value added and employment in the total regional economy (2022 data). Source: Study Centre of the Guglielmo Tagliacarne Chambers of Commerce – Unioncamere – OsserMare

The report points out that in Italy the *blue economy* represents an important multiplier force: 1 euro produced by the *blue economy* activates 1.8 euro on the rest of the economy. It is also interesting to note the growth trend: from the pre-pandemic to the post-pandemic period, *blue economy* enterprises at national level increased with a growth rate of 4.3% (from 2019 to 2023).<sup>7</sup>

Research and innovation are essential for the growth of the Apulian *blue economy* and all its sectors.

Puglia in recent years has distinguished itself among the Italian regions for the liveliness and vigor of companies (nascent and consolidated) that increasingly focus on Research and Innovation for initiatives and measures to support research and innovation financed in particular by the PR FERS-ESF including PIA, TecnoNidi, PIN, Riparti, Extraction of talents, citing some of the most recent.

<sup>7</sup>XII Report on the Economy of the Sea 2024 – Guglielmo Tagliacarne Chambers of Commerce Study Centre – Unioncamere – OsserMare

Considering that Apulia's natural *blue* vocation has been recalled on several occasions, an important research and analysis work has been launched, partly merged into this document, which aims to define in an increasingly precise way the areas of specialisation and the sectors of the Apulian *blue economy* considered more dynamic and with greater room for growth and development, also thanks to the contribution of research and the propensity for innovation. In this sense, two groups of *blue economy* sectors are particularly interesting for the Puglia Region: a first group that stands out for the potential for consolidation based on current trends, which includes the sectors of coastal and maritime tourism, fishing (increasingly linked to tourism), boating (shipbuilding and repairs) and maritime transport.

There is also a second group of sectors that deserves attention due to their relevance in the potential for technological and innovative development and which includes: the blue biotechnology and smart and sustainable aquaculture sectors, port activities (ports as energy hubs and their logistics), marine renewable energy (offshore-floating wind) and desalination. The decision of the Region to adopt a law [on Open Innovation and Artificial Intelligence](#) will undoubtedly favour the path started.

## 2.4 Regional ecosystem of the Apulian blue economy

The regional territory is the scene of various initiatives to enhance the sea and coastal resources, aiming at economic growth, technological innovation and environmental protection. The regional structures involved, such as the various departments and agencies, play a central role in the management and coordination of these activities, creating a dynamic ecosystem of collaborations between public institutions, research institutions, universities and the private sector.

In the context of the *blue economy*, Puglia also stands out for its network of institutional and technical actors working in synergy to promote the sustainable development of the maritime and coastal sector. The region's integrated approach also involves participation in cooperation initiatives at national, European and international level, such as the EUSAIR strategy and participation in the Blue Growth Technology District. At local level, regional authorities, including ARTI, ASSET, ARPA Puglia, and ARET PugliaPromozione, are developing projects aimed at promoting innovation, environmental protection and the sustainable growth of sea-related activities, such as fisheries, aquaculture, tourism and the management of natural resources. The regional system also draws on the expertise of universities and research centres, creating a knowledge ecosystem that can respond to the challenges and opportunities of the *blue economy*.

The regional system also makes use of:

- a set of national institutions that guarantee the safety of the coasts, the sea and the regional territory. In particular, the Guardia di Finanza, by virtue of its specific competence as the only police force operating at sea, guarantees the protection of the economic and financial interests of citizens and professionals operating in compliance with the law and contributes to ensuring, by virtue of specific agreements signed with the Puglia Region, protection in the environmental sector and in the collection of the regional eco-tax;
- the skills of universities and research centres, creating an ecosystem of knowledge capable of responding to the challenges and opportunities of the *blue economy*.

### 2.4.1 Regional structures

There are several **regional structures** that have launched various initiatives for the sustainable development of the Apulian *blue economy*, and in particular:

- Economic Development Department;
- Department of Environment, Landscape and Urban Quality
- Department for Agriculture, Rural Development and the Environment;
- Department of Tourism, Economics of Culture and Development of the Territory;
- Budget, General Affairs and Infrastructure Department;

- Mobility Department;
- Department of Labour, Education and Training Policies;
- Managing Authority POR Puglia.

Involved by the Departments, the strategic agencies of the regional system have carried out and are carrying out activities relating to the *blue economy* sectors in the various production and research sectors of Puglia:

- *ARTI - Regional Agency for Technology and Innovation (since 2025 Agency for Technology and Technology Transfer and Innovation);*
- *ASSET - Regional Strategic Agency for the Eco-sustainable Development of the Territory;*
- *ARPA Puglia – Regional Agency for the Prevention and Protection of the Environment;*
- *ARET PugliaPromozione - Regional Tourism Agency.*

The Regional Agency *ARTI, the Regional Agency for Technology and Innovation (since 2025 the Agency for Technology and Technology Transfer and Innovation)*, has been mandated by the Region, inter alia, to carry out a survey of the regional innovation system in order to identify the possible sectors of the economy of the sea in Puglia and the lines of action to support this potential that can be pursued through regional, national and European instruments. ARTI is also present, in support of the Puglia Region, both at the coordination tables of the Italian regions of the EUSAIR strategy (where Pillar I is dedicated to Blue Growth) and in the steering committee of the regions of the CTN BIG – the national technology cluster on Blue Growth.

The Agency has supported the Region in a number of Interreg projects dedicated to the *blue economy*: Blue Boost, Triton, B-Blue and Smart Adria.

The Regional Agency **ASSET**, *the Regional Strategic Agency for the Eco-sustainable Development of the Territory*, is responsible, inter alia, for developing programmes and projects to ensure the protection and enhancement of the territory, with the aim of improving the quality of the landscape and the urban environment through all the planning tools and processes available, pursuing environmentally sustainable development and a socio-environmental balance (protection of the environment and enhancement of historical, cultural and landscape resources, development (BES) equitable and sustainable well-being by implementing services and socio-economic equity, use of renewable and less polluting energy, etc.).

The Framework for the Structure of the Ports System of the Apulia Region, adopted by Executive Act No 497 of 7 October 2024, was articulated in line with the objectives outlined in Regional Executive Decision No 2248 of 29 December 2021. The Document is based on the reconnaissance, purposely conducted, of the consistency of the current Apulian harbour truths and is proposed which instrument for the first ordering of the regional portualità in terms of structural equipments and services, and in reason of the main functions that characterize the various sites, they are the harbour infrastructures tightly understood or the numerous diffused within of landing along the coasts of the Apulia. Under the *European Maritime and Fisheries Fund (EMFF OP 2014-2020) – Measure 1.26 'Innovation'*, ASSET launched and concluded the following main projects: APPESCA, APPESCA 2.0 and APPESCA 3.0, FRAMESPORT.

The CRM (Regional Centre for the Sea) of **ARPA Puglia**, *the Regional Agency for the Prevention and Protection of the Environment*, is responsible for monitoring marine waters, technical support, analysis and assessment of coastal impacts to determine the state of environmental quality, including through participation in international, national and regional projects. Among these, we mention the main ones launched and concluded in recent years APULIA FISHLIFESTYLE, THE ECOLOGICAL FISHERMAN, CORISMA.

The Regional Agency **ARET Puglia Promozione**, *the Regional Tourism Agency*, is also interested in the marine theme as part of its support for the regional tourism ecosystem.

In addition, it is also useful to include **InnovaPuglia** Spa di Valenzano, *an in-house company* under the control of the Puglia Region, which manages the Territorial Information System (SIT) of Puglia and has an important role in coastal planning.

## 2.4.2 The actors of the fivefold helix

Thanks to regional initiatives and funding, the numerous participations of the Apulia Region and the network of regional actors in as many European research and cooperation projects on the *blue economy*, a *blue economy* innovation ecosystem has been defined and consolidated, based on the 5th helix methodology and shown in the following figure:

Research		Enterprises <sup>8</sup> and clusters
CNR	Institutes: ISPRA, ISPA, IRBIM	Apulian Aqueduct
CMCC	IESP	IoT, AI, mechanics <sup>9</sup> (e.g. G-Nous, Apphia, Diamec)
CIHEAM	Tricase branch	Other sectors: <sup>10</sup> (e.g. Galli&Son, Ecotaras, Thesi)
COISPA	Foundation	Productive districts (Nautics and Fishing)
Polytechnic University of Bari	Departments: DMMM, DICATECh Laboratories (LIC)	Technological Districts (DHITECH, MEDIS, DITNE, DTA)
University of Salento	Departments: DBC <sup>11</sup> , DII <sup>12</sup> Laboratories (CoreLab, ISME)	Startups (innovative): (e.g. Wast3DShells, South Agro)
University of Foggia	Departments: DSAARNI <sup>13</sup> Laboratories (StarFacility)	Boating: (e.g. Neo Yachts, Danese, Isotta Fraschini Motori, MICAD, AS Labruna)
University of Bari	Departments: DBBA, DIMEV Laboratories (Campus Bari, Valenzano)	Aquaculture: (e.g. Maricoltura Mattinatarese, Lepore Mare, InMare, Gargano Pesca, Corba Rossa del Gargano, Fratelli D'andria)
Organisations		Institutions
Federpesca, Confindustria Nautica		Region of Apulia
LegaCoop Puglia, FEDAGRI Pesca, AGCI Puglia		Regional agencies: ARPA, ARTS, ASSET
Unioncamere Puglia		Managing Authority EMFAF Puglia
Federagenti (Collectors of Raccomar)		Managing Authority PR FERS-ESF+
Incubators (TheQube, Impact Hub, Faros, BINP)		ANCI, Coastal municipalities
Federvela (FIV Puglia)		Coast Guard, Finance Guard;AdB
GAL Pesca Gargano Mare, GAL Terre di mare, GAL Blu del Salento		Ionian Sea Port System Authority
ITS (Logistics, Tourism, Green Energy, BioTech, Puglia Digital, Mechatronics)		Port System Authority of the Southern Adriatic Sea
Civil society and community		

**FIGURE 10 The fivefold helix of the blue economy innovation ecosystem in Puglia Source: ARTS**

The adoption of the Quintuple Propeller in the Apulian Blue Economy makes it possible to:

- develop innovative solutions through collaboration between research, business and institutions;
- promoting environmental sustainability in the maritime and coastal sectors;
- Engaging citizens and local communities for inclusive economic growth.

### Research

<sup>8</sup>Some companies that have participated in meetings, conferences and focus groups and regional observatories are mentioned only as an example. Among these there are also others with registered office outside the Apulian territory and with operational offices in Puglia: e.g. Hope Group, Grimaldi Group, Vestas.

<sup>9</sup>Marine and underwater applications

<sup>10</sup>Port activities, maritime transport, logistics.

<sup>11</sup>Department of Cultural Heritage

<sup>12</sup>Department of Innovation Engineering

<sup>13</sup>Department of Agricultural Sciences, Food, Natural Resources and Engineering



As regards the provision of **specialist knowledge and skills**, the regional system includes the Politecnico di Bari and the relevant Apulian universities and numerous public and private bodies and research centres, including several CNR institutes, CMCC, CIHEAM Bari, COISPA and CETMA.

The role of research infrastructures and accelerators on the *blue economy* (Star Facility Centre and Faros) is also important.

The main areas of expertise include bioremediation, analytical techniques applied to marine pollution, the study of aquatic organisms, ichthyopathology, marine ecology, aquaculture, food safety, food technologies, coastal erosion models, renewable energy, composite materials.

### **Institutional actors**

Among the actors we must first mention, in addition to the Puglia Region, the coastal municipalities.

The Apulian port system is governed by two authorities: the **Southern Adriatic Sea Port System Authority, to which the ports of Bari, Brindisi, Manfredonia, Barletta and Monopoli belong**, and the **Ionian Sea Port System Authority**, located in the Port of Taranto.

The Maritime Directorate of Bari, the Harbourmaster's Offices of Manfredonia, Barletta, Molfetta, Bari, Brindisi, Gallipoli, Taranto, as well as the **Maritime District Offices of Vieste, Otranto and Monopoli** have institutional and administrative functions linked to the use of the sea, its protection and the safeguarding of human life.

The **Regional Command of the Guardia di Finanza** plays a fundamental role in protecting the interests of the State and the European Union.

Its many activities, ranging from customs supervision to the fight against illicit trafficking, to the protection of the marine environment and maritime property, allow it to actively contribute to monitoring the *blue economy* and safeguarding legal economic growth, ensuring compliance with European and national legislation, in view of the fact that for over 20 years it has been a partner of the Puglia Region and ARPA Puglia in monitoring activities:

- marine-coastal water bodies within the meaning of the Water Directive (2000/60/EC);
- marine waters within the meaning of the Marine Strategy Directive (2008/56/EC);
- bathing water within the meaning of the Bathing Directive (2006/7/EC);
- waters intended for the life of molluscs within the meaning of Legislative Decree No 152/2006.

The **Coast Guard** acts as an institutional link by supporting coastal regions and municipalities in the management of *brown waters* and its territory in the following ways, performing the maritime function in the coastal area with the ability to:

- provide local authorities with technical and specialist expertise in carrying out administrative functions relating to the management of the entire coast;
- supporting the Port System Authorities in relations with Coastal Regions and Municipalities and in the relationship with the Ministry;
- constitute a reference institutional interlocutor by carrying out a coordination function between the different actors involved.

The **ADB** (Authority of the Southern Apennines District Basin), which operates at the level of the reservoir, is responsible for the protection of the resource.

### **Enterprises**

The innovation system is also made up of **companies** and private operators who, also through their consultancy services, can promote innovation and internationalisation processes in the sector, as well as numerous innovative SMEs and start-ups, active in the most varied fields. The role they play in the innovation ecosystem:

1. **advisory and support service providers** – helping companies develop growth strategies, access finance, improve competitiveness in global markets;
2. **Innovative start-ups and SMEs** – introducing advanced technologies and new business models in the Blue Economy sectors, such as:
  - a. AI and robotics for port logistics;
  - b. marine biotechnology and bioeconomy;
  - c. marine and offshore renewable energy;
3. **sustainable and digital coastal tourism;**
4. **clusters and business networks** – foster collaboration between companies and research centres to accelerate innovation;
5. **Investors and venture capital** – provide resources to scale innovative solutions.

The Districts are a kind of bridge between the associative world and the world of research, business and institutions.

Among the Apulian Productive Districts relating to the theme of the sea, it is possible to include the **Apulian Fishing and Aquaculture Production District and the Nautical District.**

Other key players are the GACs(**Coastal Action Groups** - partnerships between fisheries stakeholders and other local public and private stakeholders) and LAGs (Local Action Groups - mixed public-private entities and have among their objectives also the development of blue *economy* projects and initiatives).

### 3 BLUE ECONOMY IN PUGLIA: OBJECTIVES, ACTIONS, MEASURES

**It is** the connection between the development of the *blue economy* in Puglia and the **Regional Strategy for Smart Specialisation (Smart Puglia 2030)** has already been highlighted: It outlines the implications for the regional system of major drivers of change, including blue growth and the economy of the sea and environmental sustainability and the circular economy. *‘Blue growth ... integrates the various activities linked to the sea in a common vision and with a sustainability approach, represents an opportunity for our region to enhance natural capital and profoundly innovate sectors of economic activity (from fishing to shipbuilding, tourism and several others) which, while having an important role in the regional economy, express broad areas of improvement in terms of product quality and service efficiency.’*

DG MARE has identified Smart Specialisation Strategies (S3) as a key tool for the implementation of the Communication on the *Sustainable Blue Economy* (COM 2021 240 final). Indeed, S3 represents a key opportunity, not only to prioritise regional investments in research and innovation, but also to promote interregional partnerships and *blue economy* value chains across borders. Consequently, DG MARE, in collaboration with DG REGIO, promoted the thematic [platform S3 for the Sustainable Blue Economy](#), inviting the European Regions to establish Thematic Partnerships to facilitate cooperation between Stakeholders of the quadruple *helix of the blue economy* and the exchange of good practices to address common needs and collaborate with each other for the implementation of innovative projects. The Apulia Region, together with the Emilia-Romagna Region, has promoted the establishment of the MaSSBE - *Maritime Sustainable Blue BioEconomy* thematic partnership involving 17 European regions in the Mediterranean and Atlantic basins on the themes of innovation and digitalisation of biotechnology and the blue bioeconomy (see section 4.4.3).

The regional S3, Smart Puglia 2030, in describing the main elements of the Regional Strategy on Research and Innovation for the 2021-2027 programming cycle, identifies some “transversal” *drivers* that determine challenges and opportunities for all sectors, including blue growth and the economy of the sea as a strategic line that integrates in a common vision and with a sustainability approach the various activities related to the sea, aimed at enhancing natural capital and deeply innovating sectors of economic activity (from fishing to shipbuilding, tourism and several others) that, despite having an important role in the regional economy, express wide areas of improvement in terms of product quality and service efficiency.

In line with its Smart Specialisation Strategy, the Apulia Region has identified a ‘*starfish*’ **strategy** which, inspired by the European Mission, borrows five points from the starfish that identify the lines of development, namely:

- Blue innovation: the promotion of new innovative technological and organisational solutions in all sectors of the *blue economy*;
- integration between the blue and green economy, i.e. the use of sustainability principles in all processes, services and products linked to the economy of the sea;
- integrated planning and holistic approach to initiatives, in order to exploit synergies between different sectors of the maritime economy;
- strengthening Adriatic-Ionian (EUSAIR) and Mediterranean cooperation, with a view to the sea as an element of unity between peoples;
- strengthening human capital and skills (*blueskills*).

Starting from the latter point, **strengthening human capital**, Apulia has great potential for the development of highly specialised professionals in emerging sectors such as floating offshore wind, bioeconomy and blue biotechnologies.

The employment potential of the *blue economy* is significant both directly, in areas such as coastal tourism, maritime transport, leisure, and indirectly, as it is linked to different value chains such as agri-food, catering, inland transport.

The development of the economy of the sea can be strategic for some areas of Puglia, such as Brindisi and Tarantino, which are already suited to maritime activities and where industrial conversion processes and measures to combat unemployment are needed. It is therefore crucial to strengthen policies and actions that can have a positive impact on the growth of skills and human capital.

In addition to being a multi-stakeholder sector, the *blue economy* is in fact multidisciplinary, since it concerns an articulated number of thematic areas. For its development, we need suitably qualified professionals, able to apply advanced technologies with an integrated and responsible approach: a “new marine-maritime scientist of the 21st century” capable of managing a transversal and multidisciplinary perspective. The professions related to the *blue economy* require constant development and updating both in the technical (materials, mechanics, electronics and computer science) and linguistic (foreign languages) and relational fields.

With the implementation of the Blue Growth Strategy, at both European and local level, new types of work will emerge, much of which remains to be invented. Blue knowledge and training are therefore areas in which to invest.

It is therefore important to proceed in parallel on both sides: on the one hand, the care and development of local and regional planning; on the other hand, the ability to seize the opportunities linked to the next cycle of European and regional programming, both in terms of transnational interconnection and in the field of innovation.

The challenge of blue growth can also be met by strengthening the integration of public policies linked to the sea, which have historically been sectoralised to the detriment of an approach aimed at capturing synergies between the different areas.

Coastal tourism could be, for example, more closely linked to fishing, coastal protection and boating. Other interesting synergies could be exploited between algae farming and fisheries, tourism and aquaculture.

With regard to the **integration of the blue and green economy**, the blue vision aims to help achieve the objectives of the European Green Deal for Apulia and to integrate actions on biodiversity, mobility and more. The *blue economy* contributes to climate change mitigation by developing offshore renewable energy, decarbonising maritime transport and greening ports, making the economy more circular by renewing standards for fishing gear design, ship recycling and decommissioning offshore platforms. The development of green infrastructure in coastal areas aims to preserve biodiversity and landscapes, to the benefit of tourism and the coastal economy.

The marine environment as a whole has been under unsustainable human environmental pressure for almost a century. A cross-cutting aspect to be taken into account in all policies related to the sea is therefore that of social and environmental sustainability, with a view to integrating the blue and green economy, through the early identification of the impacts and opportunities of all measures and projects, for an effective multifunctional use of the marine space. It is crucial that any *investment in the blue economy* generates long-term social and economic benefits while protecting and restoring the diversity, productivity and resilience of marine ecosystems, and relies on clean technologies, renewable energy and circular material flows to achieve zero emissions.

The geographical conformation of the European maritime territory represents an initial *blue* territorial capital, fuelled by the interactions between maritime and land activities. Therefore, the activities of the *blue economy* are not only found in coastal areas or islands, but also in the internal territories, beneficiaries by virtue of trade in goods and services. However, this interaction increases the pressure on the marine environment, with economic, environmental and social impacts that must be taken into

account in **spatial planning choices that must have an integrated connotation**, especially in so far as maritime spatial planning becomes an instrument for organising blue territorial capital.

In line with the integrated and ecosystem approach, the Region recognises the complementarity between the following existing instruments at Community and national level (Maritime Spatial Planning, Marine Strategy, Principles for Integrated Management of Mediterranean Coastal Zones as defined by the ICZM Protocol and the EU Biodiversity Strategy for 2030) and therefore has as a general cross-cutting objective to ensure **an integrated and ecosystem-based approach at regional level for the sea and the coasts**.

**Innovation** is a key competitive factor for the Apulian *blue economy*:

- in more traditional sectors such as fisheries and aquaculture, where it is necessary in terms of the economic and environmental sustainability of the local system and which is subject to a constant contraction of local fish resources and foreign competition;
- in fast-growing sectors, such as the blue bioeconomy or offshore renewable energy, where research, development and experimentation are an essential competitive factor, while requiring specific environmental checks.

Last but not least, the opportunity for an increasing availability of European, national and regional financial instruments to support blue growth and sustainability makes it possible to invest in **strengthening European territorial cooperation**, in particular that between the Adriatic-Ionian regions and more generally that of the entire Mediterranean basin.

In conclusion, these are five intervention strategies to support an economy of the sea that is based on sustainability and circularity, that preserves marine biodiversity, reduces the consumption of natural resources and counteracts the harmful effects of climate change, including coastal erosion.

The aim is to define a single vision, a shared integrated strategy that, starting from the skills and experience acquired over the years in the various blue themes, can act as a multiplier in protection and sustainability, following the lines of development identified.

The financial instruments supporting the measures can be found in the 2021-2027 programming cycle. These opportunities are confirmed and in some cases enhanced: central to the use of resources from the Structural Funds, the ERDF-ESF ROP 2021-2027 and the EMFF 2021-2027. The involvement of the Managing Authorities of these Funds will ensure, in particular in the planning phase of regional initiatives, adequate financial coverage of these initiatives throughout the period of implementation of the Blue Strategy. In addition, in an integrated and synergistic way and with a strong focus on the capitalisation of the actions, the opportunities to access the resources of Territorial Cooperation (in particular through the new programming of the Interreg Funds 2021-2027) and the new Horizon Europe programme (and the Starfish Mission 2030) will be used, as well as some funding lines dedicated to supporting the Blue Economy within:

- Interregional Innovation Investments Instrument (I3);
- the Just Transition Fund (for the province of Taranto);
- the NRRP (in particular in Measure 2);
- of the projects of the Decade of Marine Sciences for Sustainable Development 2021-2030.

In the following paragraphs the 5 strategies are divided into objectives and actions. The task of the Scientific Technical Committee and the consultation process described in Chapter 7 will also be to define, for each action, specific indicators for 2030 with reference to all sectors of the Apulian sea economy.

### **3.1 Blue Innovation**

Innovation is a key competitive factor for the Apulian *blue economy*, contributing to the sustainable development of the area and the creation of new economic opportunities. The main objective is to



support the transition to a more resilient, efficient and technologically advanced maritime economy, through the integration of innovative solutions in the different key sectors.

In particular, innovation plays a strategic role in **traditional sectors**, such as fisheries and aquaculture, where the adoption of new sustainable technologies and processes improves productivity, reduces environmental impact and ensures the traceability and quality of fish products. Digitalisation, automation and the introduction of circular economy practices are essential tools to make these sectors more competitive and sustainable in the long term.

In parallel, innovation is the engine of growth in **emerging sectors of the blue economy**, such as the blue bioeconomy and marine renewable energy. The research and development of biomaterials, the valorisation of fish waste and the use of marine biotechnologies open up new perspectives for a circular and regenerative economy. Similarly, the expansion of offshore wind, wave and marine solar energy contributes to the diversification of the regional energy mix, promoting decarbonisation and energy security.

Through support for research, the creation of innovation ecosystems and the strengthening of public-private partnerships, the Puglia Region aims to make the *blue economy* an advanced development model, capable of combining economic growth, environmental sustainability and the well-being of coastal communities.

Furthermore, it is essential to create a compliance action that, through the development of methodologies and good practices, can guarantee the search for common strategies between institutional actors (Guardia di Finanza – Guardia Costiera – Agenzie Regionale – Istituti di Ricerca – Stakeholder). This action should aim at exercising dedicated control and monitoring of established procedures that can guarantee standards of legality and sustainability in the development of the *blue economy*.

### 3.1.1 Objectives

- 1.1 Fostering innovation and technology transfer processes in the *blue economy* sectors
- 1.2 Fostering business and organisational innovation processes in the *blue economy* sectors

### 3.1.2 Actions

In the table below, the associated actions are identified for each objective.

**BLUE 1 INNOVATION TABLE - ACTIONS**

Objective	Actions	Consistency with Programmes/Priorities
1.1 Fostering innovation and technology transfer processes in the blue economy sectors	1.1.1 Fostering the development and application of IT, IoT, predictive systems, artificial intelligence and digital twins technologies for all sectors of the Blue Economy, including through the integration of AI and satellite observation, machine learning and big data for marine and coastal monitoring	PR Puglia ERDF ESF+: Priority 1  JTF: Actions 2.5, 2.6  STEP
	1.1.2 Fostering digitalisation processes in the fisheries and sustainable aquaculture sectors (RAS, IMTA, etc.)	EMFAF Apulia JTF: Actions 2.
	1.1.3 Development of acceleration programs for startups and enterprises of the Blue Economy	PR Puglia ERDF ESF+: Priority 1  JTF: Actions 2.5  STEP
	1.1.4 Fostering innovative production processes and the development and application of new materials and sustainable propulsion in the ship-building sector, the recreational boating industry (design and construction of sustainable boats)	PR Puglia ERDF ESF+: Priority 1  JTF: Actions 2.5, 2.6

Objective	Actions	Consistency with Programmes/Priorities
		STEP
	1.1.5 Fostering innovation processes in the Blue Bioeconomy sector (enhancement of living aquatic resources for the production of novel nutraceutical foods, food additives, feed, pharmaceuticals and cosmetics, green chemicals and materials, enzymes for ecological industrial processing, decontamination, and development of algae farming)	PR Puglia ERDF ESF+: Priority 1 JTF: Actions 2.5, 2.6
1.2 Fostering business and organisational innovation processes in the blue economy sectors	1.2.1 Dissemination of Open Innovation in the Blue Economy sectors (Open Challenges, etc.)	PR Puglia ERDF ESF+: Priority 1 JTF: Actions 2.4, 2.5, 2.6
	1.2.2 Realization of hackathons and matchmaking events between profiles of experts and researchers from the sectors of the blue economy and companies.	Interreg IT-HR

### 3.2 Integration between blue and green economy

The main objective of this integration is to create a balance between the blue economy, which focuses on marine resources, and the green economy, which focuses on terrestrial environmental sustainability, in order to ensure that economic activities respect and promote ecosystem health and biodiversity.

Every blue investment must protect and rebuild the diversity, productivity and resilience of marine ecosystems. This means that economic activities that exploit marine resources, such as fishing, tourism, marine renewable energy or aquaculture, must be designed and implemented with attention to environmental sustainability. Investing in infrastructure that supports the reconstruction of marine *habitats*, such as coral reefs or posidonia grasslands, is crucial to tackle biodiversity loss. This type of investment not only preserves, but also promotes the resilience of ecosystems, allowing them to adapt and withstand the impacts of climate change, such as ocean acidification and sea level rise.

In order to combat pollution and overexploitation of marine resources, it is necessary to adopt integrated management practices that minimise the impact of economic activities on water, the seabed and wildlife. Modern technologies can be used to monitor pollution and prevent damage through innovative ecological solutions, such as *bioremediation* or strengthening the management of marine protected areas.

To mitigate the effects of climate change, the integration of *the blue and green economy* implies the adoption of natural resource management practices that contribute to reducing greenhouse gas emissions. For example, renewable energy from the sea, such as wind and marine solar energy, can replace fossil fuels, thus reducing the environmental impact. At the same time, sustainable management of land and agricultural resources can reduce soil erosion and improve land's capacity to store carbon.

#### 3.2.1 Objectives

- 2.1 Introducing circular economy principles in all sectors of the *blue economy*
- 2.2 Reducing marine pollution
- 2.3 Tackling the effects of climate change and coastal erosion
- 2.4 Promoting marine renewable energy
- 2.5 Promoting green ports and marine transport
- 2.6 Protection of waters and coastal areas

### 3.2.2 Actions

In the table below, the associated actions are identified for each objective.

**TABLE GREEN AND BLUE ECONOMY 2 INTEGRATION - ACTIONS**

Objectives	Actions	Consistency with Programmes/Priorities
2.1 Introducing circular economy principles in all sectors of the blue economy	2.1.1 Promote initiatives for the closure of production cycles, valorisation of fishery and aquaculture waste for the production of new bio-products (cosmetics, nutraceuticals, functional food, feed, soil improvers, etc.) and materials (e.g. natural polymers for packaging or biomedical market).	PR Puglia ERDF ESF+: Priority 2  Interreg MED Horizon Europe
	2.1.2 Promoting <i>eco-design</i> and <i>design for disassembly</i> in the maritime industry (in particular boating)	PR Puglia ERDF ESF+: Priority 2
	2.1.3 Innovative and sustainable materials for construction and equipment and boats (e.g. advanced composites).	PR Puglia ERDF ESF+: Priority 2  STEP
	2.1.4 Develop solutions for the collection, recycling and reuse of discarded fishing nets and equipment into new sustainable materials.	PR Puglia ERDF ESF+: Priority 2 Interreg GR-IT
	2.1.5 Promote the development of new businesses or entrepreneurial activities in the field of sustainable manufacturing in the maritime economy sectors.	PR Puglia ERDF ESF+ Priority 1-2  JTF: Action 2.6  STEP
	2.1.6 Promote the use of methodologies to reduce the environmental externalities of production cycles through the adoption of monitoring and analysis systems such as Life Cycle Assessment.	PR Puglia ERDF ESF+: Priority 2
2.2 Reducing marine pollution	2.2.1 Development of green corridors.	PR Puglia ERDF ESF+: Priority 4 Interreg Europe
	2.2.2 Promoting the use of sustainable fuels for shipping.	PR Puglia ERDF ESF+: Priority 2 JTF: Actions 2.1, 2.2, 2.3
	2.2.3 Promote the reuse of reclaimed waste water.	PR Puglia ERDF ESF+: Priority 2
	2.2.4 Promoting sustainable coastal and marine tourism and circular tourism.	PR Puglia ERDF ESF+: Priority 9
	2.2.5 Promote initiatives to reduce marine pollution from plastics and microplastics, and their recovery/reuse.	PR Puglia ERDF ESF+: Priority 2
	2.2.6 Promote initiatives to reduce marine pollution from mineral oils and their recovery.	PR Puglia ERDF ESF+: Priority 2
2.3 Tackling the effects of climate change and coastal erosion	2.3.1 Encourage initiatives to increase the resilience of anthropogenic structures and settlements along the coasts and mitigate the effects of coastal erosion and adverse natural events (e.g. artificial, eco-friendly barriers).	PR Puglia ERDF ESF+: Priority 2
	2.3.2 Promote innovative and sustainable solutions for the replenishment and usability of beaches.	PR Puglia ERDF ESF+: Priority 2
	2.3.3 Develop initiatives on coastal areas to increase resilience to the effects of climate change.	PR Puglia ERDF ESF+: Priority 2
	2.3.4 Develop initiatives for the management and exploitation of alien marine species.	PR Puglia ERDF ESF+: Priority 2
	2.3.5 Develop action for regeneration and "reforestation" of the seabed.	PR Puglia ERDF ESF+: Priority 2

Objectives	Actions	Consistency with Programmes/Priorities
	2.3.6 Strengthen statistical and modelling tools (at least up to NUTS level 2) to improve EU-level climate risk assessment and disaster risk prevention and management.	Interreg, NextMed, Horizon
2.4 Promoting marine renewable energy	2.4.1 Promoting floating offshore wind while respecting the ecosystem and the landscape.	PR Puglia ERDF ESF+: Priority 2 JTF: Actions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
	2.4.2 Promote the testing of solutions for the production of renewable energy using wave and tidal energy.	PR Puglia ERDF ESF+: Priority 2  JTF: Action 2.4
	2.4.3 Promote the cultivation of algae and the use of biomass for the production of bioenergy and bioplastics.	PR Puglia ERDF ESF+: Priority 2  JTF: Action 2.4
2.5 Promoting green ports and marine transport	2.5.1 Reducing the environmental impacts of port activities and ports such as Energy Hubs (Green Ports, Port Energy Communities).	PR Puglia ERDF ESF+ Priority 2- 4 Horizon Europe
	2.5.2 Reducing the environmental impacts of marinas.	PR Puglia ERDF ESF+: Priority 4
	2.5.3 Reducing the environmental impacts of maritime transport and promoting intermodality with a view to sustainability.	PR Puglia ERDF ESF+: Priority 4
	2.5.4 Reducing the environmental impacts of shipbuilding, in particular recreational boating.	PR Puglia ERDF ESF+: Priority 2
	2.5.5 Promoting the use of hydrogen in ports and maritime transport.	PR Puglia ERDF ESF+ Priority 2-4  JTF: Action 2.1, 2.2, 2.3, 2.5, 2.6
	2.5.6 To promote actions of handling, dredging and levelling of the backdrops, in particular of the harbour areas of the ports of the Authorities of Harbour System and of the sites of interest classified in the Framework of Structure of the Ports of the Apulia Region.	
2.6 Protection of waters and coastal areas	2.6.1 Contribute to the environmental protection and monitoring of Marine Protected Areas using GIS, AUV/ROV systems and buoys with multiparameter detectors.	PR Puglia ERDF ESF+: Priority 1
	2.6.2 Contribute to the environmental protection of coastal areas (in particular coastal dunes and coastal towers).	PR Puglia ERDF ESF+: Priority 2
	2.6.3 Develop initiatives for the protection and development of marine and coastal biodiversity.	PR Puglia ERDF ESF+: Priority 2
	2.6.4 Promote the enlargement of marine and coastal protected areas and improve their management.	PR Puglia ERDF ESF+: Priority 2

### 3.3 Integrated planning and holistic approach

These approaches seek to optimise synergies between different sectors, such as fisheries, tourism, energy, environmental protection and local economic activities, in order to develop a strategic plan that integrates and harmonises all policy dimensions, considering their interlinkages and mutual impacts. Some key aspects:

- seizing cross-sectoral **synergies**, i.e. recognising that natural resources and economic activities do not exist in silos, but are closely interlinked. An integrated approach fosters interaction between sectors such as agriculture, natural resource management and renewable energy. For example, the creation of marine wind farms can go hand in hand with the protection of marine

protected areas, without compromising biodiversity and fostering the creation of new marine ecosystems. In addition, sustainable farming practices along the coast can improve the quality of marine waters, reducing the risk of pollution due to agricultural runoff. Integrating and connecting different sectors is essential to avoid conflict and maximise long-term benefits, thus creating sustainable and lasting growth;

- **Organic management of** marine and coastal areas. It implies a global vision, which considers the entire marine and terrestrial ecosystem together. This means designing policies for the use of land and marine resources that are interconnected and coordinated with each other, rather than treating land and marine areas separately. For example, protecting coastal wetlands and mangroves is essential not only for biodiversity, but also for protecting coastlines from erosion and mitigating the effects of climate change. Integrated planning avoids fragmentation of policies and actions, reducing the risk of disjointed approaches that can lead to inefficiencies or even irreparable damage to ecosystems;
- **Stimulating long-term investment** is key to ensuring that resource management policies are sustainable over time. Investments in ecological infrastructure, such as coastal protection, conservation of marine ecosystems and adaptation to climate change, require visions and plans that go beyond the short term. Through a holistic approach, investments can be directed towards projects that not only respond to immediate needs, but contribute to long-term well-being, generating a virtuous circle of environmental protection, economic growth and social well-being;
- avoid **overexploitation** of resources, through management with evidence-based limits on the carrying capacity of ecosystems. Integrated planning helps balance economic development needs with the protection of natural ecosystems, avoiding excessive pressure on marine and coastal resources and ensuring the long-term sustainability of economic activities. In this way, it is possible to achieve a use of resources that is both ecologically responsible and economically advantageous, without compromising the ability of ecosystems to regenerate.

### 3.3.1 Objectives

- 3.1 Develop integrated plans for the use of the sea and coasts
- 3.2 Develop synergies between related sectors of the *blue economy*
- 3.3 Develop integrated monitoring systems

### 3.3.2 Actions

In the table below, the associated actions are identified for each objective.

**TABLE INTEGRATED 3 PLANNING AND HOLISTIC APPROACH - ACTIONS**

Objectives	Actions	Consistency with Programmes/Priorities
3.1 Develop integrated plans for the use of the sea and coasts	3.1.1 Promote the development of municipal plans relevant to the sustainable and integrated management of the sea and coasts.	
	3.1.2 Promote maritime planning at regional level.	
	3.1.3 Promote the development and integration of regional, national and European maritime planning (Maritime Spatial Planning, Biodiversity Strategies, etc.).	PR Puglia ERDF ESF+: Priority 9
	3.1.4 Define areas suitable for aquaculture (AZA).	EMFAF Apulia
	3.1.5 To define the regional plan of the sustainable dredgings (of the ports adhering to the Authorities of Harbour System and also of the Framework of Structure of the ports of the Apulia Region).	PR Puglia ERDF ESF+: Priority 4
	3.1.6 Develop a plan for integrated logistics of port and backport areas.	PR Puglia ERDF ESF+: Priority 4
	3.1.7 Identification and monitoring of marine geo-hazards.	PR Puglia ERDF ESF+: Priority 2



Objectives	Actions	Consistency with Programmes/Priorities
	3.1.6 Strengthen statistical and modelling tools to improve EU-level climate risk assessment and disaster risk prevention and management.	PR Puglia ERDF ESF+: Priority 2
3.2 Develop synergies between related sectors of the blue economy	3.2.1 Promote initiatives that develop synergies between coastal tourism and fisheries by enhancing traditional fishing and the culture of fishing communities (fishing tourism).	EMFAF Apulia
	3.2.2 Promote initiatives that develop synergies between maritime (nautical) tourism and fish gastronomy.	PR Puglia ERDF ESF+ Priority 5
	3.2.3 Promote sports tourism initiatives (amateur and non-amateur) linked to the themes of the sea, also as a tool for education and cultural training for the sustainability of the sea.	PR Puglia ERDF ESF+ Priority 5
	3.2.4 Develop initiatives between coastal tourism (e.g. Crucifixion) and tourism of the inland areas.	PR Puglia ERDF ESF+: Priority 9
	3.2.5 Develop analyses to verify the synergistic development of aquaculture in offshore wind farms	EMFAF
	3.2.6 Develop integrated maritime tourism, combining seaside tourism with architectural/monumental tourism and environmental tourism.	PR Puglia ERDF ESF+: Priority 8
3.3 Develop integrated monitoring systems	3.3.1 Promote research and development activities aimed at defining an integrated system for monitoring (satellite, surface and underwater, including through remote sensing) marine waters, port areas, coastal areas, including urban areas and their ecosystems, and preventing risks from climate change, man-made pollution and marine-coastal pollution.	PR Puglia ERDF ESF+: Priority 1
	3.3.2 Developing systems for the collection and monitoring of economic and environmental data from the regional blue economy.	
	3.3.3 Develop a system for recording and monitoring blue economy projects and initiatives financed through the Structural Funds (ESF-ESF-EMFAF) and the regional budget.	
	3.3.4 Develop a system for tracking and monitoring blue economy projects and initiatives financed through other European funds and Territorial Co-operation Programmes	

### 3.4 Strengthening cooperation

Strengthening **trans-Adriatic cooperation** is a key strategic opportunity to restore and strengthen the central role of Puglia, a region geographically well positioned to connect the Mediterranean and Balkan countries, facilitating maritime connections with the Eastern countries, the Balkans and the Mediterranean. Puglia, through its **three main ports** (Bari, Brindisi and Taranto) and the **six smaller ports** (Monopoli, Molfetta, Manfredonia, Gallipoli, Otranto and Vieste), has the potential to become a central hub for international maritime traffic and to attract new investments, stimulating economic growth and cooperation between the different sectors.

In this context, the objective is to promote **European Territorial Cooperation (ETC)** in the Mediterranean and Adriatic-Ionian areas, in order to stimulate the creation of interregional networks and foster the strengthening of links between coastal regions. Puglia, as a strategic region in the Mediterranean basin, can play a key role in **promoting cooperation initiatives under the EUSAIR (European Union Strategy for the Adriatic-Ionian Region) strategy** and **European networks and networks**, creating an integrated port system linking the main Adriatic and Balkan ports. The objective is to strengthen the competitiveness of Apulia's port system, with particular attention to environmental sustainability, logistics and the creation of new maritime routes that promote trade between the countries of the region.

In parallel, the **promotion of transnational cooperation initiatives in shipping** is crucial to optimise maritime flows between countries by developing modern infrastructure and innovative technologies for more efficient and safer shipping. The adoption of common practices in terms of navigation

regulation, traffic management and the development of alternative maritime routes will be a crucial step to improve the competitiveness and efficiency of maritime transport in the Adriatic area.

In addition, strengthening cooperation in **research and innovation** will be a key factor in the success of this strategy. Apulia will benefit from joint initiatives in the field of marine research, advanced port technologies and transport innovation, in order to attract investment in modern infrastructure and state-of-the-art technological solutions. The creation of **research and innovation networks** between universities, research centres and businesses in the region and partner countries will contribute to strengthening the competitiveness of Apulia, making it a pole of excellence in maritime technologies and the blue economy.

### 3.4.1 Objectives

- 4.1 Promotion of European Territorial Cooperation (ETC) initiatives in the Mediterranean and Adriatic-Ionian contexts
- 4.2 Promotion of cooperation initiatives within the framework of the EUSAIR strategy and European networks and networks
- 4.3 Promotion of transnational cooperation initiatives in the field of shipping
- 4.4 Promotion of transnational cooperation initiatives in the field of research and innovation

### 3.4.2 Actions

In the table below, the associated actions are identified for each objective.

**TABLE 4 STRENGTHENING COOPERATION - ACTIONS**

Objectives	Actions	Consistency with Programmes/Priorities
4.1 Promotion of European Territorial Cooperation (ETC) initiatives in the Mediterranean and Adriatic-Ionian contexts	4.1.1 Promote interregional cooperation initiatives in the context of the <i>blue economy</i> .	Interreg IT-HR
	4.1.2 To exploit the results of the Interreg programmes on the <i>blue economy</i> carried out by the Apulia Region and its Agencies in a dedicated portal.	
	4.1.3 Promoting international exchanges for young professionals and businesses in the <i>blue economy</i> sector.	Interreg GR-IT
	4.1.4 Promote the participation of quadruple helix players and in particular <i>blue economy</i> companies in cooperation projects and initiatives.	Interreg IT-HR
	4.1.5 Promote technology transfer and knowledge exchange between actors in the quadruple <i>helix of the blue economy</i> at cross-border and European level.	Interreg IT-HR Interreg Adrion
4.2 Promotion of cooperation initiatives within the framework of the EUSAIR strategy and European networks and networks	4.2.1 Promote initiatives linked to the macro-regional strategy for the Adriatic and Ionian region, in particular under Pillar 1.	PR Puglia ERDF ESF+: Priority 9
	4.2.2 Promote regional participation in the update of the EUSAIR Strategy.	
	4.2.3 Enhance the indications of the EUSAIR Strategy in regional planning and in the development of regional planning.	PR Puglia ERDF ESF+ Priority 1-2-6-8
	4.2.4 Enhance co-leadership in the MaSBBE S3 Thematic Partnership in regional programming and development of regional planning.	I3 Instrument, EIE-Horizon, EMFAF
	4.2.5 Promoting innovation in the <i>Blue Economy</i> sectors in the context of Regional Innovation Valleys (RIVs).	I3 Instrument, EIE-Horizon

Objectives	Actions	Consistency with Programmes/Priorities
	4.2.6 Enhance participation in the Inter-Mediterranean Commission of the CPMR and the Working Group on the Blue Dimension of S3.	Interreg, Life, EMFAF
4.3 Promotion of transnational co-operation initiatives in the field of shipping	4.3.1 Promote collaborative initiatives with other Italian and European regions in emergency management, navigation control and maritime safety.	Interreg GR-IT
	4.3.2 Promote collaborative initiatives with other Italian and European regions in environmental monitoring and the development of marine protected areas.	Interreg Adrion, GR-IT and IPA South Adriatic
	4.3.3 Promote collaborative initiatives with other Italian and European regions in the field of tourism and sustainable maritime transport.	Interreg GR-IT
4.4 Promotion of transnational co-operation initiatives in the field of research and innovation	4.4.1 Promote initiatives for the exchange of know-how, good practices and experiments, particularly in the field of applied research, through European research programmes (e.g. Horizon/SBEP).	Horizon Europe
	4.4.2 Promote the use of international investment funds dedicated to the blue economy sectors (BlueInvest, etc.).	BlueInvest
	4.4.3 Support/creation of digital platforms for international networking between businesses, research institutions and governments in the Mediterranean.	Interreg IT-HR
	4.4.4 Promote the participation of the Puglia Region in international or national collaboration networks (BIG Technological Cluster, MaSBBE and other S3 Thematic Partnerships).	

### 3.5 Strengthening human capital

This line of action is very important to support the growth of the *blue economy* in Puglia, especially in the areas of Brindisi and Taranto, which are already strongly linked to maritime activities and are facing the need for industrial conversion. Blue growth offers an important opportunity to boost employment, but to make full use of it, investment in skills and human capital is needed. These areas, already suited to port, maritime and industrial activities, can greatly benefit from the transition to a more sustainable and innovative *blue economy*, but this requires a workforce prepared and able to adapt to new challenges.

What are the steps to activate?

Definitely identify and strengthen the specialized professional figures. This means not only improving the skills of those already working in the maritime, fisheries, tourism and renewable energy sectors, but also providing those from traditional sectors, such as industry, with the necessary tools to adapt to new needs. Through upskilling and reskilling, workers can acquire new skills to tackle more complex challenges, such as marine resource management, technological innovation in the energy sector or environmental sustainability.

In parallel, the soft and specialised skills of *blue economy* operators need to be strengthened. Transversal skills, such as project management, leadership and the ability to work in teams, are crucial to managing the day-to-day challenges of an ever-changing industry. At the same time, it is crucial to develop highly specialised skills, such as those related to port infrastructure engineering, marine renewable energy and sustainable fisheries management. Continuous training, in collaboration with universities, research centres and companies, will ensure that professionals are always at the forefront of the most innovative technologies and practices, making Puglia's workforce a fundamental pillar of the *blue economy*.

Another key aspect is the *matching* of skills required and offered in the *blue economy* sector. Platforms and initiatives need to be created that link labour supply and demand effectively, so that the skills that companies require can be easily linked with those available on the labour market. This implies close cooperation between local authorities, training institutions and companies to ensure that vocational training and guidance programmes are targeted and respond to the real needs of the market. Moreover, promoting active labour market policies, such as traineeships, apprenticeships and lifelong learning programmes, will give young people and the unemployed access to concrete opportunities in the *blue economy*.

### 3.5.1 Objectives

- 5.1 Identification and upgrading (upskill and *reskill*) for specialised professionals
- 5.2 Strengthening the transversal and specialist skills of operators in the *blue economy* sectors.
- 5.3 Strengthening the *matching* of skills required and offered in the *context of the blue economy*

### 3.5.2 Actions

In the table below, the associated actions are identified for each objective.

**TABLE 5 STRENGTHENING HUMAN CAPITAL - ACTIONS**

Objectives	Actions	Consistency with Program-mi/Priorities
5.1 Identification and enhancement (upskill and reskill) for specialized professionals.	5.1.1 Support initiatives to promote the upskilling of professionals required by the sector with skills that are also highly specialised.	PR Puglia ERDF ESF+ Priority 5-6 Interreg IPA South Adriatic JTF: Action 2.7
	5.1.2 Collaborate with schools, ITS and universities for marine environmental education projects.	PR Puglia ERDF ESF+ Priority 5-6 Interreg IPA South Adriatic JTF: Action 2.7
	5.1.3 Promote training programmes for entrepreneurship in maritime sectors.	PR Puglia ERDF ESF+ Priority 5-6 JTF: Action 2.7
5.2 Strengthening the transversal and specialist skills of operators in the blue economy sectors.	5.2.1 Strengthen language, digital and multidisciplinary skills of coastal tourism operators.	PR Puglia ERDF ESF+: Priority 6
	5.2.2 Strengthen the linguistic, digital and multidisciplinary skills of operators in the traditional fisheries and aquaculture sector.	PR Puglia ERDF ESF+: Priority 6
	5.2.3 Create certified training courses for marine renewable energy maintenance technicians.	PR Puglia ERDF ESF+: Priority 6
	5.2.4 Create certified training courses for port logistics and exceptional transport technicians (i.e. wind turbines).	PR Puglia ERDF ESF+: Priority 6
5.3 Strengthening the matching of skills required and offered in the blue economy	5.3.1 Enhanced analysis of skills required by established and emerging sectors of the regional blue economy.	PR Puglia ERDF ESF+: Priority 6
	5.3.2 Enhancement of integrated science-business training systems dedicated to the sea (e.g. ITS system, Academy, etc.).	PR Puglia ERDF ESF+: Priority 6

### ***3.6 B-Agenda: Three-year blue economy agenda***

The previous paragraphs set out the five strategic lines of action, around which specific objectives and concrete actions are articulated. On this basis, the **B-Agenda** is built, i.e. **the three-year Blue Economy Agenda**, which is integrated with the Regional Strategy for Sustainable Development and specifies, for each line of action, which actions to activate, with which economic resources and through which monitoring and evaluation tools to measure their effectiveness and impact.

The Agenda, approved by decision of the Regional Executive on a proposal from the President's Head of Cabinet, is the key instrument for guiding public policies related to the development of the economy of the sea. The document is the result of extensive collaboration with the main players in the regional ecosystem – including local authorities, universities, research centres, civil society representatives and other stakeholders – and aims to outline an integrated, innovative and sustainable vision for the future of the Apulian blue system.

The policy areas are multiple and cover key sectors such as floating offshore wind, marine biotechnology, blue bioeconomy, sustainable port logistics, coastal tourism, fisheries and aquaculture, digitalisation of production chains and protection of marine ecosystems. For each area, measurable targets, priority actions and a targeted allocation of resources are identified, with the aim of strengthening the competitiveness of the territory, promoting innovation and supporting long-term economic and employment growth.

Through this systemic, coordinated and results-oriented approach, the Puglia Region aims to consolidate its leadership position in the Mediterranean, as a region capable of combining economic development, environmental sustainability and social innovation in the framework of a modern and inclusive Blue Economy.



## 4 GOVERNANCE AND ECOSYSTEM OF THE BLUE ECONOMY

**L**The **governance** of the *blue economy* is crucial to ensure that the growth of this sector takes place in a sustainable, balanced and integrated way, taking into account environmental, economic and social challenges. The concept of *governance* in this area refers to the ability to coordinate the policies, institutions and actors involved to promote the development of the *blue economy* in a context of equity and sustainability. A good *governance* system must be able to integrate the different sectoral policies, promote cooperation between the various institutions and actors, and ensure that decisions are based on scientific evidence, participation and accountability.

### 4.1 Key elements of blue economy governance

- 1 **Institutional coordination.** The *governance* of the *blue economy* requires strong coordination between different authorities and levels of government (regional, national and European). Sectoral policies, such as those relating to fisheries, renewable energy, protection of the marine environment and shipping, must be integrated into a common framework that promotes the harmonious and sustainable development of the sector. Cooperation between public, private, universities and research centres is essential to address global and local challenges.
- 2 **Stakeholder participation.** A key aspect of **governance** is *stakeholder* participation, which includes not only public institutions, but also businesses, local communities, environmental organisations and practitioners. Every actor has a role to play in ensuring that policies are effective, inclusive and responsive to the needs of all. Active *stakeholder* participation is necessary to promote a *bottom-up* approach that ensures greater acceptance of shared policies and solutions.
- 3 **Integrated and multisectoral policies.** The *blue economy* involves several sectors, including fisheries, tourism, energy, marine resource management and research. Policies must be multi-sectoral to prevent activities in one sector from jeopardising the sustainability of others. Integrated management of marine and coastal resources, through strategic planning and a holistic approach, makes it possible to optimise resource use, minimise conflicts and promote ecosystem resilience.
- 4 **Sustainability and environmental responsibility.** The governance of the *blue economy* must always prioritise environmental sustainability. The protection of marine and coastal ecosystems, the reduction of pollution, the sustainable management of natural resources and the fight against climate change must be central to all *blue economy* policies and activities. Environmental regulations and good management practices must be applied to ensure that economic growth does not come at the expense of the environment.
- 5 **Monitoring, evaluation and adaptation.** An effective *governance* system must provide for continuous monitoring of the impacts of *policies and activities linked to the blue economy*. The collection of data, the assessment of economic, social and environmental impacts, and the ability to adapt and adjust policies based on the evidence gathered are essential to ensure the long-term sustainability of the sector.

### 4.2 Governance of the strategy

The strategy is based on the importance of promoting a holistic and cross-sectoral approach, combining economic, environmental and social policies in a synergistic way. To achieve the objectives of the *blue economy*, Apulia has set up a series of *governance* bodies and tools to address the complexity of a sector involving several thematic areas: from the management of marine and coastal resources, to the promotion of technological innovation and research, up to the formation of a highly specialized human capital. In particular, the Steering Committee and the Technical-Scientific Committee,

supported by thematic Working Groups,<sup>14</sup> are the main bodies for defining and implementing strategic actions.

The governance of the *blue economy* strategy in Puglia therefore aims to regulate relations between the various actors involved, monitor the progress of policies and encourage the adoption of initiatives capable of responding to the environmental, economic and social challenges of the sea and the coasts. This governance system aims to consolidate Puglia's role as a strategic hub for the *blue economy* in the Mediterranean and in the European and international context. The bodies, functions and main actions that characterise the governance of the Blue strategy in Puglia are described below.

#### 4.2.1 Steering Committee

The Steering Committee is set up on the proposal of the Councillors responsible for economic development, the environment, agriculture, tourism and state-owned property.

Subsequent Regional Executive Decisions Nos 916/2022, 1160/2023 and 1265/2023 formalised the following composition.

The Steering Committee is composed of:

- Head of Cabinet of the President (or his/her delegate) with coordinating role;
- Director of the Economic Development Department (or his/her delegate);
- Director of the Department of Agriculture, Rural and Environmental Development (or his/her delegate);
- Director of the Department of Environment, Landscape and Urban Quality (or his/her delegate);
- Director of the Department of Tourism, Economics of Culture and Development of the Territory (or his/her delegate);
- Director of the Budget, General Affairs and Infrastructure Department (or his/her delegate);
- Director of the Mobility Department (or his/her delegate);
- Director of the Department of Labour, Education and Training Policies (or his/her delegate);
- Managing Authority (or its delegate);
- Chairman of the Board of Directors of AQP – Acquedotto Pugliese (or his/her delegate);

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<sup>14</sup> [By Regional Executive Decision No 1160 of 8 August 2023](#), guidelines were approved by the Regional Executive for the establishment of Scientific Technical Committees and thematic working groups for the Green and Blue sectors of the Apulian Development Strategies for 2030 and, in line with the assessments carried out by the Blue Economy Steering Committee, the following were acknowledged:

- to draw up a Public Notice for expressions of interest for the formation of a short list aimed at identifying the bodies that are members of the Scientific Technical Committees and thematic working groups for the Green and Blue sectors of the Apulian Development Strategies by 2030;
- to set up the Technical Support Group composed of:
  - a. a representative of the President's Cabinet;
  - b. a representative of the Economic Development Department;
  - c. a representative of the Department of Environment, Landscape and Urban Quality.to be entrusted with the following activities:
  - a. the administration of the telematic platform for the transmission of applications;
  - b. the evaluation of the proposals, updating and/or integration of the categories of bodies and/or thematic sectors, submitted by the competent structures;
  - c. public activity and management of the administrative procedure related to the Public Notice (initiation, opening, closing, reopening, etc.);
- to delegate to the Director of the Economic Development Department and to the Director of the Environment, Landscape and Urban Quality Department, as appropriate, in agreement with the President's Head of Cabinet, as coordinator of the aforementioned Steering Committee, all necessary and consequential measures for the adoption and implementation of the Public Notice;
- to acknowledge that the short list, thus formulated downstream of the public procedure, will be approved by a subsequent decision of the Regional Executive and must be consulted in advance by all the Regional Structures that will need to set up Scientific Technical Committees and Thematic Working Groups to support the regional strategic planning of competence in the green and blue sectors.

- President of ANCI Puglia (or his/her delegate);
- President of ARTI – Regional Agency for Technology, Technology Transfer and Innovation (or its delegate);
- Director-General of ASSET – Regional Strategic Agency for the Eco-sustainable Development of the Territory (or his/her delegate);
- Director General of ARET PugliaPromozione - Regional Tourism Agency (or its delegate);
- Director-General of ARPA Puglia – Regional Agency for the Prevention and Protection of the Environment (or his/her delegate);
- Commander of the Coast Guard – Bari Maritime Directorate (or his/her delegate);
- Commander of the Bari Air-Naval Operational Department of the Regional Command of the Guardia di Finanza (or his/her delegate);
- President of the Port Authority of the Southern Adriatic Sea (or his/her delegate);
- President of the Ionian Sea Port System Authority (or his/her delegate).

This body is responsible for coordinating, consulting, simplifying and integrating the various sectoral, territorial and coastal *blue economy* policies, including maritime spatial planning.

#### 4.2.2 Institutional tables

In order to guarantee an effective operational support to the Steering Committee, the President's Head of Cabinet organizes special institutional Tables, according to the topics dealt with from time to time. These meetings aim to examine at the same time the public interests related to the activities and results under discussion, in compliance with the logic of coordination and simplification provided for by Law 241/1990, also through methods inspired by the principles of the service conference, in order to accelerate and make decision-making processes more efficient.

Other institutional actors at EU, national or local level may be invited to the Institutional Tables.

#### 4.2.3 Technical-Scientific Committee

The Steering Committee is supported by the establishment of a Technical-Scientific Committee composed of representatives of industry and the production system, research and universities, to facilitate exchanges and collaboration within a knowledge economy and to encourage the consolidation of an effective system of technology transfer and the development of a blue innovation ecosystem, also thanks to the participation of regional actors in *blue economy* networks at national, European and international level.

#### 4.2.4 Thematic Working Groups

On the basis of the indications and decisions of the Steering Committee, in collaboration with the Technical-Scientific Committee, thematic Working Groups will be set up, which will have the task of formulating and developing the projects assigned and envisaged in the strategic document. Each Working Group will have a coordinator identified among the members of the Steering Committee, responsible for the operational coordination of the individual initiatives and projects to be implemented.

The Working Groups, through the coordinators, report directly to the Steering Committee.

### 4.3 *Coordination of the Maritime Function*

The maritime function in Puglia is divided into three main areas: coastal-state-environmental, port and fisheries. Coastal management includes environmental protection, maritime property and seaside safety; the port area concerns the regulation and safety of maritime activities, in addition to the management of ports of call; fishing is concerned with the control of the fish supply chain, the closure of fishing and the management of professional activities.

In order to ensure more effective and integrated management, the Steering Committee proposes the establishment of a permanent Maritime Function Coordination Working Group which will:

- operates on three main axes – coast, ports and fisheries – favouring a unified and sustainable approach in the management of marine and coastal resources;
- Its task is to strengthen synergy between the different sectors, facilitate dialogue between the various actors and promote institutional dialogue.

Over time, this working group could evolve into a more structured and incisive governance of maritime dynamics and sustainable development of the sector with the aim of planning coastal development in a sustainable way, coordinating port and fisheries policies, protecting the marine environment, improving resilience to climate change and promoting balanced management of fisheries resources, with a particular focus on the *blue economy*.

### 4.4 *Networks and partnerships for innovation in the blue economy in which the Puglia Region is a partner.*

To support the development of the Apulian *blue economy*, the Apulia Region pursues a strategy of active participation in networks, networks and partnerships dedicated to blue growth, both at national and European level.

#### 4.4.1 Cluster BIG - Blue Italian Growth

At national level, the Puglia Region, with the support of ARTI, is part of the Steering Committee of the Regions within the [Blue Italian Growth National Technological Cluster](#). The latter aims to create an aggregative community representative of the main sectors of the Italian *blue economy*, promoting innovation and collaboration between the actors involved.

#### 4.4.2 National System for the Protection of the Environment

Puglia actively participates in the **National Technical Tables of the National Network System for Environmental Protection (SNPA)**, which deal with strategic issues such as:

- offshore industrial installations;
- eutrophication;
- marine monitoring;
- marine strategy;
- protection of the sea and coasts.

These tables are essential moments of confrontation to develop joint actions and improve the sustainable management of marine and coastal resources.

#### 4.4.3 Maritime Sustainable Blue Bio-Economy

At European level, the Puglia Region is co-leader, together with the Emilia-Romagna Region, of the **S3 Thematic Partnership ‘Maritime Sustainable Blue Bio-Economy’ (MaSBBE)**, [launched](#) in 2023 as part of the S3 Forum. The partnership includes **17 European regions** and **52 blue**

**economy**players from the Mediterranean and Atlantic basins. The regional agencies **ARTI** and **ASSET** also participate in the network.

The main objectives of MaSBBE are as follows:

- capitalising on knowledge and experience from European and regional blue *economy* projects;
- strengthening innovation policies to promote **biotechnology** and **the blue bioeconomy**;
- supporting the growth of sustainable value chains by promoting **innovative enterprises** for the valorisation of living marine resources.

#### 4.4.4 Multi-Actor Regional Groups (MARGs) - BioINSouth

BioINSouth is an initiative to ensure that the bioeconomy grows within ecological limits by monitoring and mitigating environmental impacts from the use of bio-based products.

To achieve this, the project adopts a **multi-actor approach (MARG)**, involving stakeholders along the entire bioeconomy value chain and promoting a strong dialogue between institutions, businesses, research and civil society.

BioINSouth is a project active in eight European regions, aimed at developing tools to assess the environmental and socio-economic impacts of the bioeconomy. It is divided into eight main objectives:

1. **Regional Multi-Actor Groups (MARG):** involvement of stakeholders of the Quadruple Helix to encourage dialogue and collaboration.
2. **HUB BioINSouth:** creation of regional centres to coordinate local strategies and actions.
3. **Digital environmental assessment tools:** development of methodologies to measure the impact of bio-based products.
4. **Built-in toolkits:** Toolbox and guidelines to support sustainable bioeconomy policies.
5. **Regional monitoring system:** definition of key indicators to assess sustainability.
6. **Application of the toolkit in HUBs:** testing and improving regional strategies.
7. **Policy recommendations:** development of guidelines to promote sustainability and circularity.
8. **Dissemination and reply:** dissemination of results and promotion of the model in other European regions.

Regione Puglia is a member of MARG with the aim of contributing to the definition of good practices and guidelines for the operation of HuBs.

#### 4.4.5 The DIH Innovamare network

Also at European level, the **Regional Agency ARTI** is a member of the [\*\*Digital Innovation Hub \(DIH\) Innovamare\*\*](#), an Italian-Croatian network established in 2023 thanks to the **Interreg Italy-Croatia Programme 2014-2020**. DIH Innovamare aims to:

- strengthen cross-border and transnational cooperation in the development of sustainable marine technologies;
- supporting innovation ecosystems in the *blue economy*;
- offer specialist training and advice on finding funding for public and private bodies;
- Facilitate testing and demonstration of innovative products and services in the maritime sector.

#### 4.4.6 CPMR

The Puglia Region has established itself as a key player in transnational cooperation, actively participating in important strategic platforms. A significant example is its adherence to the Conference of Peripheral Maritime Regions (CPMR). With the D.G.R. n. 1166/2020, Puglia has become part of this organization that represents over 160 European and non-European regions. The CPMR is dedicated



to the promotion of sustainable development, the enhancement of maritime resources and the strengthening of cooperation between the Mediterranean and Atlantic regions.

#### 4.4.7 EUSAIR

A further commitment of the Puglia Region at international level is reflected in its role within the EU Strategy for the Adriatic-Ionian Region (EUSAIR). In particular, Puglia coordinates the Thematic Steering Group IV of EUSAIR, i.e. Pillar IV - Blue Growth. In this position, the region actively contributes to the definition of policies and projects aimed at the sustainable growth of the blue economy in the Adriatic-Ionian area. The focus is on the integrated management of marine and coastal resources, the drive for innovation and the creation of new employment opportunities in the maritime sector.



Figure 11 Inforegion - EU Strategy for the Adriatic and Ionian Region

#### 4.4.8 Regional Innovation Valleys

Puglia is one of the [151 Regional Innovation Valleys](#) selected under the **New European Innovation Agenda (NEIA)**. This award aims to strengthen regional innovation ecosystems and reduce the innovation gap in Europe, with a focus on:

- Reducing dependence on fossil fuels;
- digital transformation, *cybersecurity*, *health*;
- circular economy;
- *space*, *biotech*, *robotics*.

RIVs are funded by Horizon Europe's **European Innovation Ecosystems (EIE)**, **Interregional Innovation Investments (I3)** and **ERDF** programmes, providing Puglia with strategic investment opportunities in the fields of innovation and the *blue economy*.

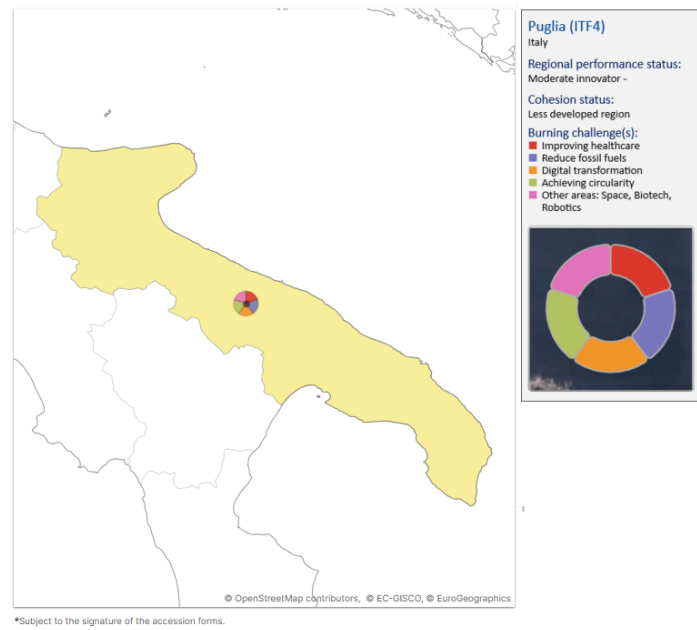


FIGURE 12 Source [https://projects.research-and-innovation.ec.europa.eu/en/strategy/support-policy-making/shaping-eu-research-and-innovation-policy/new-european-innovation-agenda/new-european-innovation-agenda-roadmap/selected-regional-innovation RIV Sectors - Puglia](https://projects.research-and-innovation.ec.europa.eu/en/strategy/support-policy-making/shaping-eu-research-and-innovation-policy/new-european-innovation-agenda/new-european-innovation-agenda-roadmap/selected-regional-innovation-RIV-Sectors-Puglia).

## 5 CAPITALIZATION OF THE STRATEGY: THE B-VISA PROJECT

The [Blue Vision 2030 in the South Adriatic \(B-ViSA 2030\)](#) project is a pilot initiative for transnational experimentation of the Apulian regional *blue economy* strategy. Born with the aim of promoting a sustainable *governance* of the economy of the sea between Puglia, Albania and Montenegro, the project is part of a wider context of European cooperation aimed at sustainable blue growth. Through B-ViSA 2030, the Apulia Region capitalises on the results of its strategic policies for the *blue economy*, extending its model transnationally. The main challenge is to transfer the know-how developed in Puglia, encouraging the definition of long-term strategies for the economy of the sea in the countries of the southern Adriatic.

Through this project, actions have been launched to improve the efficiency of public administration in the areas of the *blue economy* by fostering legal and administrative cooperation between institutions, businesses, research centres and civil society. Specifically, the project aims to:

- disseminate the guidelines of the Apulian regional *blue economy* strategy at local and transnational level;
- support Albania and Montenegro in defining integrated *blue economy* strategies;
- strengthen an effective governance system for the *blue economy* strategy in the South Adriatic area;
- enhance cooperation between public and private actors following the quadruple helix model (institutions, research, business and civil society); promoting innovative solutions for sustainable growth and the protection of the marine ecosystem in the Southern Adriatic.

### 5.1 Skills and experience in the blue economy sector

The B-ViSA 2030 project is based on a solid background of skills and experience gained by the partners involved, who over the years have developed innovative strategies, tools and methodologies for the sustainable growth of the *blue economy*. The contribution of institutional partners and local stakeholders is essential to ensure an integrated and transnational approach, capable of enhancing territorial specificities and creating a solid and lasting ecosystem of cooperation.

The Puglia Region is a point of reference in the *blue economy* of the central and southern Adriatic thanks to its ability to develop innovative strategies and participatory *governance* tools.

- **The development of the Blue Vision 2030:** defined a strategic plan positioning Puglia as a blue innovation incubator, fostering synergies between institutions, businesses, research and civil society. This integrated approach makes it possible to exploit the full potential of the *blue economy*, promoting sustainable development models and the digital transformation of the maritime sector;
- **Participation in European projects:** in 2019-2022, the Region participated in 54 European *blue economy* projects, consolidating its role as a key player in transnational cooperation. Among the most relevant are *SMART ADRIA BLUE GROWTH*, *B\_BLUE*, *INNOVAMARE*, *FRAMESPORT*, *AI SMART*, projects that have contributed to the growth of the blue innovation ecosystem;
- **Governance of the Blue Economy:** established a system of regional governance consisting of a Coordination Committee, a Technical-Scientific Committee and thematic working groups, which are essential tools for the coordination of policies linked to the sea and blue growth;

- **Innovation instruments:** Puglia has promoted blue labs, hackathons and vouchers for innovation, encouraging technology transfer and the creation of start-ups and innovative projects in the *blue economy* sectors, integrating them also into the bioeconomy and the circular economy, thus promoting Blue-Green Economy integration.

The Apulian experience was used as a *good practice* and starting point for the B-ViSA 2030 project, with the aim of transferring the experience of this development model at transnational level considering the specificities and needs of the territories of Albania and Montenegro.

## 5.2 Experimental and transnational approach

The experimentation of the Apulian model took place through a process structured in several phases:

1. **Blue economy mapping in Apulia, Albania and Montenegro:** the project uses the datasets developed under the ‘Smart Adria Blue Growth’ project to analyse the state of the *blue economy* in the territories involved;
2. **workshops and thematic conferences:** meetings organized in Puglia, Albania and Montenegro to share experiences, methodologies of elaboration and participation and governance structures;
3. **Establishment of a Joint Action Plan:** development of a shared strategy for the development of the *blue economy* in the southern Adriatic area;
4. **formalisation of the Commitments:** Signing of a Memorandum of Understanding (MoU) between the partners to ensure the sustainability and continuity of the strategy in the long term.

The transnational approach makes it possible to address common challenges related to the management of marine resources, sustainable coastal tourism, fisheries and aquaculture, encouraging the exchange of good practices between the countries involved.

## 5.3 Impacts

The B-ViSA 2030 project aims to contribute to generating tangible impacts in the short and long term, including:

- the adoption of *blue economy* strategies by public and private bodies in the territories involved;
- strengthening institutional and administrative competences for the sustainable management of marine resources;
- the creation of an innovative ecosystem capable of stimulating new economic and employment opportunities;
- promoting participatory and inclusive governance practices for the management of the common maritime heritage.

The exchange of expertise between the Apulia Region and other institutions and partners on the other side of the Adriatic makes it possible to build a transnational *blue economy* governance model based on:

- exchange of good practices and transfer of knowledge between partners;
- definition of long-term strategies for the southern Adriatic, adapting the Apulian experience to local specificities;
- promoting innovation and digitalisation to accelerate the growth of the *blue economy*;
- creation of operational tools such as a Joint Action Plan and a Memorandum of Understanding (MoU) to formalise partners’ engagement.

Through the B-ViSA 2030 project, a significant step is taken in the process of capitalizing the Apulian *blue economy* strategy, bringing it to a transnational level and contributing to the creation of a stable cooperation ecosystem between Italy, Albania and Montenegro.

This shared experience with the southern Adriatic regions will contribute to the elaboration of an Action Plan that will indicate *cross-border* paths to intercept synergies between the *blue economy* strategies in the southern Adriatic and support cooperation that extends to the entire Adriatic-Ionian area and that of the Mediterranean.

## **5.4 Future developments**

In the long term, the Apulian experience gained through the B-ViSA 2030 project will be continuously exploited on two levels: domestic and international. All the acquired knowledge will be shared and integrated in the exchange with the S3 Community of Practice (S3 CoP), in a process of constant evolution.

This dynamic capitalisation will ensure a mutual and permanent impact between the regional S3 and the Blue Vision 2030. The inclusion and enhancement of the *blue economy* in the new regional S3 will provide an opportunity to review and refine the #BlueVision2030 regional strategy, encouraging a strategic and coherent update.



## 6 THE PARTICIPATORY PROCESS

**L**a Law on the Participation of the Puglia Region establishes a method of permanent involvement of citizens, local, cultural, economic, political and scientific administrators, based on information, transparency, consultation and listening on important issues that affect the territory and the community. Through participatory processes, stakeholders can access spaces for constructive discussion that allow them to take part in public decisions, in order to carry out initiatives and interventions in the interests of the local community in the Apulian territory through forms of co-design.

The Strategy on the development of the *blue economy* in Puglia focuses on the sustainable exploitation of maritime and coastal resources and offers a proposal for a forward-looking vision that affects, inter alia, policies on innovation, economic development, research and development, environmental protection, fisheries and aquaculture, coastal tourism and port logistics. The aim is to promote an integrated maritime economic ecosystem, capable of generating growth, jobs and territorial resilience. For this reason, the strategy requires the launch of a structured process of sharing with the main regional stakeholders.

To ensure broad and inclusive involvement, the *Blue Economy* Strategy will be subject to an intense participatory process, which, starting from the assessments of the *Steering Committee on the Blue Economy*, will involve the main players in the area, as well as citizens, public and private organisations, associations and social actors, including potential beneficiaries of EU programmes and funds, partners in the context of the thematic partnership S3 ‘Maritime Sustainable Blue BioEconomy’ through the preparation of special questionnaires, differentiated by type of user.

Discussion tables will therefore be organized that may concern the provisions for regulatory and regulatory adoption of regional competence, the recognition of projects, the definition of information and dissemination actions, also aimed at increasing participation in support measures.

The Regional Strategy for the *Blue Economy* is a dynamic document by its nature and the need for constant updating to ensure consistency with the evolution of its content.

Thanks to the contributions that will be received through the public consultation phase, the Regional Strategy for the *blue economy* will be enriched through the contributions of all stakeholders and be an expression of the participatory confrontation with the territory, for a conscious and sustainable development of maritime and coastal resources in all their potential.



FIGURE 13 Platform #PugliaParticipates Link <https://partecipazione.regione.puglia.it/>

## 7 THE BLUE ECONOMY PORTAL

To overcome the fragmentation of information and ensure a unified vision on *the policies of the blue economy* in Puglia, a **third-level thematic portal** will be created that will act as an integrated digital hub. This space, hosted on the institutional website, will provide a clear and structured overview of regional strategies and actions. The portal will include an **events agenda**, a **news** section, **geo-referencing of projects** for an up-to-date mapping of initiatives on the ground, as well as an area for **notices**.



FIGURE 14 Example homepage portal BlueEconomy Puglia