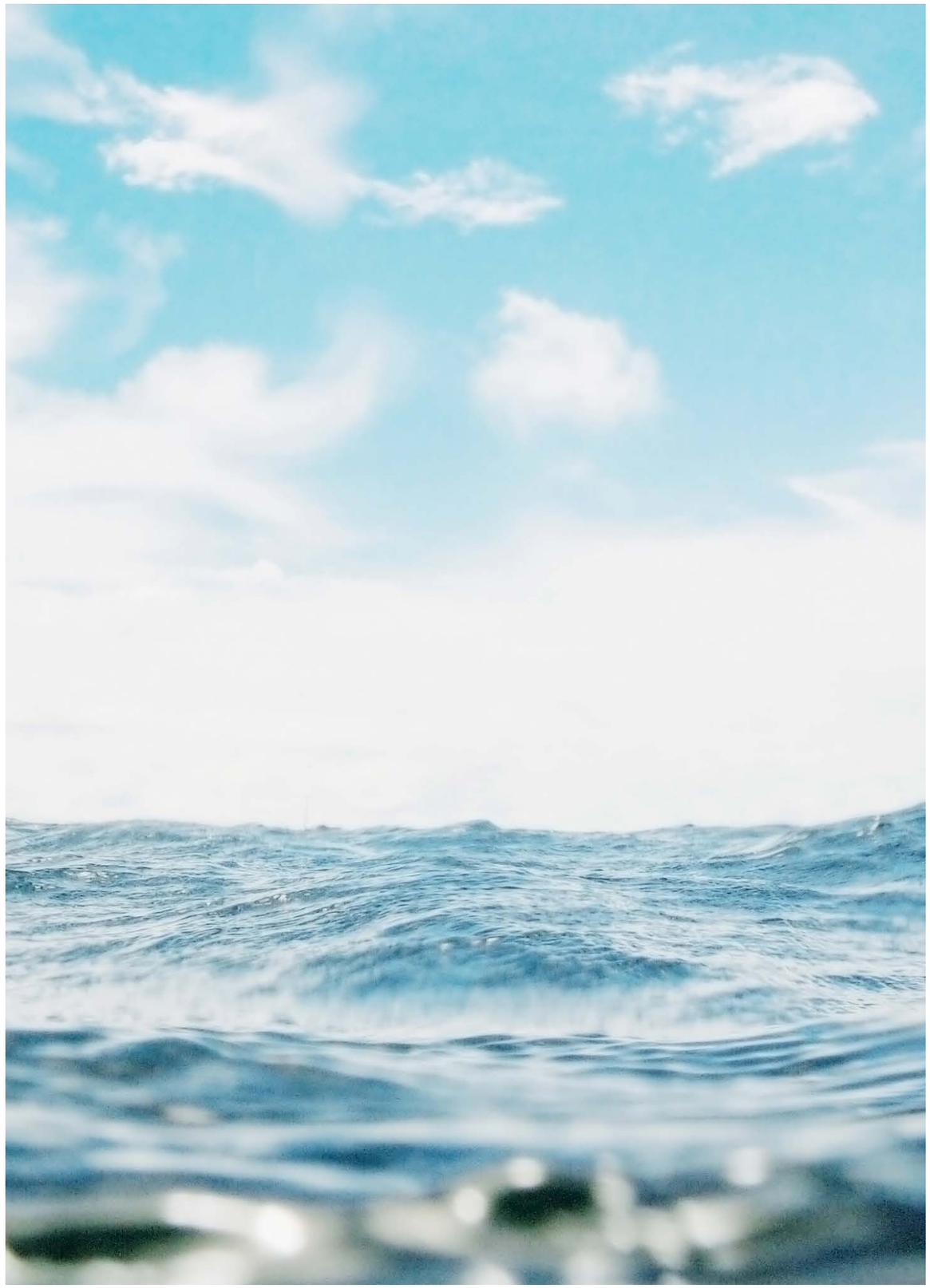
eco-union
Blue Solidarity Economy
in Catalonia, Europe
and the Mediterranean



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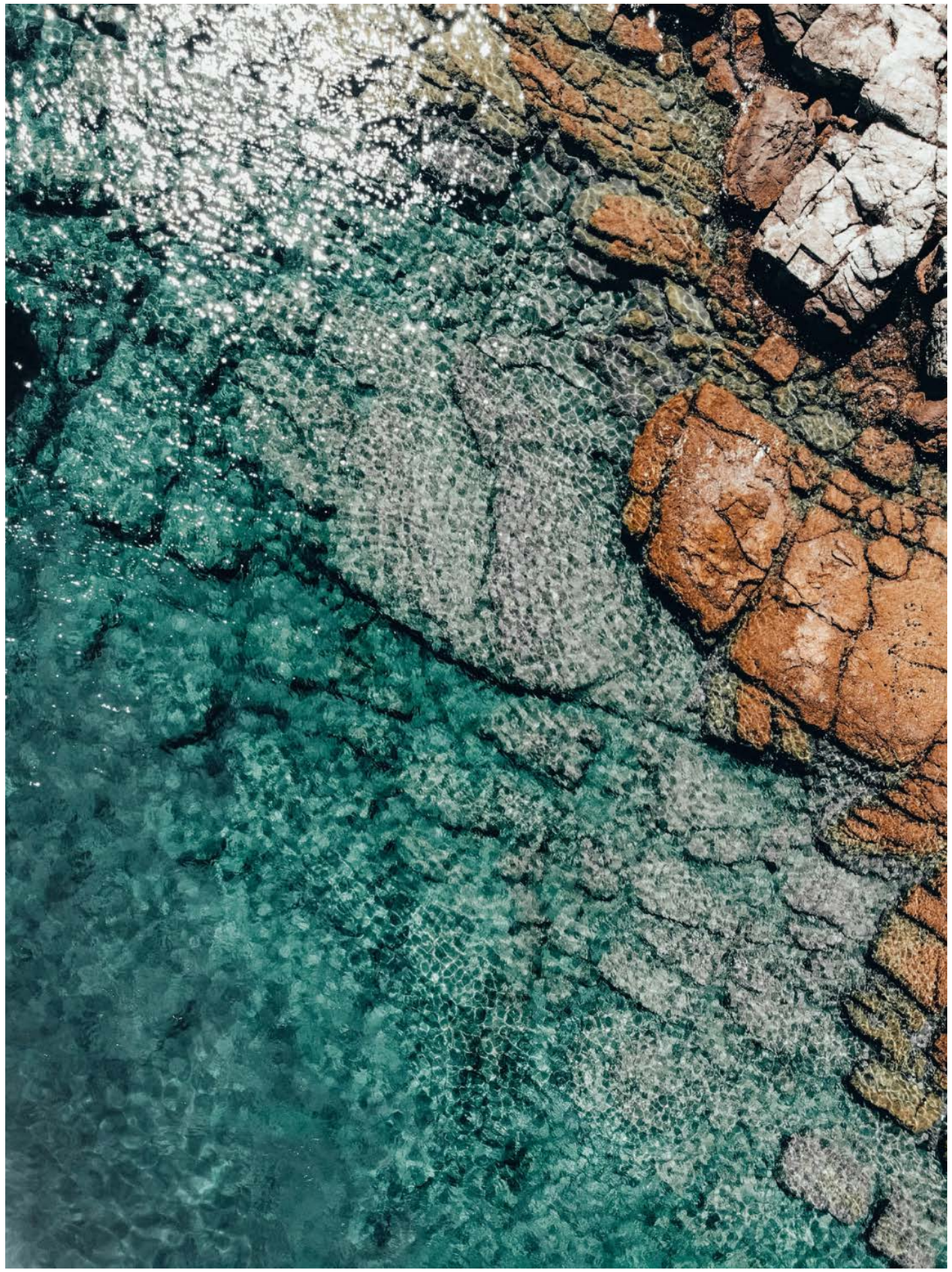
1 Introduction



The study **Blue Solidarity Economy (BSE)** defines strategic foundations, identifies challenges and provides recommendations in order to guide and promote the implementation of a social, solidarity, inclusive and sustainable blue economy in Catalunya, Europe and the Mediterranean. Its key objectives are the prioritization of business opportunities, business and job creation for a Social and **Solidarity Economy** (SSE) within the framework of the **Blue Economy** (BE)**.**

This study aims to be a **source of proposals** for the adoption of sustainable management policies of the blue economy, at an environmental, economic and social level, as well as a source of suggestions for the development of a fairer, and more caring economy. At the same time, it intends to deepen, disseminate and replicate good practices and actions carried o ut in Catalonia, Europe and the Mediterranean, through **the creation of an Blue Solidarity Economy (BSE) platform**, in order to promote a more inclusive, prosperous and sustainable Mediterranean region.

The main **economic sectors** analysed in this report are (I) Coastal and maritime tourism; (II) Fisheries; (III) Aquaculture; (IV) Coastal and marine conservation; (V) Ports, nautical, maritime transport, construction and maintenance of ships; (VI) Emerging sectors: marine energy, blue biotechnology and marine mining.

Both this study and the BSE concept are framed within different local, state-wide, European and global initiatives that highlight the importance and necessity to change the current management of marine resources, in order to undertake the **socio-ecological transition**.

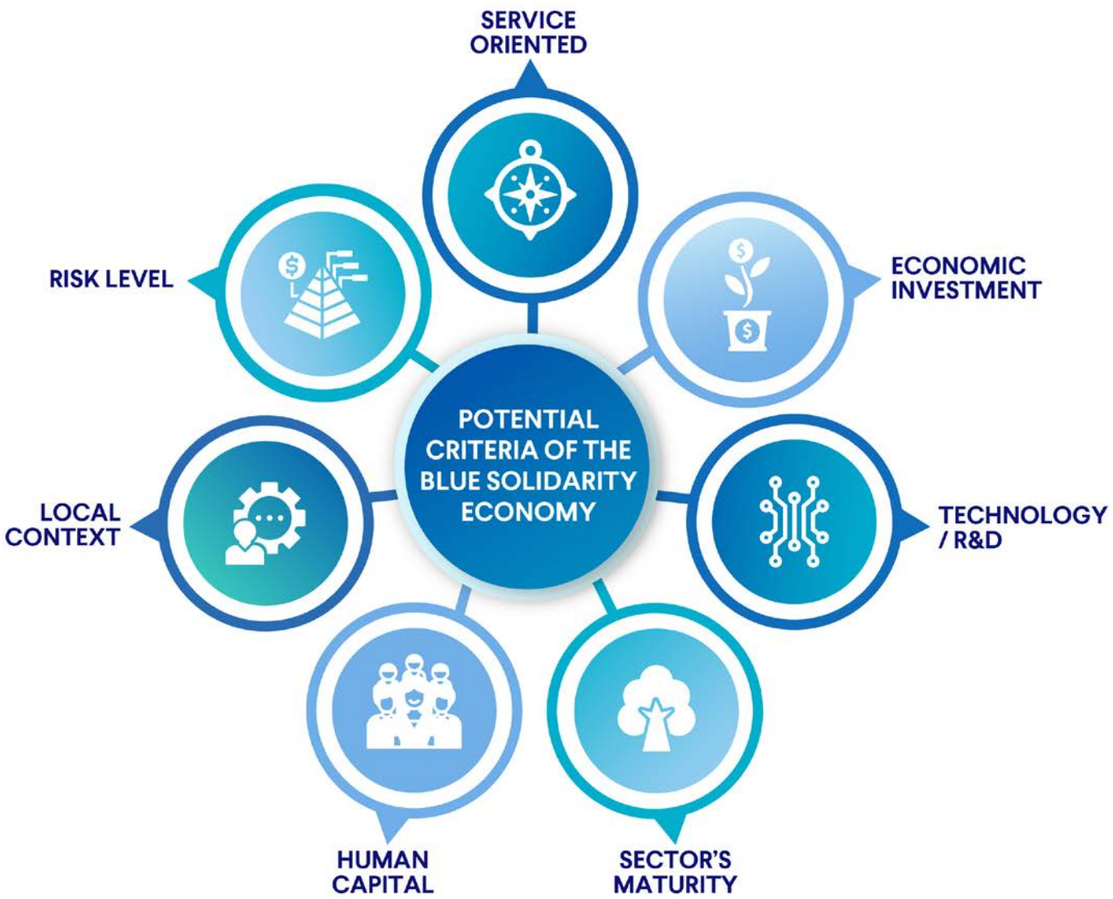
This study is encompassed in the **European Blue Growth Strategy** (Blue Growth [1]) coordinated by the **European Commission** (EC) as well as in the activities carried out by the **Union For the Mediterranean** (UpM). It also build on the **Maritime Strategy of Catalonia 2030** [2].

Furthermore, this report is directly linked to three **Sustainable Development Goals** (SDGs) of the 2030 Agenda: **SDG 8** (promotion of decent work and sustained, inclusive and sustainable economic growth); **SDG 12** (guarantee of responsible consumption and production models) and **SDG 14** (conservation of the oceans and of marine resources). Thus, it contributes locally to materialize the global goals established to achieve a more just and sustainable world.

1 European Commission. “Blue Growth ” (2016) https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en **2** 2030 Marine Strategy of Catalonia. 2018-2021 Strategic Plan. Generalitat de Catalunya (2018) http://agricultura.gencat.cat/web/.content/08-pesca/politica-maritima/enllacos-documents/fitxers-binaris/EMC-2030-pla-201 8-2021_v.2018-EN.pdf

2 Methodology

The main methodology of this study is secondary research (desk study), complemented by different interviews and discussion groups at Catalan level. The elaboration process is divided into two phases: firstly, an exhaustive investigation of the relevant bibliography is conducted and broken down by sectors of the Blue Solidarity Economy (BSE), to develop the state of the question at the conceptual level. Secondly, a qualitative critical analysis is developed to identify possible future scenarios and prepare some strategic recommendations to promote BSE in Catalonia, Europe and the whole Mediterranean region. This analysis has been carried out for each sector of the blue economy considering the following evaluation criteria [3]:



POTENTIAL CRITERIA OF THE BLUE SOLIDARITY ECONOMY	
Degree of investment required	Sectors that need a high level of initial economic investment can curb the entry of Social and Solidarity Economy (SSE) actors, generally smaller in size and with less financing capacity compared to traditional large companies and multinationals.
Technology & R&D level	The most technologically complex sectors and / or those that require the purchase or the development of protected patents, which may be less accessible to SSE actors, with limited R&D capacity, in volume and duration.
Maturity of the sector	Highly mature, highly competitive sectors with a low profit margin may be unattractive to SSE agents, with a profile that is usually more cooperative, less commercially aggressive and based on less standardized products or services.
Access to human capital	Sectors that need highly specialized workers that are difficult to find in the local labour market can be more complicated for SSE actors who tend to favour locally available workers.
Knowledge of the local context	Sectors that require a good knowledge of local reality and a close relationship with local communities may be more favourable to SSE actors, with better capacity for interaction and integration at the local level.
Risk level	Emerging sectors with high commercial, economic or technical risk may be less attractive for SSE actors who usually have a more conservative profile with necessity to ensure their solvency in the short, medium, and long term.
Service orientation	In general, SSE companies tend to be more active in activities related to services (for example, 56% of cooperatives in Catalonia are in the service sector [4]), where the number, quality and commitment of the workers prevail

3 Partly based in: Borzaga, C., Salvatori, G., & Bodini, R. " S ocial and Solidarity Economy and the Future of Work". 2019*. https://doi.org/10.1177/2393957518815300. *This paper draws on a work that was previously published by the ILO (2017) and is available at: http://www.ilo.org/wcmsp5/groups/public/—ed_emp/—emp_ent/—coop/documents/publication/wcms_573160.pdf

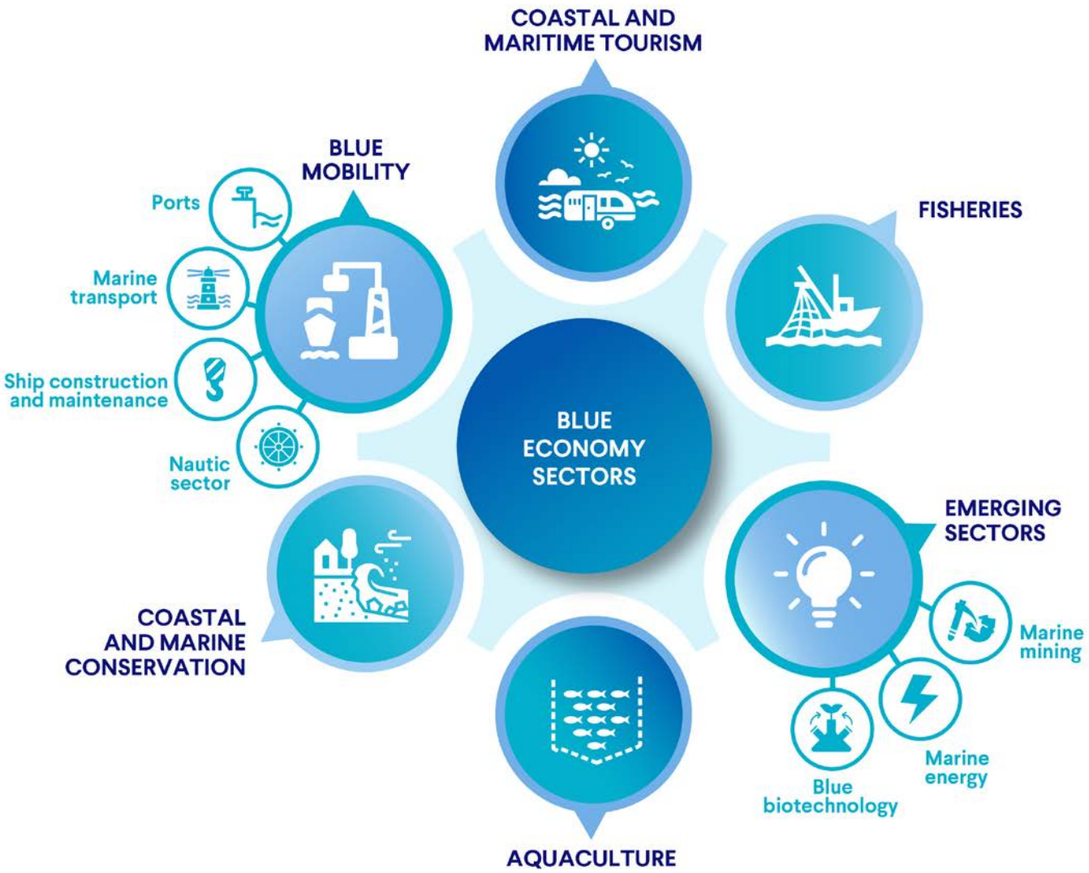
4 Generalitat de Catalunya. "The Cooperative Sector in Catalonia " . 2015. https://treball.gencat.cat/web/.content/05_-_economia_cooperativa/01_-_que_es/imatges/Infografia-1-Febrer-2015.pdf

3 Conceptual framework

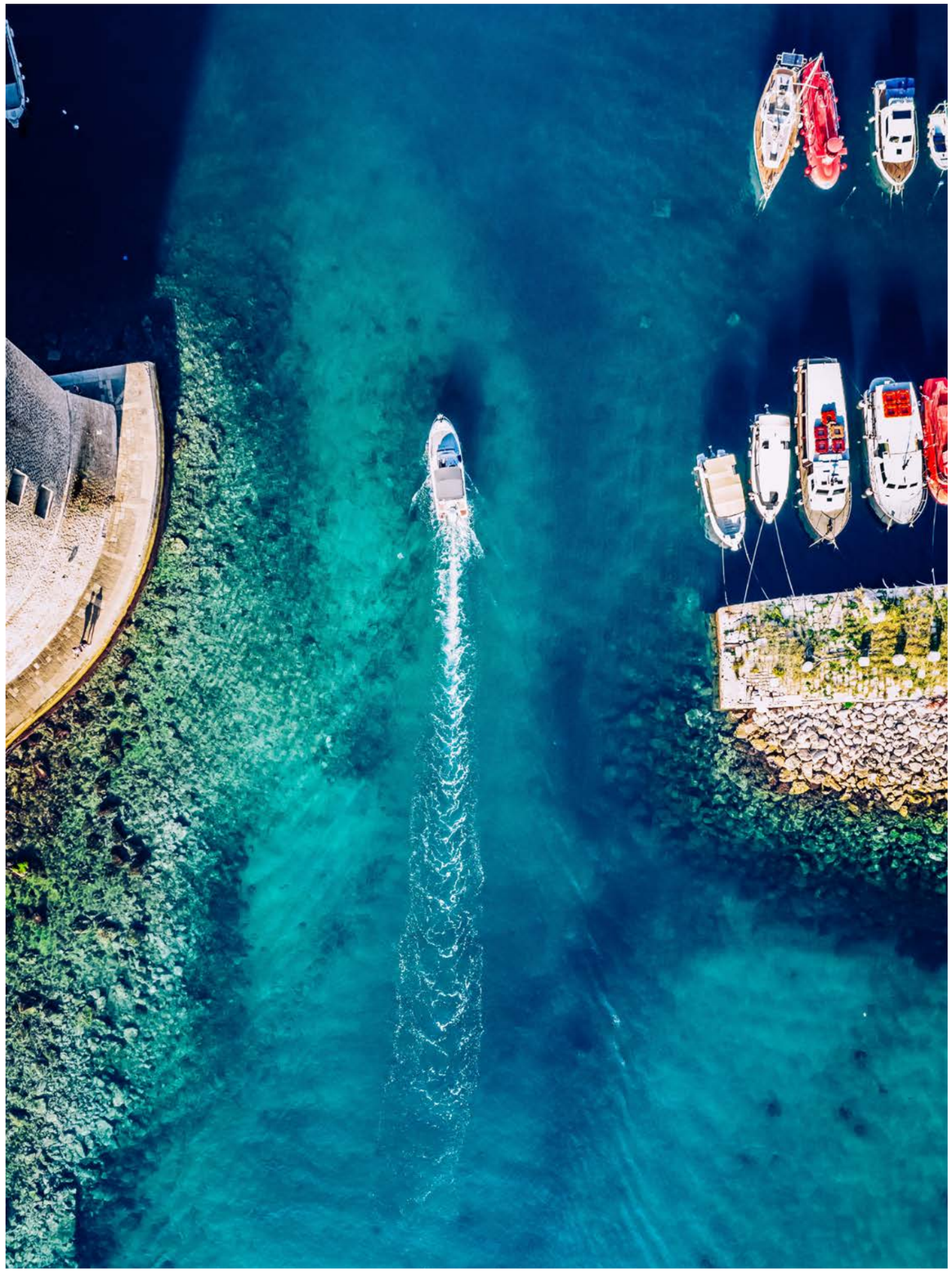
3.1. THE BLUE ECONOMY

The marine environment, extending over 70% of the planet's surface, supports the life of numerous communities. Today, in a context of climate emergency, the pressing global transition towards a low-carbon and resource-efficient green economy is not possible unless seas and oceans are a key part of these transformations [5].

Within this framework, the concept of Blue Economy (BE) arises, that is, the set of human activities that depend on the sea and / or are based on land-sea interactions in the context of sustainable development[6] . The sustainable blue economy proposes the extraction of value from the oceans and coastal regions by human societies and communities, in ways that are in balance with the long-term ability of the oceans to support such activities.



5 United Nations Environment Programme. "Green Economy in a Blue World". 2012. **6** Union for the Mediterranean Ministerial Conference on Blue Economy. 2015. https://ufmsecretariat.org/wp-content/uploads/2015/11/2015-11-17-declaration-on-blue-economy_en.pdf



3.2. THE SOCIAL AND SOLIDARITY ECONOMY

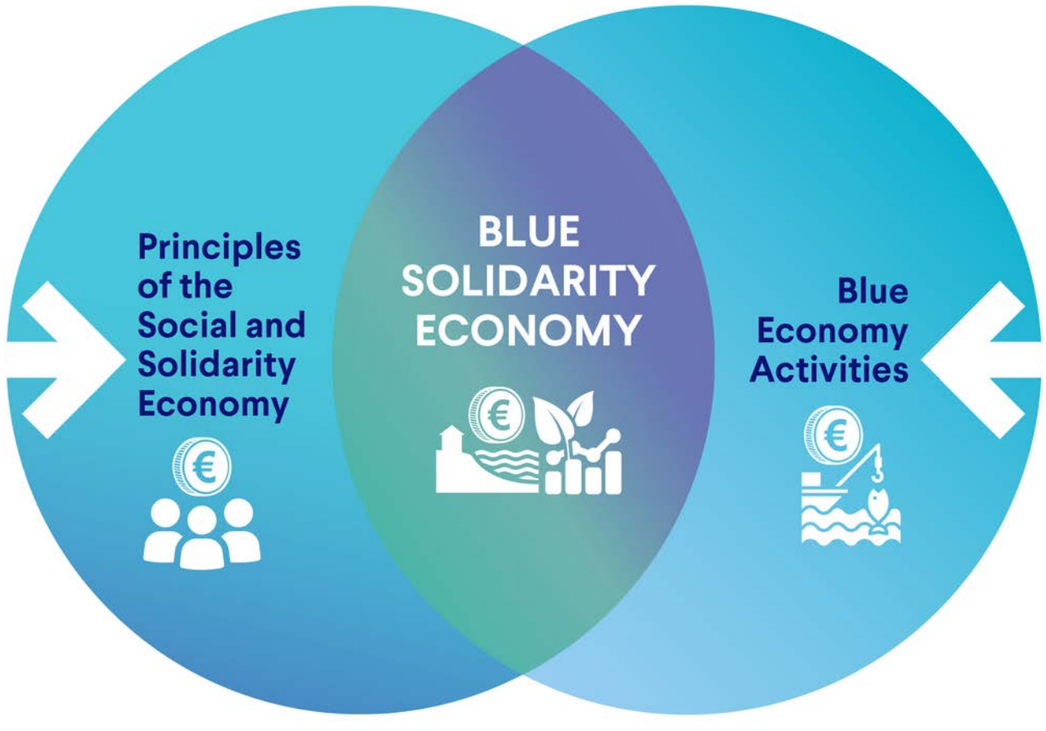
The Social and Solidarity Economy (SSE) has been re-emerging strongly since the 1980s, a century after its origins as a social economy. Often counter-cyclical in nature, it prevails as an alternative for tackling the profound economic, ecological, technological and demographic changes that threaten to reduce opportunities for decent work, especially at a time when the demand for employment is increasing and economic inequalities are greater than ever[7]. This plural economy "comprises a great variety of initiatives that develop economic activity from collective entrepreneurship with a clear will to transform and integrate social and environmental criteria into their values, organization and activities"[8]. The United Nations defines the SSE as a broad group of organisations and companies specifically oriented towards the production of goods, services, and knowledge, while at the same time pursuing economic and social objectives and promoting solidarity[9].

7 Partly based in: Borzaga, C., Salvatori, G., & Bodini, R. "Social and Solidarity Economy and the Future of Work" . 2019*. https://doi.org/10.1177/2393957518815300 * International Labour Organization 2017.). Journal of Entrepreneurship and Innovation in Emerging Economies , 5 (1), 37–57. http://www.ilo.org/wcmsp5/groups/public/—ed_emp/—emp_ent/—coop/documents/publication/wcms_573160.pdf **8** Red de Economía Solidaria de Cataluña (XES). "Climate emergency, responses and alternatives of the Social and Solidarity Economy". El Salto. 2019. **9** United Nations. "Social and Solidarity Economy and the Challenge of Sustainable Development. 2014. http://unsse.org/wp-content/uploads/2014/08/Position-Paper_TFSSE_Eng1.pdf

3.3. A NEW INTEGRATING FIELD: THE BLUE SOLIDARITY ECONOMY

At the conjunction of both economies is an integrating concept and scope of action: the **Blue Solidarity Economy** (BSE). This new field pursues a comprehensive, intelligent, and sustainable use of marine resources and coastal areas with the perspective and principles of the SSE. The Social and Solidarity Economy is thus the backbone of the fight for a sustainable, social, solidarity, inclusive and ecological blue economy.

This study aims at laying the theoretical foundations of this new field of action while dynamizing it. It also intends to identify the wide and stimulating areas of experimentation, cooperation and generation of activity and occupation opened by this conjunction, as well as stimulate the articulation of key actors to generate synergies and take advantage of the multiplying impact of the potential of both economies Catalunya, Europe and, on a larger scale, in the Mediterranean basin.



4 Analysis of the sectors of the Blue Economy

In this chapter, an analysis of the social, economic and environmental state of the main sectors of the blue economy is carried out, with the aim of identifying opportunities and challenges for the actors of the Social and Solidarity Economy.

4.1. COASTAL AND MARITIME TOURISM

4.1.1. State of the sector[10]

The **Blue Growth Strategy of the European Union**[11] identifies coastal and maritime tourism as an area with special potential to promote an intelligent, sustainable and inclusive Europe, this being the largest maritime sector in terms of gross value added and employment. In 2019, the Mediterranean region received a total of 305,04 million foreign tourists, which corresponds to 41% of International tourist arrival in Europe this year, and to an increase of 5% compared to 2018. The region also registered an increase in spending of 6,87% compared to 2018.[12]

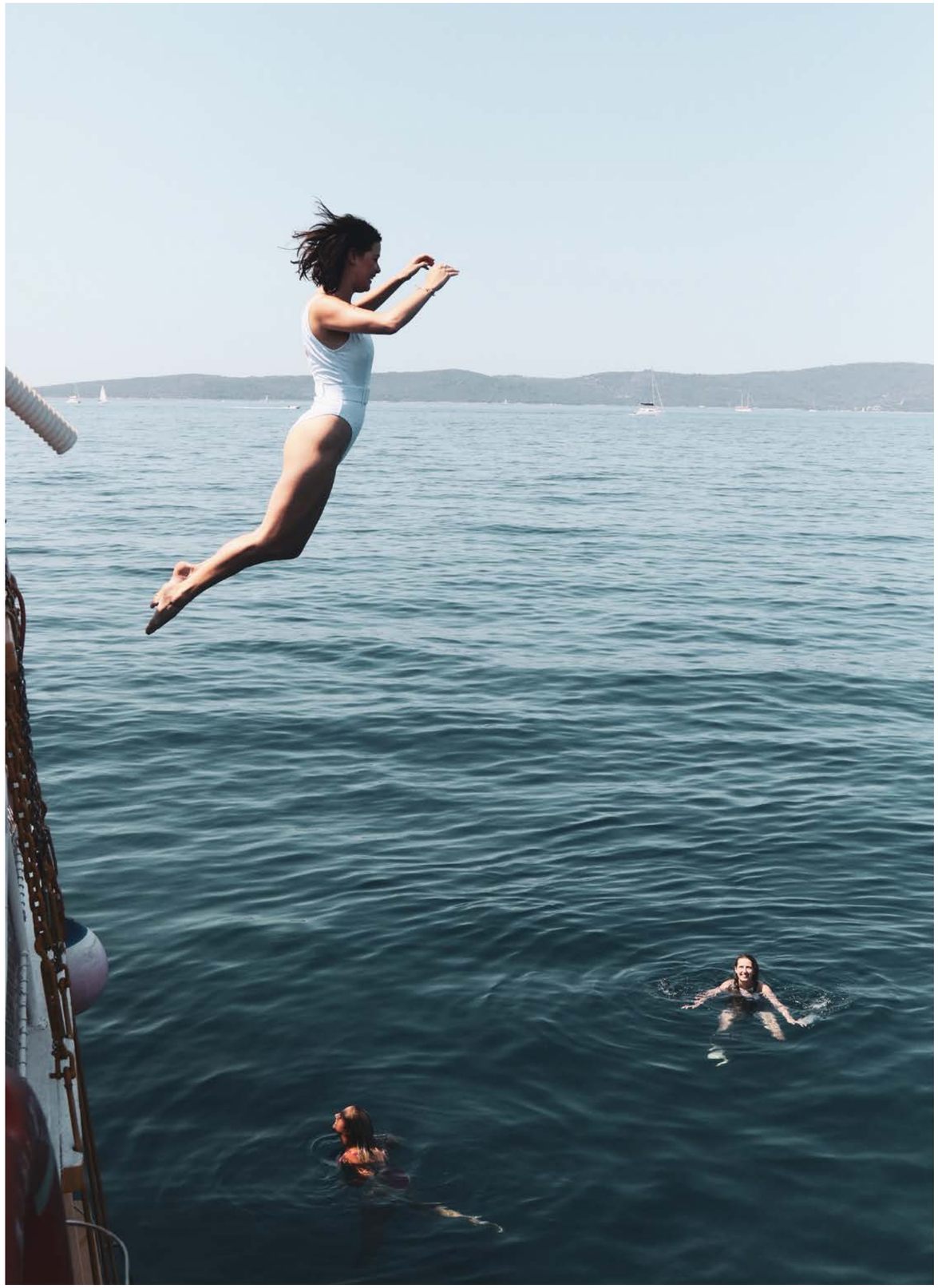
However, **coastal and maritime tourism** is facing significant challenges both locally and globally. The oceans and coastlines are increasingly coveted spaces, being strategic resources for states and companies, as they support a large part of the world population and economy [13]. In addition, tourism in general and coastal and maritime tourism in particular, must continue to meet, and increase the effort made in the context of their social commitment to sustainability, specifically within the framework of the UN 2030 Agenda and its Development Sustainable Goals (SDG). As in other economic sectors, an analysis and monitoring of tourism activities is necessary, on the one hand to evaluate the achievement of these objectives, and on the other hand, to assess the commitment of the sector, and the alternative strategies developed to enable better compliance with the SDGs.

4.1.2. Actors in the sector

The sustainable development of tourist destinations cannot be understood without the involvement and integration of companies and other entities that shape the sector[14]. The private sector (through its professional associations) together with tourism management organizations, the host population and the tourists themselves, who increasingly demand authentic and sustainable products, services and experiences, based on the protection of the cultural and natural heritage of the host regions, work towards the sustainable management of the destination.

The sustainable governance of destinations, beyond the powers of governments and administrations, has become another of the current challenges in the tourism industry. Given the complexity of areas affected by the development of tourism activity and the mainstreaming of the sector, public action must take into account this cross-sectional and interdepartmental nature, adapting the different competences, regulatory and legal frameworks to the objectives pursued to achieve the implementation of the bases of a tourism strategy committed to sustainability and society.

10 Given that this part is written at the beginning of 2020, it is based on the preCOVID-19 situation. **11** European Commission. "A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism". 2014, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2014:0086:FIN:EN:PDF **12** data available at: https://www.unwto.org/global-and-regional-tourism-performance
13 Tonazzini, D., Fosse, J., Morales, E., González, A., Klarwein, S., Moukaddem, K., Louveau, O. " Blue Tourism: Towards a sustainable coastal and maritime tourism in world marine regions". Eco-union. 2019. http://www.ecounion.eu/wp-content/uploads/2019/06/TRIPA_Angles_2_p.pdf. **14** Azcárate T., Benayas J., Nerilli G. y Justel A. " A Guide to Sustainable Tourism ". REDS. Madrid. 2019.



4.1. COASTAL AND MARITIME TOURISM

4.1.3. Sustainable tourism policies and initiatives

Transnational sustainable tourism regulation frameworks and initiatives have been implemented to address environment-related touristic issues in the Mediterranean region. The main environmental framework at the Mediterranean level are the **Mediterranean Action Plan** (MAP, UNEP, 1975) and the **Barcelona Convention** (1976), for the protection of coastal and maritime environment.

The contracting parties adopted the **Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean** (SAP BIO, 2003) that points out the harms of touristic activities on maritime and coastal resources and promotes the implementation of sector-based maritime conservation policies.

The **Protocol on Integrated Coastal Zone Management in the Mediterranean** (ICZM Protocol, 2008) establishes a common legal framework for the Contracting Parties of the Barcelona Convention for the promotion and implementation of ICZM in the Mediterranean[15]. The **Regional Action Plan on Sustainable Consumption and Production in the Mediterranean** (2016) and the **Mediterranean Strategy for Sustainable Development** (2016) define objectives for the promotion of Sustainable Tourism in the region.

Transnational mediterranean initiatives have also emerged in the last decade. Between 2013 and 2016, the project **Nearly Zero Energy Hotels** (neZEH) was carried out, implicating hotels across seven countries, including coastal hotels in Spain, France, Italy, Croatia and Greece[16]. Another example can be found with The project **ShMILE**, (2012 -2014) involving eleven organizations from Tunisia, Egypt, Jordan, Greece, Italy and France, with the aim to develop new markets for sustainable tourism.[17]

4.1.4. Challenges and opportunities

The European Commission pointed out in its 2014 communication **A European strategy for greater growth and employment in coastal and maritime tourism**[18] that coastal and maritime tourism presented, among others, the following challenges:

- Improve the knowledge base;
- Cope with the volatility of demand;
- Overcome the fragmentation of the sector;
- Promote capacities and innovation; and
- Reinforce sustainability, addressing environmental pressures and promoting an innovative, sustainable and high-quality offer.

15 Fosse, J. & Le Tellier, J. " Sustainable Tourism in the Mediterranean: State of Play and Strategic Directions" . Plan Bleu . 2017. https://planbleu.org/sites/default/files/publications/cahier17_tourisme_en_web.pdf. **16** Kristian Petrick, Jérémie Fosse, Heloïse Lammens, Fabio Fiorucci." Blue economy in the Mediterranean". 2018. http://www.ecounion.eu/wp-content/uploads/2018/01/UfMS_Blue-Economy_Report_Template-UFM_FINAL.pdf **17** *Ibid*. **18** European Commission."A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism". 2014. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0086&from=EN

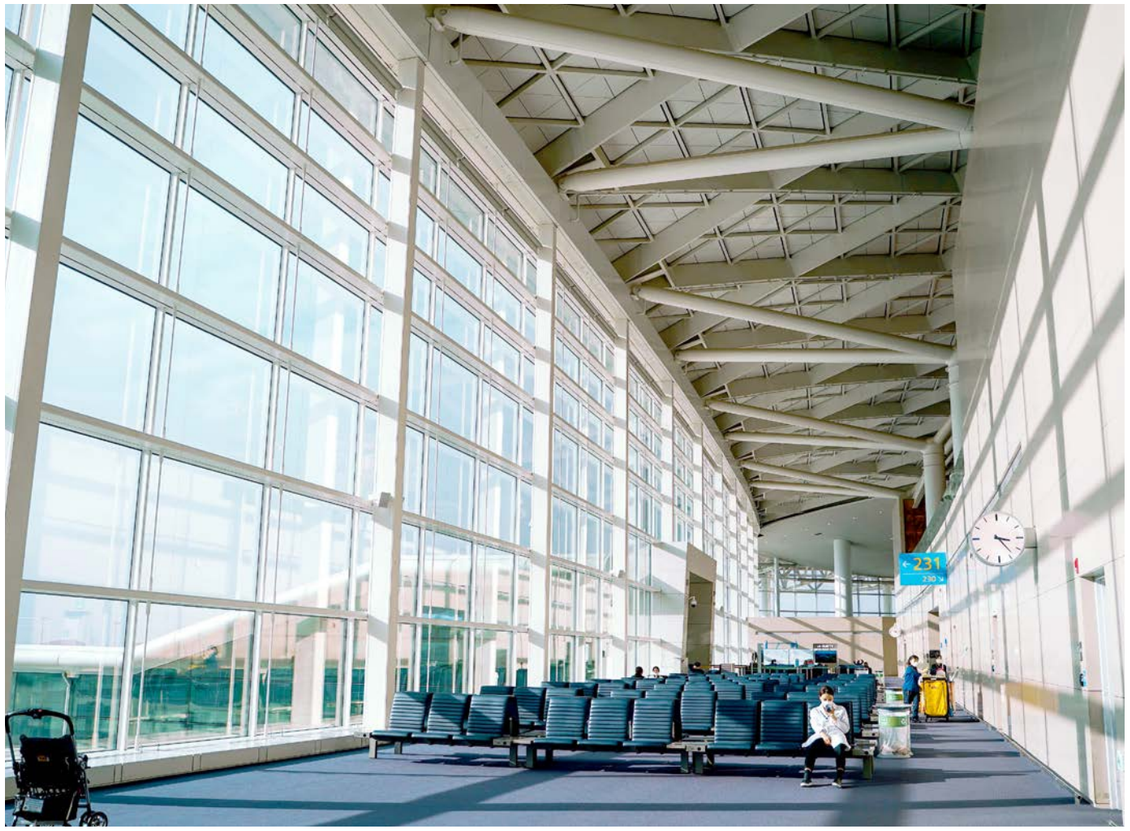
4.1. COASTAL AND MARITIME TOURISM

4.1.5. Integration of the Solidarity Economy in the Blue Tourism sector

Based on the conclusions of the research and the consultations (see details in the full report), the analysis of the integration potential of the SSE in the BE is estimated in the following table.

POTENTIAL OF THE SOLIDARITY ECONOMY IN THE BLUE TOURISM SECTOR	
Degree of investment required	Many services in the tourism sector (restaurants, travel agencies, nature tourism, active tourism, etc.) do not need large investments, facilitating the entry of SSE actors.
Technology & R&D level	In general, the sector does not require access to complex technology, facilitating the entry of SSE actors, although digitization can be disruptive.
Maturity of the sector	The tourism sector is ver y mature in the Mediterranean but highly flexible and with truly diverse service demands, thus facilitating the entry of SSE actors.
Access to human capital	The sector does not require highly specialized workers favouring the entry of SSE actors.
Knowledge of the local context	The tourism sector requires a high knowledge of the local context and therefore this facilitates the entry of SSE actors who usually have a strong social base in the community.
Risk level	Although constantly growing, tourism is a highly vulnerable sector to global crises (ex: Covid-19).
Service orientation	The significant orientation of tourism towards services facilitates the entry of SSE actors.
Global assessment	In general, the diversity of the sector needs, together with the possibility of entering the industry without much investment with workers of all skill levels, positions tourism as a sector with great potential to integrate the SSE.

4.1. COASTAL AND MARITIME TOURISM



4.1.6 Current and future post-Covid situation

The current global situation in the face of the Covid pandemic is having a strong impact on the entire tourism sector[19], with the total closure of tourist, recreational and leisure establishments and activities of all kinds. In a crisis scenario, it is time to impulse change in the tourism model and opt for new products and services that respond to the challenges of the sector, promoting social and environmental sustainability. In this context, it is an excellent moment for the creation of alliances and the initiation of a cooperation between the tourist and leisure sector of the Mediterranean coast, and the entities, associations and cooperatives that make up the SSE. This would allow lines of work and joint actions to not only overcome current difficulties, but also to face future challenges.

EXAMPLE OF BSE IN TOURISM

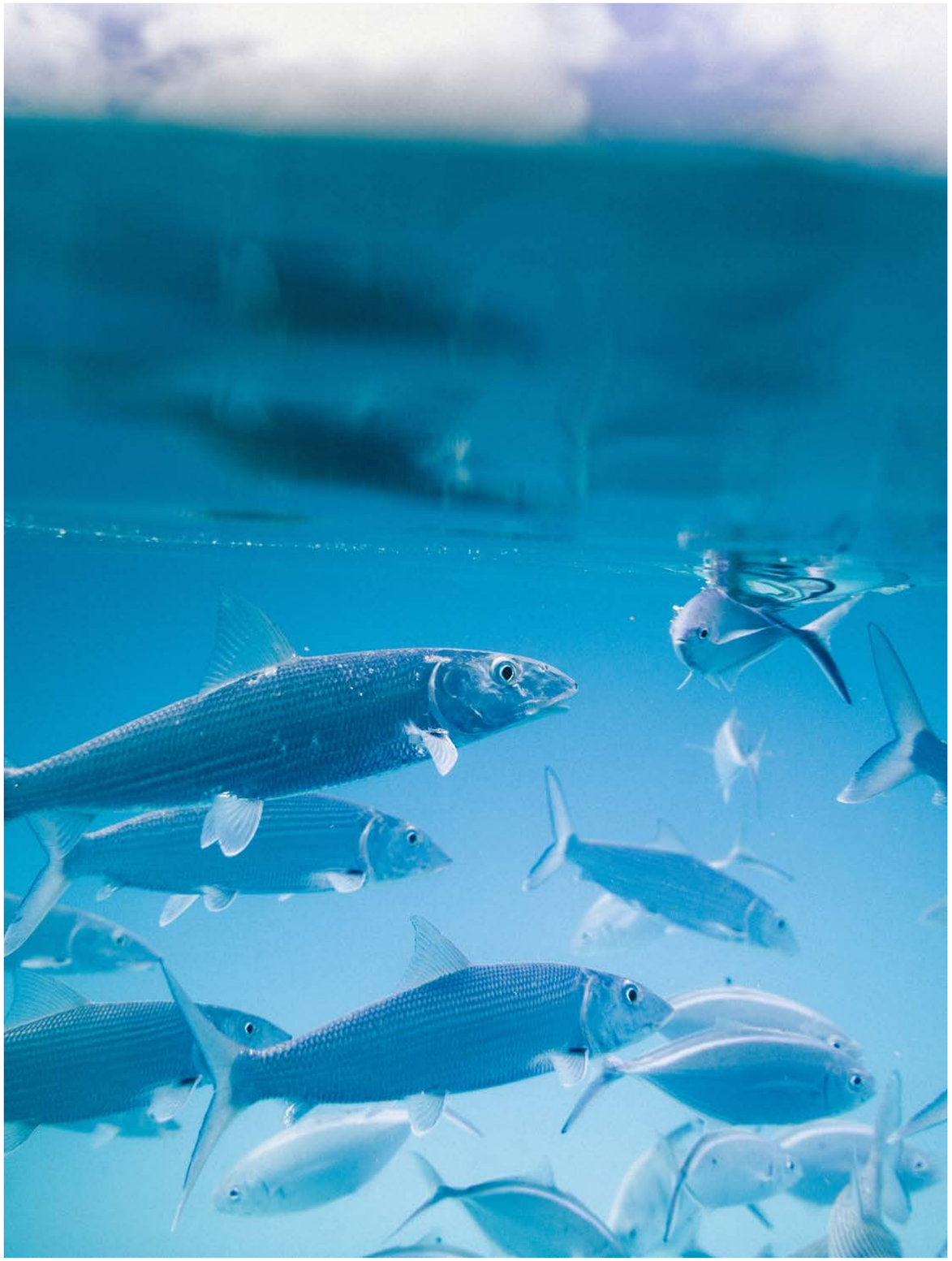
INOUT

Is a hostel located in the city of Barcelona that stands out for its social task of integrating people with diverse abilities into the workplace and for its commitment to the environment and sustainability

More info: https://www.inouthostel.com/

19 UNWTO. “Covid-19: Putting people first”. 2020. https://www.unwto.org/tourism-covid-19

4.2. FISHERIES



4.2. FISHERIES

4.2.1. State of the sector

The results of the 2019 Annual Economic Report on the European Union fishing fleet[20], relative to the year 2017, indicate that the profitability of the EU fishing fleet remained practically stable. Regarding the economic situation of the EU fleets that operate specifically in the Mediterranean Sea, it seems to be recovering towards profitability levels, not reached for many years, although the variation between countries is high. In 2017, the total revenue generated by mediterannean sea fleets was estimated 1,46 billion euros (an increase of 5% compared to 2016). Between 2016 and 2017, total employment has diminished by about 7%, and was estimated at 68 688 jobs in 2017 (with one third belonging to the Greek fleet)[21].

4.2.2. Actors in the sector

Today, industrial, semi-industrial and small scale capture fisheries, as well as industrial and small scale farming coexist in the region[22]. According to the 2019 annual economic report on the UE fishing fleet, large-scale fleets have contributed to 78% of the landings value from the Mediterranean, generated 1.1 billion of revenue, and contributed to 89% of landings weight in 2017. In contrast, 72% of the vessels operating in the region belong to small-scale coastal fleets[23].

4.2.3. Sector policies

Over the last few years, fishing efforts have been reduced due to the worrying situation of the main species in the Mediterranean fisheries. To promote sustainable gestion of Mediterranean fish stocks, as well as economic viability for the region's fishermen, the European Commission adopted in 2019 its first proposal on fishing opportunities covering both the Mediterranean and the Black Seas for 2029[24]. In this line, the European Parliament and the European Council approved a regulation (2019/1022) "establishing a multiannual plan for the fisheries exploiting demersal stocks in the western Mediterranean Sea"[25], to improve maritime gestion. The new **European Maritime and Fisheries Fund**[26] also supports the European fishing sector to adopt more sustainable fishing practices, paying special attention to supporting small fishermen, thus reinforcing the environmental impact of said fund, focusing on the protection of marine ecosystems, and contributing to mitigation and adaptation to climate change.

20 Natacha Carvalho, Michael Keatinge, and Jordi Guillen. "The 2019 Annual Economic Report on the EU Fishing Fleet (STECF 19-06)". p.496. 2019publications.jrc.ec.europa.eu/repository/bitstream/JRC117567/2019_aer_fleet-final_identifiers.pdf **21** *Ibid*. **22** United Nations Environment Programme/Mediterranean Action Plan and Plan Bleu (2020). "State of the Environment and Development in the Mediterranean". 2020. https://planbleu.org/wp-content/uploads/2020/10/SoED-Full-Report.pdf **23** Natacha Carvalho, Michael Keatinge, and Jordi Guillen, "The 2019 Annual Economic Report on the EU Fishing Fleet (STECF 19-06)". p. 496. 2019. **24** European Commission press release." Mediterranean and Black Seas: Commission proposes fishing opportunities for 2020". 2019. https://ec.europa.eu/commission/presscorner/detail/en/IP_19_6035. **25** Regulation (EU) 2019/1022 establishing a multiannual plan for the fisheries exploiting demersal stocks. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R1022 &from=ES. **26** European Maritime and Fisheries Fund (EMFF). European Commission. https://ec.europa.eu/fisheries/cfp/emff_en

4.2. FISHERIES

4.2.4. Challenges and opportunities

In order to meet the increased demand of fish, the fishery sector has to tackle several challenges. Overfishing is one of the major challenges of today's fishery management. Today, 78% of the stock assessed are overexploited [27] . In comparison, it was estimated around 88% in 2014.

Headways have thus been made in the past years concerning the regulation of overfishing, but it remains a crucial issue to address. Non-selective fishing techniques used in the Mediterranean also contribute to the destruction of benthic communities, and to disruption in food webs.

The **mid-term strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries** [28] defines five targets to reverse the "alarming trend in the status of commercially exploited stocks":

- Strengthened scientific advice in support of management;
- Support livelihoods for coastal communities through sustainable small-scale fisheries;
- Curb illegal unreported and unregulated (IUU) fishing, through a regional plan of action;
- Minimize and mitigate unwanted interactions between fisheries and marine ecosystems and environment.
- Enhance capacity-building and cooperation.

27 United Nations Environment Programme/Mediterranean Action Plan and Plan Bleu (2020). "State of the Environment and Development in the Mediterranean" , 2020. https://planbleu.org/wp-content/uploads/2020/10/SoED-Full-Report.pdf
28 More info available at: http://www.fao.org/gfcm/activities/fisheries/mid-term-strategy/en/

4.2. FISHERIES

4.2.5. BSE potential in the fisheries sector

Based on the conclusions of the research and of the consultations (see details in the full report), the analysis of the integration potential of the SSE in the BE is estimated in the following table:

POTENTIAL OF THE SOLIDARITY ECONOMY IN THE FISHERIES SECTOR	
Degree of investment required	SSE actors could enter the artisanal fishing sector with a relatively low level of investment.
Technology & R&D level	A level of technology and R+D relatively low, that does not imply any barrier to market entry, is currently necessary
Maturity of the sector	The fishing sector is very mature, which can make it difficult for SSE to enter the sector, although there is still room for innovation (tourism-fishing for example).
Access to human capital	The fact that the sector does not require highly specialized (although motivated) workers favours the entry of SSE actors.
Knowledge of the local context	The high degree of knowledge of the local context by artisanal fishing could lead to the entry of SSE.
Risk level	Mediterranean fish stocks are in rapid decline due to the pressures of industrial fishing, jeopardizing the future of the sector and its actors.
Service orientation	It is not directly service oriented although mixed products such as direct sales or tourism-fishing could emerge.
Global potential	In general, artisanal fishing is conducive to attracting SSE entities due to its lower initial investment requirement and its need for environmental and social sustainability.

EXAMPLE OF BSE IN FISHERIES

Fishermen's Guild of L'Escala (Catalunya)
It is a guild concerned with environmental sustainability and the quality of the catches, working with some of the main fishing gears, such as fencing, longlining and trammel netting

More info: http://www.cpescala.cat/index.php

4.3. AQUACULTURE

4.3.1. State of the sector

The 2018 economic report of the EU aquaculture sector[29] depicts aquaculture as a strong and growing sector. The EU aquaculture sector distinguishes three subsectors: marine, shellfish and freshwater production. More than 100 different species are cultivated in the Mediterranean basin within a wide range of environments and farming systems. In 2016 the total production of the sector was estimated at 1,616,041 tonnes[30]. In the Mediterranean, as in Europe, aquaculture production includes "different systems and technologies, ranging from traditional activities, such as extensive aquaculture in pond or lagoon areas and small family farms cultivating mussels, to more intensive offshore finfish cage farms"[31].

4.3.2. Actors in the sector

According to the Food and Agriculture Organization (FAO) of the United Nations, the following actors can be identified as the major players of the aquaculture sector[32]:

- International institutions such as FAO, GFCM
- European Commission
- Aquaculture industry stakeholders: producers organizations, feed producers, professional associations, the aquaculture farmers organization (AFOs)
- Environmental NGOs
- Related scientific and research institutions
- Local communities

4.3.3. Industry challenges

In the Mediterranean and the Black Sea, the need to develop sustainable aquaculture to guarantee food security has been repeatedly reaffirmed. Recognizing this growing need and in accordance with its mandate, the General Fisheries Commission for the Mediterranean / FAO published in 2018 the **Strategy for the sustainable development of aquaculture in the Mediterranean and the Black Sea**[33]. It foresees a future for aquaculture in the Mediterranean and the Black Sea in which uniform rules of the game are achieved and the promotion of the sector is ensured so that it is more competitive, sustainable, productive, profitable and equitable.

Based on three objectives and related outputs and activities, the strategy will be implemented as part of a process that is compatible with national and supranational aquaculture strategies, in the Mediterranean and Black Sea countries:

- Objective 1: Create an efficient regulatory and administrative framework to ensure the sustainable development of aquaculture
- Objective 2: Improve interactions between aquaculture and the environment, while ensuring animal health and well-being
- Objective 3: Facilitate market-oriented aquaculture and improve public perception

29 Scientific, Technical and Economic Committee for Fisheries (STECF). "Economic Report of the EU Aquaculture Sector (STECF-18-19)". 2018 . https://op.europa.eu/en/publication-detail/-/publication/7f9c98f0-0fe4-11e9-81b4-01aa75ed71a1 **30** United Nations Environment Programme / Mediterranean Action Plan and Plan Bleu (2020). "State of the Environment and Development in the Mediterranean", 2020. Nairobi. https://planbleu.org/wp-content/uploads/2020/10/SoED-Full-Report.pdf. **31** *Ibid.* **32** Food and Agriculture Organization of the United Nations , "Blue Growth in the Mediterranean and the Black Sea: developing sustainable aquaculture for food security", 2014. http://www.fao.org/3/a-i6902e.pdf. 33 Food and Agriculture Organization of the United Nations, 'Strategy for the sustainable development of Mediterranean sand Black Sea aquaculture', 2018 <http://www.fao.org/3/I9766EN/i9766en.pdf>.

4.3. AQUACULTURE

4.3.4. BSE integration potential in the sector

Based on the conclusions of the research and the consultations (see details in the full report), the analysis of the integration potential of the SSE in the BE is estimated in the following table:

POTENTIAL OF THE SOLIDARITY ECONOMY IN THE AQUACULTURE SECTOR	
Degree of investment required	The aquaculture sector requires a high level of investment, making it difficult for small SSE entities to enter.
Technology & R&D level	Entities in the aquaculture sector often have to invest in R&D and in innovative techniques to remain competitive and try to solve the health problems arising from fish farming. This can make it difficult for SSE entities to enter.
Maturity of the sector	Depending on the countries, it can be more or less developed, which makes it interesting for SSE entities to enter.
Access to human capital	The sector requires a mix of specialized and non-specialized human capital, which makes it easy for SSE entities to enter.
Knowledge of the local context	Aquaculture entities with greater knowledge of the local context are better positioned to develop sustainable businesses and obtain social acceptance.
Risk level	Depending on the type of breeding and of the mode of production, aquaculture can be highly vulnerable to pathogens, with a significant level of risk.
Service orientation	Aquaculture is not service-oriented, but can benefit from direct sales and cultural tourism.
Global potential	In general, aquaculture requires a significant level of investment, with a certain level of risk and increasing environmental impacts, which can slow down the entry of SSE entities.

EXAMPLE OF BSE IN FISHERIES

Fishermen's guild of Roses
Is a guild that stands out for its marine aquaculture activity. It has several cages whose production is sold directly to the fish market.

More info: http://www.confrariapescadorsroses.cat/

4.4. COASTAL AND MARINE CONSERVATION

4.4.1. State of the sector

The EU and its Member States have developed in recent years different strategies for the protection and conservation of the marine environment, which is currently threatened by water pollution and eutrophication, the loss of biological diversity, urban development, the landscape deterioration and coastal erosion[34]. Marine strategies are the planning instrument created under the European framework directive on the marine strategy (2008)[35] . This Directive establishes, among other considerations, the necessity to apply an ecosystem approach (EcAp) to the management of human activities, while allowing the sustainable use of marine goods and services for current and future generations, prioritizing the achievement or maintenance of a good environmental state of the marine environment community, persevering in its protection and conservation and avoiding further deterioration. EU Member States then have their own instruments responsible for the development, implementation, and monitoring of the marine environment planning at the regional level.

Another instrument used for marine and coastal conservation in the EU is the **Maritime Spatial Planning** (MSP) , tool available for the implementation of the EU's Integrated Maritime Policy (IMP). MSP ensures that the joint pressure of the activities that take place in the marine environment is sustainable, at levels compatible with a **Good Environmental State** (GES).

4.4.2. Actors in the sector

At the Mediterranean level, the IUCN Mediterranean Cooperation Center (IUCN-Med) should be highlighted as a regional actor[36], with more than 200 members in the Mediterranean region, among which are the majority of the coastal states of the Mediterranean Sea, government entities, and national and international NGOs. Should also be considered **MedPAN**, the network of managers of Marine Protected Areas (MPA) of the Mediterranean[37], whose mission is to promote, through an associative approach, the sustainability and operation of a network of MPAs in the Mediterranean, that are ecologically representative, connected and managed effectively to help reduce the current rate of loss of marine biodiversity.

Focusing on Catalonia, in the field of conservation, the **Xarxa per a la Conservació de la Natura** (XCN) stands out [38]. It is a non-profit entity made up of 143 member organizations of different types. The XCN, born in 2019, promotes the conservation of the natural, cultural and landscape heritage and the sustainable management of the territory, through participation and social involvement, representing and supporting the custody and environmental volunteer entities of Catalonia.

4.4.3. Challenges of the sector

The UNEP/MAP and Plan Bleu report "State of the Environment and Development in the Mediterranean" identifies 4 priorities for action for the coastal and maritime conservation[39].

- Implementation of monitoring programmes and mapping of the mediterranean species and habitats.
- Increasing the operating and financing capacity of MPA managers.
- Mainstreaming of biodiversity considerations into sectoral policies and planning at all levels.
- The use of a hydro-ecology or eco-hydrology for the management of coastal wetlands.

34 European Environment Agency 'Europe's Seas and Coasts',<https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/europes-seas-and-coasts>. **35** Directive 2008/56/EC establishing the Marine Strategy Framework Directive **36** IUCN Centre for Mediterranean Cooperation website: https://www.iucn.org/regions/mediterranean **37** MedPAN network website: <http://medpan.org/> **38** Catalan Nature Conservation Network website: https://xcn.cat/. **39** UN Environment and Plan Bleu. "State of the Environment and Development in the Mediterranean", 2020. Nairobi. https://planbleu.org/wp-content/uploads/2020/10/SoED-Full-Report.pdf

4.4.COASTAL AND MARINE CONSERVATION

These priorities established at the mediterranean scope match the environmental objectives established at a more local level in the L**evante-Balearic Marine Strategy**[40]:

- Protect and preserve the marine environment and its biodiversity, prevent its deterioration and recover marine ecosystems in areas that have been negatively affected.
- Prevent and reduce discharges into the marine environment, to ensure that there are no serious impacts or risks to marine biodiversity, marine ecosystems, human health or the permitted uses of the sea.
- Ensure that activities and uses in the marine environment are compatible with the preservation of its biodiversity.

40 Spanish Ministry of Agriculture, Food and Environment, "Marine strategies: initial assessment, good environmental status and environmental objectives", 2012. https://www.miteco.gob.es/es/costas/temas/proteccion-medio-marino/em_levantino_balear_objetivos_tcm30-130928.pdf

4.4. COASTAL AND MARINE CONSERVATION

4.4.4 BSE integration potential in the sector

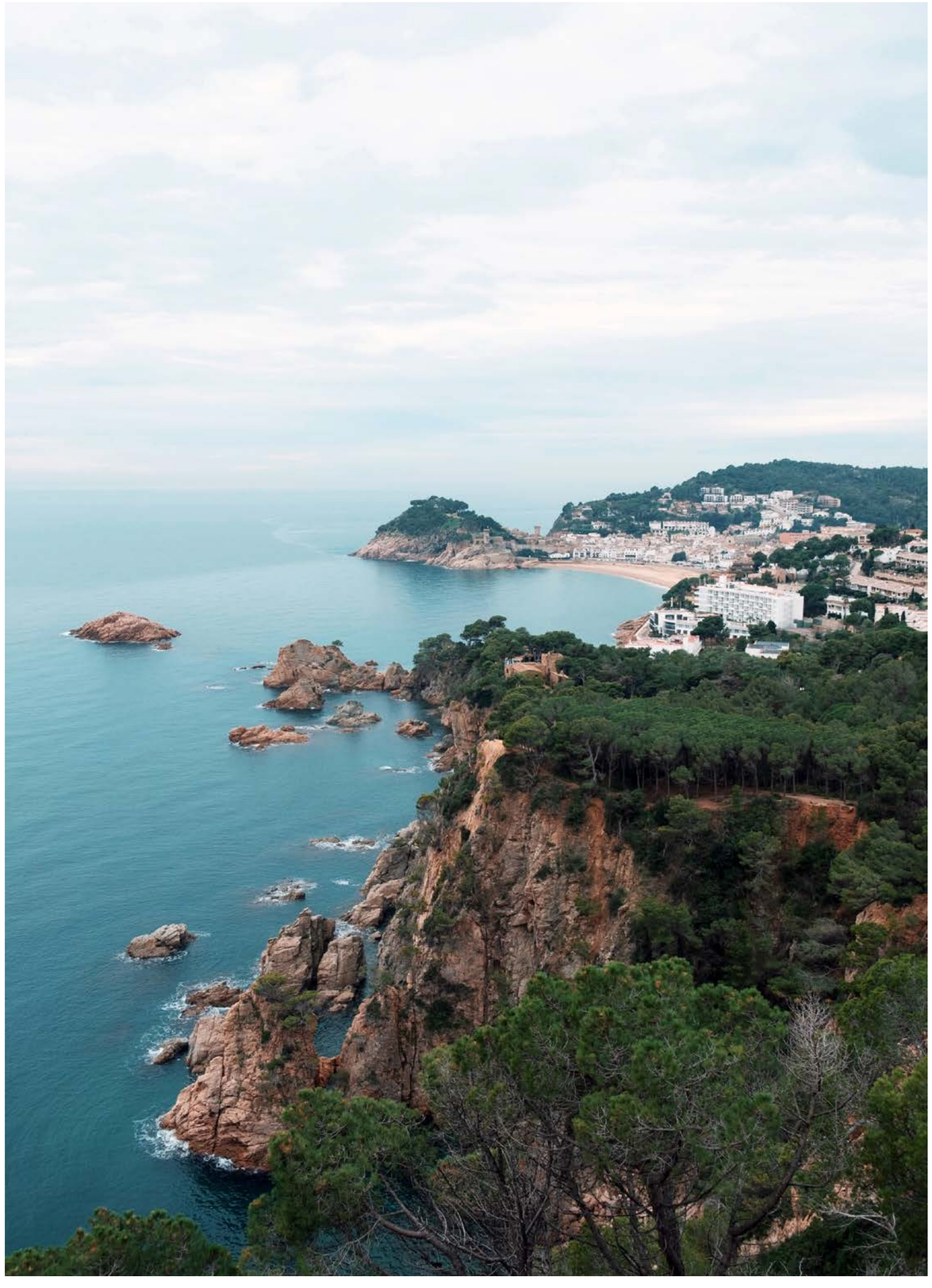
Based on the conclusions of the research and the consultations (see details in the full report), the analysis of the integration potential of the SSE in the BE is estimated in the following table.

POTENTIAL OF THE SOLIDARITY ECONOMY IN THE COASTAL AND MARINE CONSERVATION	
Degree of investment required	Conservation initiatives can be carried out without the need for much initial investment, which facilitates the entry of SSE entities.
Technology & R&D level	Conservation initiatives can be carried out without R&D development, which facilitates the entry of SSE entities.
Maturity of the sector	The conservation sector is not as mature as other sectors and a basic pillar is citizen awareness, which facilitates the entry of SSE entities.
Access to human capital	The sector requires a mix of specialized and non-specialized human capital, which makes it easy for SSE entities to enter.
Knowledge of the local context	Effective conservation requires knowledge of the pressures and benefits from interaction with the local community, facilitating the entry of SSE entities.
Risk level	The development of conservation activities often depends on public financing, which is vulnerable to political changes and the economic situation.
Service orientation	A pillar of the sector is social awareness, which facilitates the entry of SSE entities with experience in education, formation and training tasks.
Global potential	In general, the conservation sector presents great opportunities for the entry of SSE entities because it often requires interaction with citizens in both projects and awareness field, and education programs.

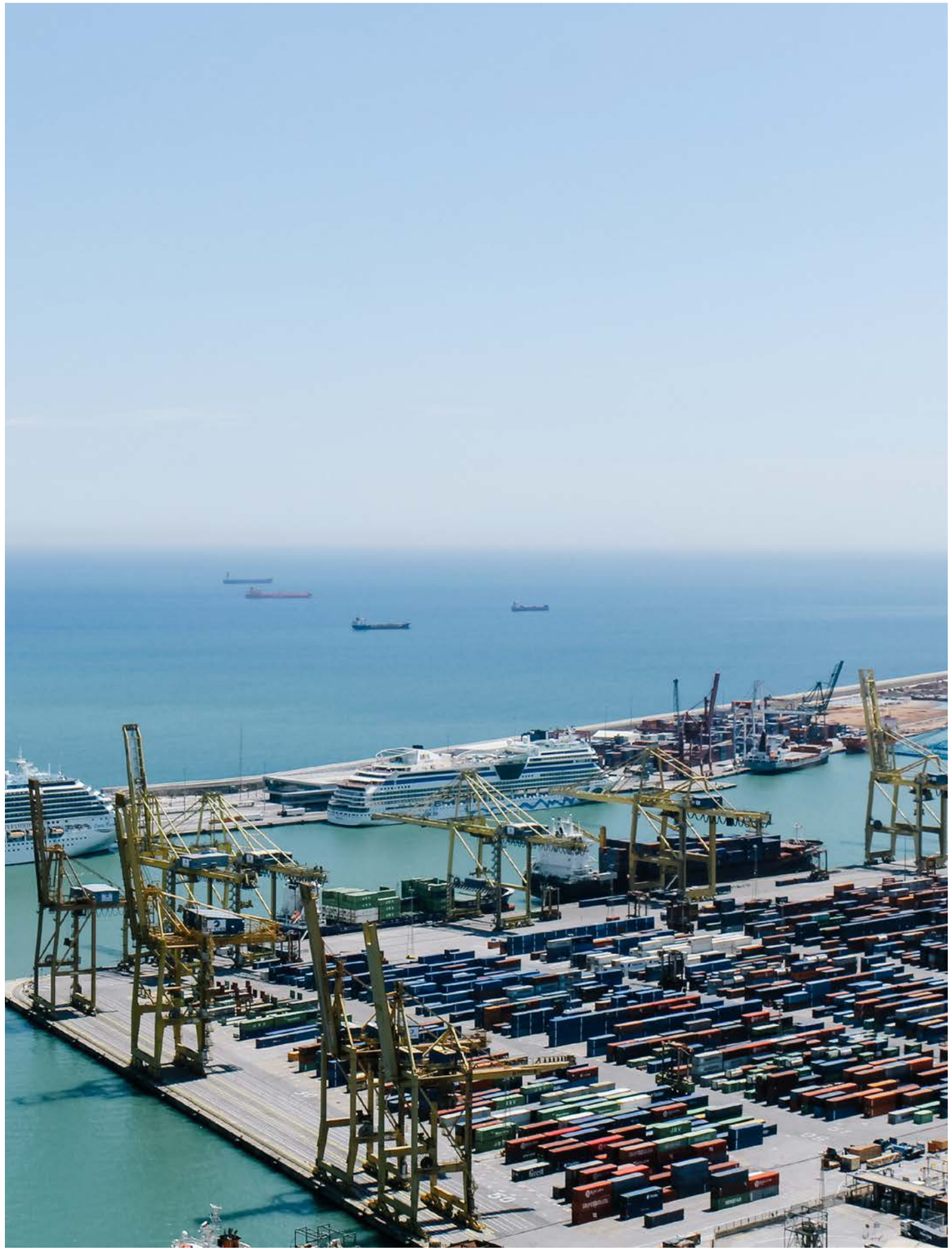
Submón

Is a NGO that works for marine biodiversity conservation and to achieve sustainable use of the marine environment, promoting a change in society's relationship with sea, with actions in situ and using and transmitting knowledge

More info: https://www.submon.org/



4.5. PORTS, BOATING, MARITIME TRANSPORT, SHIP CONSTRUCTION AND MAINTENANCE



4.5. PORTS, BOATING, MARITIME TRANSPORT, SHIP CONSTRUCTION AND MAINTENANCE

4.5.1. State of the sector

At the Mediterranean level, maritime transport, including related port activities, has experienced significant growth in recent decades and should continue to increase in the following years. In addition, there are some 600 ports on the Mediterranean coast, some of which are among the most important in the world, such as the port of Piraeus, Algeciras, Tangier-Med, and Barcelona[41].

Furthermore, recreational boating is a prominent sector, as the Spanish coast is one of the main destinations in Europe for recreational boating[42]. In relation to the construction industry, the European Mediterranean countries are strong competitors in the shipbuilding industry worldwide, in particular in the niches of luxury yachts, cruisers, icebreakers, tugs and naval vessels.

4.5.2. Main players in the sector

The main players of the sector are the **Mediterranean ports**, the regional and national authorities in charge of their governance and the maritime companies. The maritime industries (transport companies, cruise companies, recreational marine activities companies, shipbuilding and recycling industry) are key actors, who have a direct impact on the pressures exerted on marine environment, and thus have a crucial role to play in the blue economy initiatives towards sustainable transport, marine activities and shipbuilding. Focusing on the cruise industry, it is dominated by a few private multinationals represented by **Cruise Lines International Association** (CLIA) Europe[43]. Besides, the **European Commission** is also a key actor as it implements regulation frameworks and incentivises transnational meditterranean projects. For instance, the **European Maritime Safety Agency** (EMSA) established in 2002 by the European Commission, provides technical, operational and scientific assistance in the fields of maritime safety, prevention of, and response, to pollution caused by ships as well as response to pollution caused by oil and gas installations.[44]

The **European Sea Ports Organisation** (ESPO) is an independant lobby for seaports of the European Union and Norway interests[45]. They developed the **EcoPorts network**[46] initiative to foster cooperation and knowledge sharing between ports and created the Port Environmental Review System (PERS certificate). **MedCruise** is the Business Association of Mediterranean Cruise Ports to promote the cruise industry and unites ports in the region.

The **International Maritime Organization** (IMO) is a specialised agency of the United Nations responsible for regulating shipping at global and regional level. In the Mediterranean the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (**REMPEC**) is in charge of preventing and combating marine pollution from ships.

41 Petrick, K., Fosse, J., Lammens, H. y Fiorucci, F. “Blue Economy in the Mediterranean”, 2018, UfM. Barcelona <http://www.ecounion.eu/wp-content/uploads/2018/01/UfMS_Blue-Economy_Report_Template-UFM_FINAL.pdf> **42** González, D. A., Grimalt, V.M., Tonazzini, D. y Fosse, J. “Towards a maritime spatial planning of tourism with an ecosystemic approach in the Levantino-Balearic Region. Technical Report”, 2018, eco-union. Barcelona. <http://www.ecounion.eu/wp-content/uploads/2019/03/InformeTe%CC%81cnico_PLANMEDTUR_-1.pdf > **43** CLIA, “Cruising Home.” Cruise Line Industry Association, 2019, https://cruising.org/ **44** European Commission website. European Maritime Safety Agency (EMSA). https://ec.europa.eu/transport/modes/maritime/emsa/emsa_en
45 https://www.espo.be/ **46** www.ecoports.com

4.5. PORTS, BOATING, MARITIME TRANSPORT, SHIP CONSTRUCTION AND MAINTENANCE

4.5.3. Challenges of the sector

In general, the naval sector must drastically reduce its environmental impact and improve its social impact. In particular, the sector must reduce its pressure on the marine environment, eradicating therelease of substances by boats and shipyard; anchoring on the seabed; the production of waste in ports, etc. The shipyard industry is one of those with the highest risk of exposure to polluting products.

The **International Maritime Organization** (IMO) and the **European Union** have launched several initiatives to promote recycling and ecological construction in the sector. Despite recent legislative progress at the European level in relation to the use of fuels for large vessels such as the **Emission Control Areas**[47] , the rapid decarbonisation of the sector is a tough challenge, due to the lack of commercial alternatives to the combustion engine and the long average life of the vessels[48].

However, the relative low carbon footprint of maritime transport compared to aviation positions the sector as a key piece to advance in the decarbonisation of the world economy[49].

4.5.4. BSE integration potential in the sector

Based on the conclusions of the research and the consultations (see details in the full report), the analysis of the integration potential of the SSE in the BE is estimated in the following table:

47 "Air Pollution from the Main Sources / Air Emissions from Maritime Transport." Environment - European Commission, 2019, ec.europa.eu/environment/air/sources/maritime.htm. **48** *Ibid*. **49** Petrick, K., Fosse, J., Lammens, H. y Fiorucci, F. "Blue Economy in the Mediterranean", 2018,UfM. Barcelona <http://www.ecounion.eu/wp-content/uploads/2018/01/UfMS_Blue-Economy_Report_Template-UFM_FINAL.pdf >

4.5. PORTS, BOATING, MARITIME TRANSPORT, SHIP CONSTRUCTION AND MAINTENANCE

ANALYSIS OF INTEGRATION POTENTIAL IN THE BSE

Degree of investment required	The recreational nautical sector requires less initial investment and is therefore more prone to ESS entities. However, maritime transport and cruises can benefit from contracting services (maintenance, miscellaneous supplies, etc.) by SSE entities.
Technology & R&D level	The recreational boating sector requires less R&D and is therefore more prone to SSE.
Maturity of the sector	The least mature sec tor on the Mediterranean coast is the construction and maintenance of vessels, where the SSE entities would have greater facility for small vessels.
Access to human capital	Recreational boating is the subsector that requires the least specialization and therefore the one that can most facilitate the entry of SSE entities.
Knowledge of the local context	Recreational boating (and small cruise ships) needs to engage with the local community, know and respect the marine environment, offering opportunities for SSE.
Risk level	In general, it is a sector that has grown gradually, with little risk level (until the covid-19 pandemic).
Service orientation	Service activities related to recreational boating and the cruise industry may be provided by SSE entities.
Global potential	In general, recreational boating (and small cruise ships), due to its lower investment requirement and its service dimension, is conducive to the entry of ESS entities, which can contribute to the social and environmental sustainability of the sector.

EXAMPLE OF EBS

Bathô

Is a shipyard registered as an SSE company in France that transforms old sailboats and recreational boats that can no longer sail into unusual and atypical on land accommodations for private use, outdoors hotels, meeting rooms for companies or in playgrounds for communities.

More info: https://www.batho.fr/

4.6. EMERGING SECTORS: MARINE ENERGY, BLUE BIOTECHNOLOGY AND MARINE MINING

4.6.1. State of the sector

4.6.1.1. Marine renewable energy

Due to the relative calm of the Mediterranean Sea, it has not been very attractive place to develop marine energy[50]. However, in 2016 the European Commission published the roadmap for the development of ocean energy until 2050 in the **Blue Growth Strategy**[51], which highlights ocean energy as a blue energy sector with considerable potential for job creation in coastal areas. The **Blue Growth Strategy** focuses on the development of offshore wind energy[52]. In the last decade this technology has experienced a boom in Northern Europe. Furthermore, due to the deep waters that prevails in the Mediterranean, generally only floating wind turbines would be feasible; a technology still in a pre-commercial phase.

4.6.1.2. Marine biotechnology

Marine biotechnology is the extraction and use of genes, molecules and organisms from the marine environment to generate products beneficial to society[53]. However, for the time being, this sector is at a very early stage to know for sure if the expectations are realistic. In the Mediterranean, marine biotechnology is underdeveloped although it has significant potential for the sector. However, the high cost of its development makes the investment necessary for its development difficult and no significant development is anticipated in the short to medium term[54].

4.6.1.3. Seabed mining

Deep-sea mining involves the production, extraction and processing of non-living resources at the bottom of the sea. Seabed mining is considered as a potentially crucial sector to satisfy the growing demand for minerals. More than 90% of the consumption of these minerals in the European economy is depending on imports. For this reason, the European Commission has identified this sector as a strategic priority[55]. In addition, these metals also play a crucial role in the development of "green technologies" (as for example storage batteries) essential to achieve a low-emission economy. In general, due to high extraction costs, lack of knowledge and mapping of resources on the seabed, and uncertainty of environmental impacts and scope of benefits, commercial extraction of the seabed has not yet started[56].

4.6.2. Type of Actors

4.6.2.1. Marine renewable energy

The actors in marine renewable energy are generally research entities and relatively low-capacity energy producers. European-level associations relevant to marine renewable energy such as **European Ocean Energy Association** and **Wind Europe** can also be cited.

Mediterranean marine energy cluster PELAGOS

The PELAGOS Project[57] aims to define a management and coordination system among the participating countries (Greece, Italy, Portugal, Spain, Cyprus, France, Croatia), establishing a permanent Mediterranean Cluster of stakeholders to sustain macro-regional strategies and connect key actors of the Marine Energy sector (e.g., technology and service providers, large enterprises, power distributors, financial operators, policy makers, Non-Governmental Organizations (NGOs) and citizens)"[58].

50 This study considers the energy sector of the blue economy to be that in which energy production is produced at sea. **51** Communication of the European Commission: Blue growth opportunities for marine and maritime sustainable growth <https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/com_2012_494_en.pdf> **52** EC, Communication: Offshore wind energy: action needed to deliver on the energy policy objectives for 2020 and beyond <eur-lex.europa.eu/lexuriserv/lexuriserv.do?uri=com:2008:0768:fin:en:pdf> **53** "Blue biotechnology." Maritime Affairs - European Commission, 28 Sept. 2016, ec.europa.eu/maritimeaffairs/policy/biotechnology_es. **54** *Ibid.* **55** EC, COM(2017) 490 final <ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-490-F1-EN-MAIN-PART-1.PDF>. **56** European Commission (2019). The EU Blue Economy Report. 2019. <https://prod5.assets-cdn.io/event/3769/assets/8442090163-fc038d4d6f.pdf> **57** *Ibid*. **58** Pisacane, Giovanna, et al. "Marine energy exploitation in the mediterranean region: steps forward and challenges." *Frontiers in Energy Research 6 (2018): 109. <https://www.frontiersin.org/articles/10.3389/fenrg.2018.00109/full>*

4.6. EMERGING SECTORS: MARINE ENERGY, BLUE BIOTECHNOLOGY AND MARINE MINING

4.6.2.2. Marine biotechnology

In Spain, perhaps the best known commercial case is the company **PharmaMar**, which develops anti-tumour drugs based on marine resources. There is also a **Network of Excellence in Blue Biotechnology** (REBECA) focused on research in the Macaronesian region and Northwest Africa. **European federation of biotechnology**[59] is a non-profit federation of National Biotechnology Associations, Universities, Scientific Institutes, Biotech Companies and individual biotechnologists working to promote biotechnology throughout Europe and beyond. Other actors could be cited such as the **ERA-MarineBiotech's project**[60] or the Med Bio company[61] who conduct research on the mediterranean sea.

Marine biotechnology in Spain is among the most developed in Europe, with numerous private companies in the pharmaceutical industry, cosmetics and nutrition sectors and with the presence of public and private R&D projects. In Catalonia, the most relevant actors for the development of biotechnology are those members of the Xarxa de Referència en Biotecnologia de Cataluña (XRB). The XRB aims to promote interdisciplinary and quality research in the field of biotechnology, promote the exchange of knowledge and stimulate the creation of new companies[62].

4.6.2.3. Seabed mining

In the Mediterranean sea, no deep-mining project have been granted a mining license so far[63], apart from the exploration project submitted and granted in 2007 in the Tyrrhenian Sea by the company Neptune Mineral in Italy[64]. The MIDAS (Managing Impacts of Deep-seA reSource exploitation) project, carried out between 2013 and 1016 and partly funded by the EU aimed at identifying the environmental impacts of seabed mining and covered the Mediterannean sea basin in its analysis.

4.6.3. Industry challenges

4.6.3.1. Marine renewable energy

Investment necessary to enter in the sector of marine renewable energy are high, especially because of the environmental risk associated with sea conditions[65]. Besides, because of the irregularity of the waves, the need to attract investment is potentially a greater challenge for ocean energy development than for wind energy in the Mediterranean. However, after three years of study, the Interreg **MAESTRALE** project has estimated that wind and ocean wave can be commercially deployed in the Mediterranean Sea: only on the coast of Gandía and in Vinaroz (Valencia), it could be generated more than 96,000 MWh / year, enough to supply power to 280,000 homes[66].

On the other hand, the **European Commission** estimates that in 2050, 70 GW of offshore wind energy could be produced in facilities located in the waters of southern Europe[67]. In order for the EU to achieve this vision, the rate of offshore wind generation should increase from almost 0 to more than 4 GW. To do this, not only would investments need to increase significantly, but international cooperation at the regional level should also be strengthened. In addition to reducing costs and improving the technology of floating platforms[68].

In **Catalonia**, the **Catalan Multi Annual Strategic** Plan 2018-2021 underlines the importance of international cooperation in order to develop marine renewables in the region[69]. The challenge for the development of offshore renewable energy in Catalonia, partly, the successful development and investment in floating offshore wind.

59 More information available at: http://www.efbiotechnology.org/sections/about_us. **60** More information available at: http://www.marinebiotech.eu/. **61** More information available at: http://www.biotechgreece.com/vision.asp. **62** Generalitat de Catalunya - Pla de Ports de Catalunya Horitzó 2030. http://www.gencat.cat/territori/informacio_publica/PLA_PORTS_2030/1_MEMORIA_del_Pla_de_Ports_2030_vCT.pdf **63** UNEP and Plan Bleu. "State of the Environment and Development in the Mediterranean", 2020. **64** *Ibid*. **65** Paris Innovation review, "An overview of marine renewable energy", 2017. http://parisinnovationreview.com/articles-en/an-overview-of-renewable-marine-energy **66** MAESTRALE project: https://maestrale.interreg-med.eu/ **67** Wind Europe, Our energy, our future How offshore wind will help Europe go carbon-neutral. <https://windeurope.org/wp-content/uploads/files/about-wind/reports/WindEurope-Our-Energy-Our-Future.pdf>. **68** Generalitat de Catalunya - Department of Territory and Sustainability. Pla de Ports de Catalunya Horitzó 2030. **69** I*bid*.

4.6. EMERGING SECTORS: MARINE ENERGY, BLUE BIOTECHNOLOGY AND MARINE MINING

4.6.3.2. Marine biotechnology

Spain, France, Slovenia are currently the Mediterranean countries with the greatest potential in the field of marine biotechnology. However, greater knowledge of marine life and the interactions between marine organisms and their environment is necessary to further develop the sector [70]. The challenges to meet in the Mediterranean are the following:

- Promote more multidisciplinary research teams.
- Attract large investment sums.
- Offer public financing so that SMEs can advance in the sector.
- Harmonize legislation at European and national level.
- Implement clear rules regarding the patenting of products derived from biotechnology

4.6.3.3. Seabed mining

The extraction of minerals and metals from the seabed includes several challenges such as the mapping of reserves, investment in R&D and the development of technology[71]. However, the great risk is undoubtedly the potential impacts on the ecosystems of the seabed. In addition, the legal and political requirements that govern the Mediterranean Sea must be met. In total, seabed mining in the Mediterranean must overcome the following challenges [72]:

- Extracting minerals at a price in line with the market.
- Expand knowledge of mineral deposits in the Mediterranean Sea.
- Expand knowledge of the ecological impacts of mining activity.
- Promote a legal and policy framework to attract investors while protecting the environment.

70 Generalitat Valenciana (2017) "Study on the blue economy in the Valencian Community". <www.hisenda.gva.es/documents/164158153/167060814/Estudio+ECONOMIA+AZUL+2017.pdf/0b8d27a0-0fe4-4d22-97_76-902358a4ebd1> **71** European Commission (2019). The EU Blue Economy Report. 2019. <https://prod5.assets-cdn.io/event/3769/assets/8442090163-fc038d4d6f.pdf>.**72** Hall, Stephen. Bio-Prospecting and Underwater Mining Presentation for Plan Bleu, https://planbleu.org/sites/default/files/upload/files/7_Bio-prospecting_and_underwater_mining_Hall_SUT.pdf

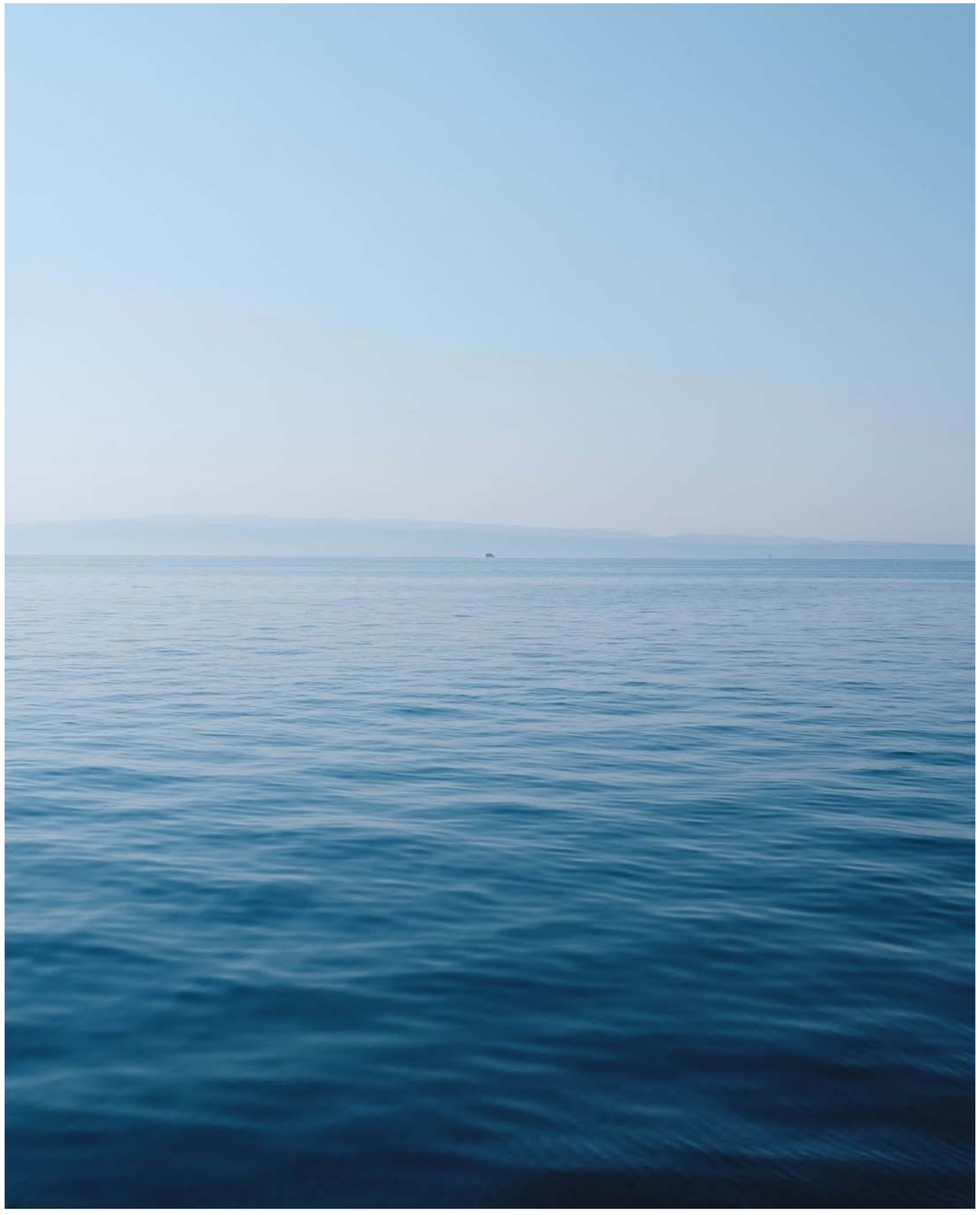
4.6. EMERGING SECTORS: MARINE ENERGY, BLUE BIOTECHNOLOGY AND MARINE MINING

4.6.4. BSE integration potential in the sector

Based on the conclusions of the research and the consultations (see details in the full report), the analysis of the integration potential of the SSE in the BE is estimated in the following table.

POTENTIAL OF THE SOLIDARITY ECONOMY IN THE MARINE ENERGY, BIOTECHNOLOGY AND MARINE MINING SECTOR	
Degree of investment required	These emerging sectors generally require a high level of initial investment, which makes it difficult for SSE entities to enter.
Technology & R&D level	These emerging sectors require strong R&D and access to international patents, which makes it difficult for SSE entities to enter.
Maturity of the sector	These emerging sectors are not very mature and therefore could offer opportunities to SSE entities, especially in the formation of startups with public-private financing.
Access to human capital	These sectors require highly qualified human capital, which can make it difficult for SSE entities to enter.
Knowledge of the local context	They do not require knowledge of the local social context, but local SSE entities could collaborate with actors from emerging sectors to improve social acceptance.
Risk level	They are sectors with a very high risk, which makes it difficult for SSE entities to enter.
Service orientation	It is not services-oriented sectors that make it difficult for SSE entities to enter.
Global potential	In general, these are sectors that require a high level of initial investment, a high level of specialization of workers and with enormous risk, making the entry of SSE entities difficult.

5 Recommendations to promote the Blue Solidarity Economy in Catalonia, Europe and the Mediterranean



5.1. CROSS-CUTTING RECOMMENDATIONS

For a gradual transformation of the current Blue Economy (BE) towards the Blue Solidarity Economy (BSE), it is essential to establish a series of structural actions that encourage, promote and protect the social and solidarity economy.

5.1.1. Establish a favourable regulatory framework

- **Develop adequate legislation that favours the integration of the SSE into the BE**. There are different legal frameworks that can already be cited as examples such as the Tunisian bill[73] or the proposal for a Catalan framework law on SSE[74].
- **Promote the representation and participation** of the SSE actors in the decision-making mechanisms through open and inclusive processes.
- **Facilitate the integration of the circular economy i**n the BSE sectors to prevent further pollution of the environment, optimize the use of natural resources and promote business efficiency and eco-innovation.
- **Establish a quality seal** that certifies entities, products and services that apply the criteria and principles of the BSE. This label must be integrated into a more global strategy to promote responsible and sustainable modes of consumption and production.
- **Facilitate the use of social currencies** to encourage the contracting of services and products based on local cultural, social and ecological heritage. This type of measures must be implemented at the local level with coordination at the national and regional level.

5.1.2. Develop awareness, training and knowledge initiatives

- **Promote an SSE-based business and social culture** through appropriate training programs, awareness campaigns and support programs to social entrepreneurship (locally and regionally) in the blue economy sectors.
- **Promote sectorial knowledge and training programs** around the practices / behaviours / actions that promote environmental, economic and social sustainability of the different sectors of the blue economy.
- **Promote transparency** on the social, environmental and economic impact of the BSE, through the publication of (annual) reports on the state of the sector.
- **Establish and monitor the carrying capacity** (environmental and social) of each territory and economic activity incorporating the necessary social and environmental measures based on the BSE criteria to ensure its sustainability in the medium and long term.

73 ILO. “The Tunisian Parliament Adopts a Bill on the Social and Solidarity Economy.” Www.Ilo.org , 24 June 2020, <www.ilo.org/global/topics/cooperatives/news/WCMS_749012/lang--en/index.htm>. **74** XES. “ Proposta de Llei d’Economia Social i Solidària de Catalunya”. 2014. <http://xes.cat/wp-content/uploads/2018/08/Proposta_llei_ESS_XES.pdf>.

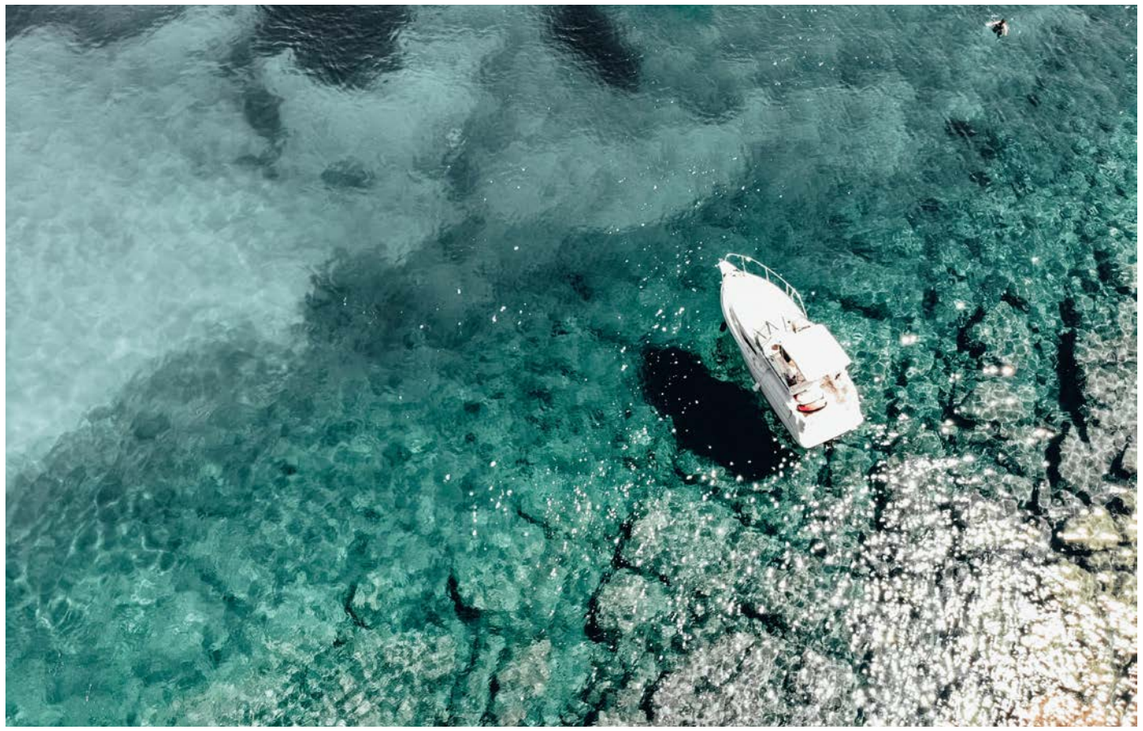
5.1. CROSS-CUTTING RECOMMENDATIONS

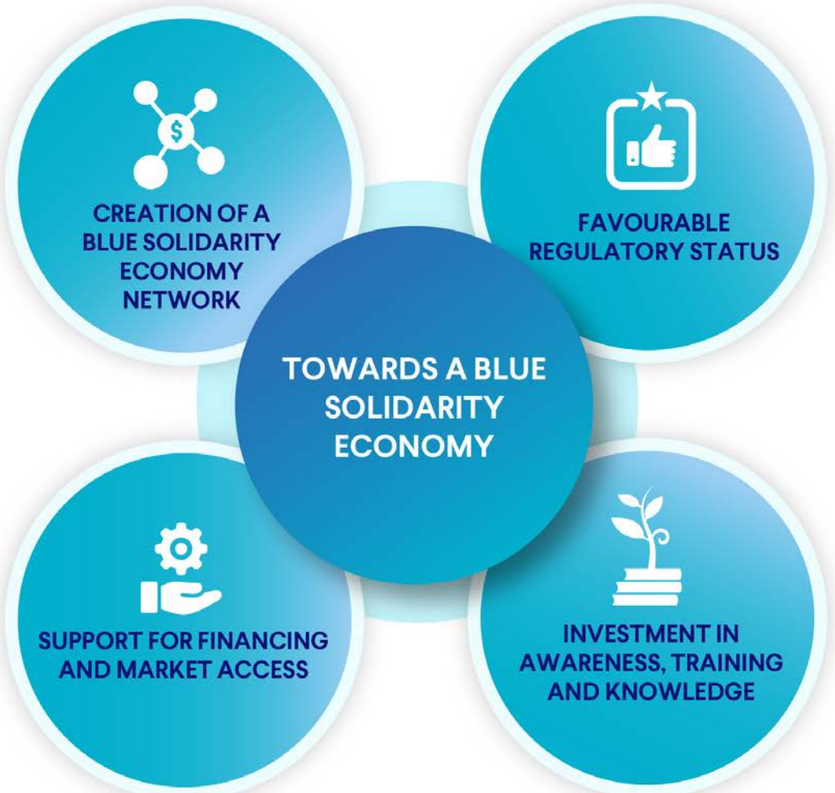
5.1.3. Improve financing and market access

- **Facilitate public funding** aimed at entities and initiatives that adhere to the values of the SSE, based on social inclusion, preservation of the environment, democracy and internal transparency and respect for local communities.
- **Create lines of grants and loans** with high social and environmental impact aimed at BSE entities and initiatives in emerging BE sectors, with strong R&D or high risk, such as start-ups of marine renewable energy or boat cooperatives recreational.
- **Ensure tax incentives** for BSE entities that provide demonstrable value (for example via quality seal, audit or certification) in local communities at economic, social and environmental levels
- **Favour SSE entities** when granting contracts or concessions by local or national public administrations within the framework of responsible and sustainable purchasing policies.
- **Guarantee quotas for the participation** of the SSE actors in the activities of the blue economy, to stimulate the interest of the SSE, reduce the barriers to entry and favour greater diversity and resilience in strategic sectors of SSE.

5.1.4. Promote the creation of a Blue Economy Solidarity network

- **Promote collaboration** among the actors within their respective sector to jointly adopt measures, initiatives and commitments towards BSE as well as escalate its social, environmental and economic impact.
- **Support the existing initiative of a Mediterrannean Solidarity Initiative** (in the form of cluster, network or alliance) that brings together BSE actors, including private economic agents, local and regional administrations, research and training centers, the representatives of the SSE and the BE sectors, not only of Catalonia but of all the Mediterranean region.
- **Facilitate the integration of the circular** economy in the BSE sectors to avoid pollution of the environment, optimize the use of natural resources and promote business efficiency and eco-innovation.





5.2. SECTOR RECOMMENDATIONS

For each of the economic sectors analysed, the following specific recommendations for integration have been identified:

5.2.1. Tourism

- **Integrate the actors working** on sustainable coastal and maritime tourism (ecotourism, nature tourism, sailing, scuba diving, etc.) in the decision-making mechanisms and in the development of local and regional tourism strategies.
- **Promote cultural, environmental and experiential tourism activities** for the dissemination of local activities related to the different sectors of the BSE (visit to local fish markets by artisanal fishing entities, visit of projects of marine renewable energy start-ups consistent with the BSE...)
- **Support, by public administrations, the services and products of the SSE** in public domain spaces such as beaches, the coast and other protected areas, through public procurement, tendering and responsible and sustainable contracting policies.

5.2.2. Fishing

- **Recognize Fishermen's Guilds or other existing local groups of fishermen as key** agents of the BSE in the sustainable transformation of a socio-ecological nature of the sector.
- **Promote the values of the SSE** in artisanal and local fishing, through a quality seal, access to markets and support for the structuring and integration of the sector.
- **Support the creation and promotion of BSE** entities in the artisanal fishing sector, including subsidies and access to loans.
- **Facilitate the collaboration** of fishermen with BSE entities to recover, recycle and market products from marine debris (nets, plastic, etc.) within the framework of the circular economy.
- **Dynamize the co-management** of marine and fishing resources through the fishermen's guilds.

5.2.3. Aquaculture

- **Support the constitution of producer cooperatives** to improve the competitiveness of aquaculture companies therefore optimizing production levels, marketing and, improving profitability of producers in the sector.
- **Ensure collaboration with research centres** to develop new, more respectful production models, reducing overfishing and the consumption of wild fish.

5.2. CROSS-CUTTING RECOMMENDATIONS

5.2.4. Conservation and protection of the coastal and marine environment

- **Promote dissemination, education, and socio-environmental awareness initiatives** consistent with SSE in local coastal communities.
- **Promote marine conservation initiatives** within the framework of the circular economy involving citizens through citizen science and environmental volunteering
- **Support the creation and integration** of associations, foundations and cooperatives that allow structuring and consolidating the highly fragmented and economically vulnerable sectors.

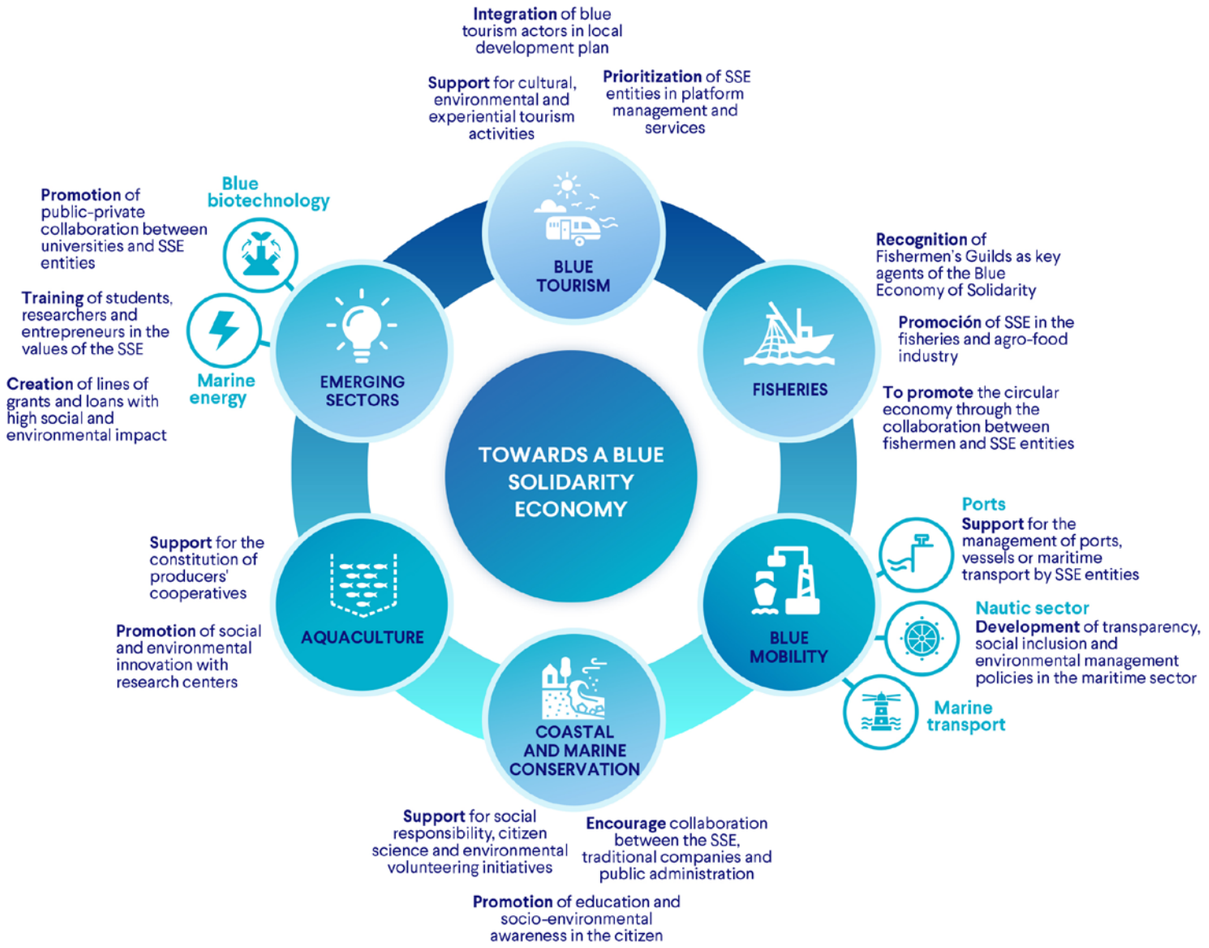
5.2.5. Ports, boating, maritime transport, ship construction and maintenance

- **Facilitate the awarding of public contracts** for the maintenance and management of port infrastructure to ESS entities, for example, via Sustainable Public Procurement (SPC) protocols.
- **Ensure the financial support of public administrations** to facilitate the development of local shipyards as well as the creation of ship construction and maintenance companies within the framework of the SSE.
- **Guarantee a quota of contracts** for the supply of services and products by the SSE actors in cruise and shipping companies.
- **Improve socio-economic transparency**, enhance coordination and collaboration between the different authorities and actors, integrating a more social and Solidarity vision linked by the SSE actors in the management of ports and maritime transport.

5.2.6. Emerging sectors (marine energy, blue biotechnology, and seabed mining)

- **Encourage collaboration between universities and companies** to create start-ups consistent with the SSE, dedicated to the research of marine renewable energy, marine biotechnology and marine mining techniques that seek to minimize environmental impacts and optimize social impact
- **Create lines of grants and loans** with high social and environmental impact aimed at BSE entities and initiatives in emerging BE sectors, with strong R&D or high risk, such as start-ups of marine renewable energy or boat cooperatives recreational.

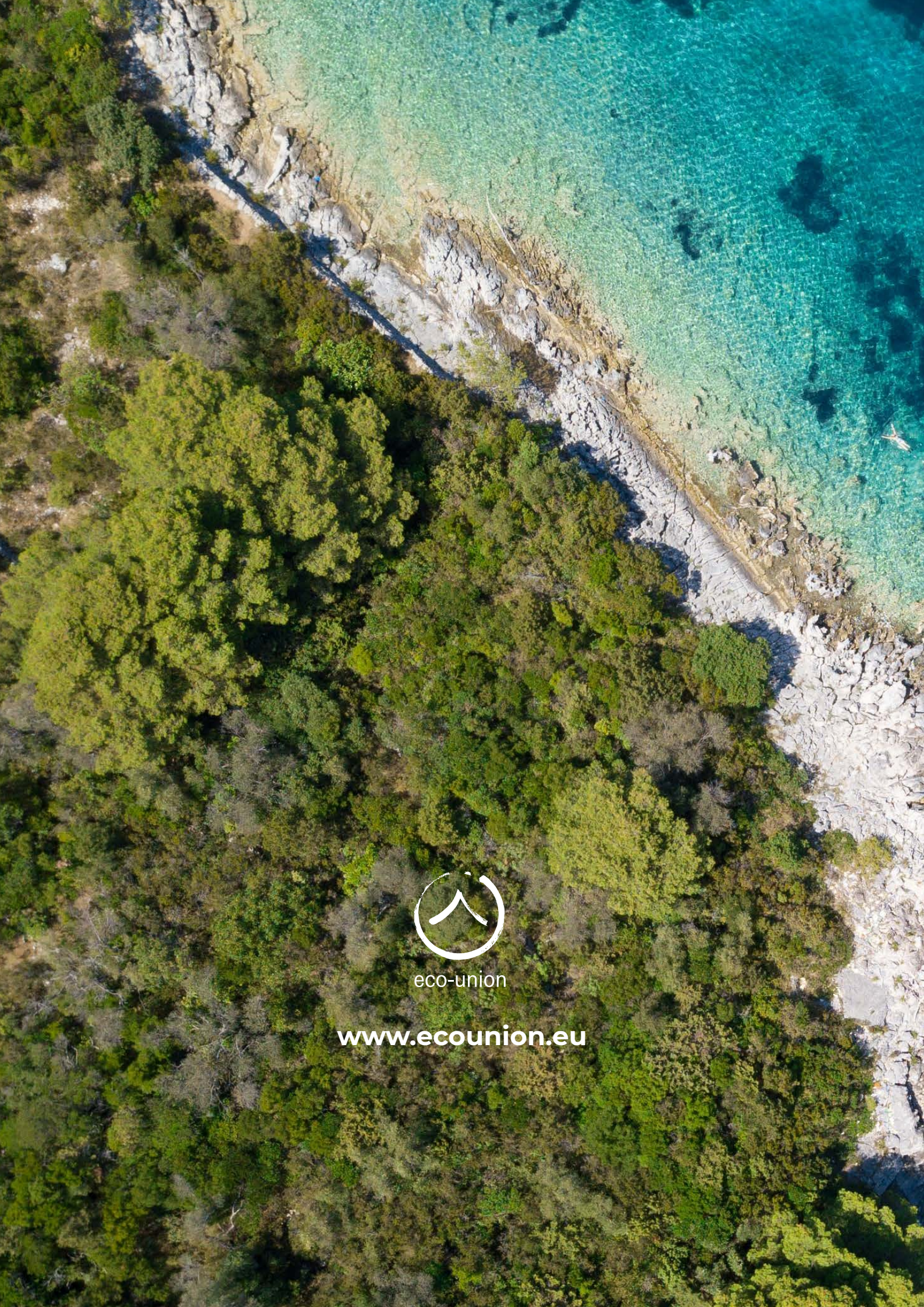
5.2. SECTOR RECOMMENDATIONS



6 Conclusion

The concept of Blue Solidarity Economy (BSE) offers a new framework for the Blue Economy, a key sector with great potential to progress towards a fairer and more sustainable Catalan, European and Mediterranean economy. It is, therefore, an emerging concept that is built on different local, state-wide, European and global initiatives that have highlighted the importance of making a change in the management of marine resources to undertake the long-awaited ecological transition. The recommendations presented here are first lines of reflection, which serve as a starting point in the development of an in-depth strategy and lines of action, taking into account the different actors and contexts in which they want to be implemented.
Beyond the momentum that has been building in recent years, the current global situation facing the Covid-19 pandemic also constitutes an opportunity for the development and implementation of BSE.

Considering the economic impact of the pandemic, still to be evaluated in depth, key sectors of the Blue Economy such as Tourism will need a strong political strategy to relaunch their activity. It is therefore a unique moment to deepen the reflection on the operationalization of the sector. The shock of the Covid-19 crisis can also be presented as an opportunity to improve the functioning of the sector by implementing practices that help its economic recovery while ensuring that the vulnerability and precariousness of the communities that live from it are reduced.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