



Generalitat de Catalunya
Government of Catalonia

COM&CAP MarInA-Med

Final Policy Paper

For an Integrated Approach in the Mediterranean Area

(Final document – version 15.06.2015)

Table of Abbreviations

ADRION	Task Force of the Adriatic-Ionian Transnational Cooperation Program 2014-2020
A-I or AI	Adriatic-Ionian
BD	Birds Directive
CBD	Convention on Biological Diversity
CFP	Common Fisheries Policy
EBSA	Ecologically and Biologically Significant Areas
EC	European Commission
EIB	European Investment Bank
EMFF	European Maritime and Fisheries Fund
EMS	Environmental Monitoring System
ENPI CBC Med	Mediterranean Sea Basin Programme (part of the European Neighbourhood Policy Instrument (ENPI))
EP	European Parliament
ETC	European Territorial Cooperation
EU	European Union
EUSAIR	European Union Strategy for the Adriatic-Ionian Region (macro-region)
FLAG	Fisheries Local Action Group
GES	Good Environmental Status
GFCM	General Fisheries Commission for the Mediterranean
GIS	Geographic Information System
HD	Habitats Directive
ICT	Information and Communication Technology / Tool
ICZM	Integrated Coastal Zone Management
IMO	International Maritime Organisation
IMP	Integrated Maritime Policy
IPA	Instrument for Pre-Accession Assistance
IPTG	Identifier of Potential Tourism Growth
JAP	Joint Action Plan
KPI	Key Performance Indicator
LAPs	Local Action Plans

LNG	Liquefied Natural Gas
LRAs	Local and Regional Authorities
MAP	Mediterranean Action Plan
MCC	MSFD Competence Center
MED CP	Med Cooperation Programme 2014-2020 (evolution from 2007-2013)
MED OP	Med Operational Programme 2007-2013
MED Programme	Transnational program of ETC
MPA	Marine Protected Area
MRS	Macro-Regional Strategy
MSFD	Marine Strategic Framework Directive (DG Environment)
MSP	Maritime Spatial Planning (DG Maritime Affairs and Fisheries)
MSSD	Mediterranean Strategy for Sustainable Development
MSY	Maximum Sustainable Yield
NO ₂	Nitrogen dioxide
NO _x	Nitrogen Oxide
PAH	Polycyclic aromatic hydrocarbons (also <i>polyaromatic hydrocarbons</i>)
PES	Payment for Environmental Services
PM	Particulate Matter
PPP	Public and Private Partnerships
R&D	Research and Development
RES	Renewable Energy Systems
S ³	Smart Specialisation Strategy
SB(S)	Sea-Basin (Strategy) a.k.a. Maritime Strategy
SECA	Sulphur Emission Control Area
SME	Small and Medium Enterprise
SWOT	Strengths, Weaknesses, Opportunities, Threats
SO ₂	Sulphur dioxide
ToRs	Terms of Reference
UfM	Union for the Mediterranean
UNEP	United Nations Environmental Programme
WTD	Water Framework Directive

Table of Contents

Table of Abbreviations	2
Executive Summary	6
PART A - THE POLICY PAPER: BACKGROUND DETAILS	7
I. Introduction	7
1) On the principle of Communication and Capitalisation: the Med Programme Call 2007-2013 7	
2) On the principle of the Policy Paper: towards the Med Cooperation Programme 2014-2020	8
II. Methodology of the COM&CAP MarInA-Med project for the Policy Paper	8
1) On the Contents of the Policy Paper	8
2) On the Targets as identified by the 13 Projects.....	9
PART B - TOWARDS AN INTEGRATED APPROACH IN THE MEDITERRANEAN: THE RECOMMENDATIONS	11
I. The European Policy framework, for an integrated approach in the Mediterranean	11
1) The Integrated Maritime Approach	11
2) Specific context of the Mediterranean	12
II. Core Recommendations to Multi-level Stakeholders	13
1) The need to strengthen the Integrated Maritime Approach in the Mediterranean Sea	13
a) Rise of the blue economy in the Mediterranean area.....	13
b) Supporting Blue Growth in key maritime sectors.....	16
c) Specific tools and instruments for the sustainable management of the coexistence of maritime activities.....	31
2) The need to address increasing environmental impacts.....	35
a) Key pressures and trends in the evolution of the Mediterranean maritime environment ..	36
b) Mitigation of environmental challenges in the Med.....	38
3) The need to foster multilevel maritime governance in the Mediterranean area	40
a) For the promotion of the macro-regional and sea-basin strategy approach in the Mediterranean.....	40
b) For a stronger involvement of local and regional authorities and stakeholders in maritime policies in the Mediterranean Sea	43
III. Core recommendations to the Med Programme and other cooperation programmes in the Med area	44
1) Recommendations for the new MED Cooperation Programme 2014-2020	44
a) General recommendations and suggestions concerning all cooperation axes	44
b) Specific recommendations per axis.....	46
c) General recommendations to all cooperation programmes in the Mediterranean	50
2) Recommendations on the COM&CAP approach	51
IV. Conclusion and Outlook for the Future	52

Executive Summary

The present Policy Paper presents recommendations gathered throughout the period of implementation of the 13 Med Maritime Projects approved by the last call of proposals of the Med Programme in 2013 (2007-2013). This document constitutes the last deliverable of the 14th project approved under this same call—COM&CAP MarInA-Med—a pilot action specifically in charge of the communication and capitalisation activities of the other 13 projects “for an Integrated Approach in the Mediterranean area.”

Throughout its year of implementation and the organisation of various capitalisation seminars, the COM&CAP action has addressed topics ranging from fisheries and aquaculture, blue energies, sustainable maritime transport, ports competitiveness and sustainability, sustainable maritime and coastal tourism, as well as the environmental pressures exerted by these same drivers in the Mediterranean basin. The results capitalised and included in this paper aim at raising awareness on the growth and increasing interdependency between these maritime economic activities. From these elements, it also puts into perspective the sustainable challenges implied by such dynamics, in particular in the Mediterranean basin.

Directed to various stakeholders, whether they be policy-makers, research institutions, local and regional authorities, the private sector or the like participating in the development of these activities, the paper firstly exposes the rise of the maritime economy while underlining the need for public policies at all levels to be developed in an integrated way. It justifies this recommendation underlining the added value an integrated approach to maritime economies would bring to their developments and sustainability, how it could be a way to better reflect and accompany the interdependency of maritime sectors, hence ensuring a more effective integration between economic growth and sustainability.

Subsequently, the paper highlights the importance of analysing and monitoring maritime activities, the whole range of their specific interactions, their pressures on the marine environment as well as their cumulative impacts more thoroughly. Indeed, in conjunction with climate change, the expected growth of the use of maritime space and coastal zones poses a considerable threat to the health of already-stressed Mediterranean ecosystems, an element that needs to be considered for the further sustainable development of these activities and the conservation of marine resources.

To enhance the integration of maritime economies as well as their improved sustainability, the paper addresses in a last part the need for strengthening cooperation and synergies among policies, multilevel actors, instruments, and funds. This recommendation appears to be relevant in particular with regard to the development of the maritime economy, the environmental challenges it implies, as well as the implementation of corresponding EU maritime policies. To this end, the paper exposes how the perspectives for the development of sea-basin and/macro-regional strategies could respond to this need, while emphasising the role local and regional authorities could play in these processes.

Further to these parts, the paper finally concludes by addressing concrete recommendations for initiatives to be undertaken by the Med Cooperation Programme 2014-2020 as well as by other European Territorial Cooperation Programmes on the basis of specific recommendations addressed by the Med Maritime projects.

I. Introduction

For the past few years, the European Commission has been promoting the concept of Blue Growth development all over Europe. Blue Growth intends to promote – in a long term strategy perspective – coordinated policies to be implemented in European basins and coastal areas so as to galvanise in a sustainable way maritime economic activities – recognised as key economic drivers – and better exploit their potential growth. In other words, it constitutes the Integrated Maritime Policy contribution to achieving the goals of the European 2020 strategy for **smart, sustainable and inclusive growth**. The Mediterranean, as one of the European basins, is particularly relevant to these policies and objectives, as it entails a great potential for socio-economic development.

1) On the principle of Communication and Capitalisation: the Med Programme 2007-2013

To this extent, the last MED Programme 2007-2013 call (October 2013, priorities 1-3) was seeking transnational partnerships that wished to explore specific related topics and to establish their state-of-the-art for the whole Programme area or sub-region, to propose orientations for potential future cooperation projects, and to identify policy gaps. Following these incentives and acknowledging the end of the 2007-2013 MED Operational Programme, it therefore became vital to identify relevant actions on the transnational level, laying out the bases for the upcoming calls of the new MED Cooperation Programme for the 2014-2020 programming period. Besides, the outcomes of the selected projects under this last “maritime integrated approach” call shall help build further projects that would seek to address the identified gaps with transnational policy response according to the MED Programme 2014-2020 priority axes:

- Promoting Mediterranean innovation capacities to develop smart and sustainable growth;
- Fostering low-carbon strategies and energy efficiency in specific MED Programme territories: cities, islands and remote areas;
- Protecting and promoting Mediterranean natural and cultural resources; and
- Enhancing governance for a Shared Mediterranean Sea.

To fulfil these objectives, the last MED 2013 call included for the first time the possibility to develop an innovative and specific action for a horizontal capitalisation and communication project. Given the short implementation period of the projects under this last 2013 call (only one year) and the integrated approach, this action was aimed at ensuring the communication and capitalisation activities of the 13 approved projects in order for them to optimise time and focus on technical and political results. The COM&CAP MarInA-Med project was designated to take care of these activities as a 14th approved project, and centred its actions on **ensuring efficiency** and **highlighting synergies between the 13 other selected projects** by crossing their results, underlining synergies, complementarities, as well as points to improve through the implementation of future cooperation projects. In this sense, the COM&CAP MarInA-Med project was built on an operational multi-level and multi-stakeholder partnership with a high level of expertise in the maritime field and in direct relationship with a well-structured network of Mediterranean policy-makers.

The Communication and Capitalisation activities based on the outputs and productions of the 13 other projects has allowed COM&CAP MarInA-Med to foster inter-project information exchanges as well as to organise events to present and capitalise on the 13 projects results. Moreover, COM&CAP MarInA-Med has contributed to identify the main public/private-sector beneficiaries of its dissemination and capitalisation actions, with the aim to use an adapted communication and rhetoric for the different identified themes and political levels of substantial relevance. Bearing these elements in mind, COM&CAP MarInA-Med has thence drawn up recommendations addressed on the one hand to specific stakeholders and on the other hand to the MED Cooperation Programme.

2) On the principle of the Policy Paper: towards the Med Cooperation Programme 2014-2020

The COM&CAP project will play a strategic role in the MED 2014-2020 Cooperation Programme, through the promotion and exploitation of the political and technical messages to put forward by EU institutions, multilevel key policy-makers, Euro-Mediterranean and multilateral bodies working in the MED basin, universities, clusters, and MED maritime-based small and medium-sized enterprises (SMEs).

The aim of the present Policy Paper is therefore twofold. On the one hand and as previously stated, it will locate its recommendations within the framework of EU policies, especially according to the sectorial themes that were addressed during the capitalisation seminars, as well as to the several interventions and contributions these same events benefited from throughout the whole year of the COM&CAP project implementation (contributions from the European Commission, the European Parliament and other key stakeholders). On the other hand, this Paper will present the political and technical recommendations to be directly addressed to the Med Cooperation Programme, while combining them with an introduction to the 13 project results in a specific part presented as an Annex to this document (the components of which are to be further consulted on each project webpage). This way, not only this Policy Paper will be useful to address current debates on the European legislation level on the basis of the project results in order for the messages put forward to have a stronger impact towards the specific identified stakeholders and policy-makers, but it will also constitute a working political and technical document for the Med Cooperation Programme to better tailor its actions over the 2014-2020 period.

II. Methodology of the COM&CAP MarInA-Med project for the Policy Paper

More particularly, the recommendations set out in the present Policy Paper result from the period of implementation of the Med Maritime Integrated Projects over 2014-2015 as during this time, various capitalisation seminars were held as well as a Mid-term and a Final conference. These events, added to an efficient communication campaign, allowed the gradual capitalisation of the project results and their turning into recommendations addressed to multi-level stakeholders and to the Med Cooperation Programme for its 2014-2020 period of implementation.

1) On the Contents of the Policy Paper

These recommendations cover the main political findings and propose concrete guidelines with a focus on gaps, awareness-raising, and targeted political actions based on decision-makers typologies. They also provide elements of endorsement coming from the projects' contributions as well as from the relevant stakeholders' interventions gathered throughout the year of implementation. They have been designed to be cross-cutting and integrated in the best way possible so as to encompass a broader range of stakeholders, while ensuring a real integrated approach to addressing Mediterranean challenges on the basis of current European and Mediterranean socio-economic and legislative contexts.

Besides, to the best possible extent, the drafting process has included through various communications the consultation and awareness raising of the parties of:

- The thematic Working Groups and the political boards of the Intermediterranean Commission of the CPMR, especially regarding Climate Change challenges as well as themes linked to Maritime Transport and Port connections, and Sustainable Tourism development;
- Arco Latino, especially with regard to Sustainable Tourism development;
- The Adriatic-Ionian Euro-region;
- The Associated partners.

After the production of this deliverable, the network will set up (optionally) a formal procedure for the endorsement of these political messages in order to reach more representativeness and critical mass. The Policy Paper will be sent to all decision-makers identified by the project and the Med Maritime Projects, and published on the web platforms of the project and the Med Programme.

The recommendations are organised as follows:

- The need to strengthen the integrated maritime approach in the Mediterranean Sea,
- The need to address increasing environmental impacts
- The need to strengthen integrated maritime governance in the area
- Recommendations to the MED Programme and other cooperation programmes in the Mediterranean

The contents of these four parts gather cross-cutting recommendations underlining the Mediterranean as a whole entity and hence justifying the need for future integrated actions to be adopted by the targets of the projects in order to tackle the challenges and take on opportunities identified in the Paper.

2) On the Targets as identified by the 13 Projects

As explained earlier, there are here two types of main targets identified by the COM&CAP MarInA-Med project, the first of which is the **Med Cooperation Programme**. The second type of targets are generally speaking **influential external stakeholders** (Local and Regional actors, EC, EP, etc.) and were identified in more details by the Med Maritime Projects, identification fully considered in the drafting of the Paper. Prior to the capitalisation process, an internal and detailed analysis of these targets was therefore performed and led to their classification by order of importance as follows:

1. Sub-national governments
2. EU Programmes (ETC and others)
3. EU Institutions
4. Private sector

5. National governments
6. Med Port Authorities / Third sector / Press
7. Research Institutes
8. Multilateral Institutions & Networks
9. Euro-Med Institutions
10. Financial Institutions

PART B- TOWARDS AN INTEGRATED APPROACH IN THE MEDITERRANEAN: THE RECOMMENDATIONS

I. The European Policy framework, for an integrated approach in the Mediterranean

1) The Integrated Maritime Approach

Maritime-related economic activities are growing significantly in Europe and in the Mediterranean basin. This rise of the maritime economy requires from public policies at all levels to be developed in an integrated way, in order to better reflect and accompany the interdependency of maritime sectors, and to ensure integration between economic growth and sustainability.

Over the past years, the European Union has accomplished important steps in this direction. Since 2007, it has been developing and implementing the Integrated Maritime Policy (IMP), seeking to strengthen a more coherent and integrated approach to maritime issues by increasing coordination between different policy areas. Incarnating the maritime contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth, the IMP has encompassed the Blue Growth approach or the “*Opportunities for marine and maritime sustainable growth*” since 2012.¹ This approach has stressed specific potentials for growth in the maritime field across Europe in order to strengthen the contribution of European policies to unleash it, while at the same time safeguarding biodiversity and protecting the marine environment in coherence with the Marine Strategy Framework Directive (MSFD) requirements. Further actions and initiatives should therefore be undertaken in Europe and in the Mediterranean basin to follow these directions in order to promote the competitiveness as well as the sustainability of the maritime economies.

The support provided to strengthening maritime sectors must go hand in hand with support for synergies between these sectors. Such synergies are already reflected through the way in which various economic sectors make use of the same infrastructures (e.g. ports tend to host activities in line with electricity distribution networks, or maintenance activities for marine renewable energies) and energy sources (marine renewable energies can provide very direct contributions to energy supply in other maritime sectors such as aquaculture for instance), as well as through the diversification of maritime sectors (fisheries towards fisheries-related tourism, ports activities and shipbuilding towards marine renewable energies), or clustering of maritime activities as part of territorial development strategies. Interdependencies between maritime sectors is also reflected in competition for the use of coastal and maritime areas, which will require better maritime spatial planning and integrated coastal zone management in the future.

In the meantime, more investments will be needed to fully harness the potential of maritime economies. So far, several initiatives and instruments are currently available:

¹ (COM(2012) 494).

- Among some examples are the *raison d'être* of the European Investment Bank (EIB)² working hand in hand with Member States and regions to promote the efficient and effective use of public investment in research and innovation.
- Combination and synergies between EU Programmes (such as COSME or Horizon 2020, etc.) and European Structural and Investment Funds (ESIF)—notably in respect of maritime-related Smart-specialisation strategies, which set priorities for the use of the European Regional Development Fund (ERDF) and the European Maritime and Fisheries Fund (EMFF). These programmes will also work in synergy with territorial cooperation programmes and programmes providing support to North-South cooperation in the Mediterranean area.
- Besides, the recent development of the new Investment Plan for Europe will be complementary to these initiatives and instruments. Indeed, it aims to maximise the impact of public resources and unlock private investment, to meet the needs of the real economy and to develop measures to provide greater regulatory predictability in order to remove barriers to investment, hence reinforcing their impacts on the EU territory and abroad.³

Finally, **safeguarding biodiversity, protecting coastal zones, and achieving a good environmental status of the Mediterranean waters remain a strong challenge.** The increase of activities taking place in coastal areas and at sea is generating more pressures on marine ecosystems, and sustainability has become a *sine qua non* condition for the long-term development of maritime economies. Since 2008, the Marine Strategy Framework Directive (MSFD)—as the environmental pillar of the IMP—has set the objective to reach Good Environmental Status (GES) of European marine waters by 2020. In this context, despite some progress, more efforts must still be made in order to reach this objective. Member States play a key role in the matter as they are expected to design and implement *ad hoc* plans of measures to achieve or maintain GES of European waters by 2015. These measures, together with all the other provisions laid down by the MSFD, **need to be set up and implemented through an integrated policy approach that must take into account obligations pursuant to other very important Directives** such as the Maritime Spatial Planning (MSP) or the Water Framework Directives (among others).

2) Specific context of the Mediterranean

These challenges need to be related to the specific context of the Mediterranean basin, as the issues so far encountered to fulfil the goals of the IMP are exacerbated in the Mediterranean area and sea. Firstly, given the geopolitical share of the area which includes EU countries as well as pre-accession or non-EU countries, each one of them presenting different levels of socio-economic development and particularities. Secondly, with regard to the geographical features of the semi-closed nature of the Mediterranean basin subject to increased pressures from human, land and sea-based activities. Despite the great availability of instruments

² as supporting growth and jobs through loans, the combination of EU funds with EIB loans, hence encouraging access to finance for SMEs, support innovation and skills, help build strategic infrastructure, and finance climate action, etc.

³ (COM(2014) 903).

and initiatives, this renders cooperation for the implementation of integrated policies such as those mentioned above even more challenging.

Therefore, as the IMP also aims to foster cooperation between coastal EU Member States and EU candidate and potential candidate countries, the combination of the use of the above-mentioned instruments and initiatives as well as the development and implementation of more thorough cooperation frameworks would potentially contribute to solve these discrepancies. To this end, sea-basin and macro-regional strategies have been promoted by the EU to exploit the strengths and address the weaknesses of each large (sea) region in Europe. They incarnate *stimuli* frameworks for the development of projects in line with the previously listed policies, while being particularly relevant to the Mediterranean basin. Indeed, they represent sound opportunities **to coordinate and integrate the management of maritime activities, to protect the marine environment and maritime heritage, to prevent, mitigate and combat pollution, to improve safety and security at sea, and to promote blue growth and job creation.** They would also, to a certain extent, involve the participation of third countries in order to have a full and efficient impact in the Mediterranean.

Besides, in the Mediterranean, several on-going initiatives are relevant to maritime policies and could actively help to provide an impetus for an integrated approach in the basin, including participation from neighbour countries. Among them, the Union for the Mediterranean with for example the work "Towards a roadmap for Blue investments and jobs in the Mediterranean,"⁴ European Union initiatives (e.g. Stakeholder conferences organised by the EC with the European Investment Bank), the BlueMed Initiative (2014), the Barcelona Convention and the Protocol on Integrated Coastal Zone Management, and the Mediterranean Strategy for Sustainable Development (MSSD, UNEP-MAP), among others.

Territorial cooperation Programmes will be indispensable to match with these initiatives and to contribute to giving coherence and efficiency to all of their actions.

In this present case, the 13 projects approved by the MED Programme 2007-2013 through its call for an integrated approach in the Mediterranean, cover themes ranging from fisheries and aquaculture, ports, sustainable maritime transport, and sustainable maritime and coastal tourism. By showing the interrelations between these sectors and evaluating their limits, the COM&CAP MarInA-Med project has formulated and integrated recommendations for each project within the following parts.

II. Core Recommendations to Multi-level Stakeholders

1) The need to strengthen the Integrated Maritime Approach in the Mediterranean Sea

a) Rise of the blue economy in the Mediterranean area

i. Key trends in the maritime economy in the Mediterranean area

⁴ A Euro-Mediterranean Ministerial Conference on Blue Economy will be held in autumn 2015 with the aim of providing guidance for the further development of the blue economy and the promotion of blue jobs in the Mediterranean region.

All traditional as well as emerging maritime economic sectors currently operating in the Mediterranean are expected to grow and expand relatively quickly over the next 15-20 years. These include tourism, shipping, aquaculture, renewable energies, seabed mining or bio-technologies, etc. Following the analyses performed by the Med Maritime Projects, it is therefore recommendable on the one hand:

- **to keep developing maritime economies sustainably in the Mediterranean.** Indeed, maritime economies constitute a major source of employment and socio-economic development in coastal areas. The trends observed over the next 15-20 years for the development of these economies emphasise this aspect. For example, aquaculture, shipping, seabed mining, and offshore wind energy are expected to more than double as of 2030.⁵

On the other hand, bearing in mind the aforementioned goals of Blue Growth, the Med Maritime Projects have also stressed the need:

- **to better consider the environmental impacts and challenges posed by the further development of the maritime economies in the Mediterranean and deliver concrete solutions to mitigate them.** Evaluating not only the trends for socio-economic development but also the ones corresponding to environmental impacts of these same maritime activities would indeed prove useful to develop more sustainable maritime economies. For example, as regards the trends related to the impacts of fishing on fish stocks in the Mediterranean, the impacts on air pollution by cruise passenger ships and commercial vessels, or the development of new blue energy infrastructures in the Mediterranean. In other words, both a better understanding of environmental pressures exerted by human activities, as well as the setting-up and implementation of *ad hoc* measures in favour of mitigation, need to be developed. Furthermore, observing an integrated multilevel and multi-actor approach would ensure the relevance of undertaken actions and initiatives to a greater extent, while involving a broader range of stakeholders.

The Med Maritime Projects have clearly shown that the encouragement of interactions between various economic sectors in the Mediterranean and their appropriate management would further foster their developments while contributing towards reducing their environmental footprints.

ii. Interactions between Med economic sectors

Exploiting existing or potential links and synergies amongst different maritime sectors represents a strategic asset that contributes considerably to the sustainable development of blue growth. According to the current state of maturity of the different maritime economies, at Mediterranean level it is important to underline the following considerations:

- encouraging the development of a specific maritime sector could lead to “positive externalities” that could benefit other maritime sectors directly and or indirectly. In this case, a policy decision process

⁵ Figures are based on Gross Domestic Product evolution. Sectors such as fisheries that are expected to grow to a lower extent share a lower share of the GDP, though it relatively represents a consequent share of employment and socio-economic development in specific coastal territories.

built on an integrated approach could facilitate the identification of solutions and or pilot initiatives leading to these positive externalities;

- emerging demands for new goods and/or services could bring two or more maritime economic sectors to set up strong joint partnerships in order to exploit these large scale business opportunities by creating new or innovative niche markets.

In this context, clustering is an important driver to promote these kinds of synergies. For instance, there are strong evidences to conclude that the existence of a marine renewable energies cluster could benefit other maritime sectors. Furthermore, the development of a maritime cluster in a coastal area could lead to the availability of wider and innovative R&D and/or ICT solutions, which, for instance, would create the necessary conditions to match specific demands in terms of new technologies and processes arising from port authorities, tourism and fisheries sectors, cruise operators, etc.

In the framework of the analyses carried out by the Med Maritime Projects, several examples of these dynamics and synergies have been identified. **In this respect, the Med Maritime Projects call policy makers, representatives of the private sector and the research field, to increase their efforts in order to enhance these kinds of synergies and/or interactions.** Hereafter is a non-exhaustive list of existing synergies identified by the Med Maritime Projects:

- **the development of the blue energy sector could lead to positive externalities in favour of other maritime industries.** The blue energy industry is a sector that requires the availability of a highly skilled workforce. In a short-term scenario, while awaiting the training of *ad hoc* professional experts, the diversification of other workforces (e.g. shipyards) could tackle the demand for *ad hoc* trained manpower. Consequently, a robust marine renewable energy industry can help create jobs, revitalise abandoned shipyards, and improve the economies of coastal communities.

On the opposite side, new technologies used in the blue energy fields could generate positive externalities and help traditional maritime sectors to align themselves with current and/or upcoming international, European and National regulations as well as new market pressures. Industrial ports are a good example illustrating this process. Indeed, the access to the exploitation of renewable energies has allowed them to cover partially or totally their huge energy demands. In this respect and more precisely, the Med Maritime Projects observed that:

- wind technology could be set off-shore or installed in terminal areas to supply electricity to cranes, electric forklifts, reefers, etc.;
- small wind infrastructures as well as photovoltaic technologies could be integrated in buildings to cover the energy needs of hotels, restaurants, office buildings, garages, or to charge electric cars or buses, facilities on tourist and/or fishing vessels
- biodiesel could be used to supply fuel to internal fleets, vessels (cruise ships, fishing vessels), etc.;
- marine technologies could provide wave and tidal energy conversion to supply electricity to cranes, electric forklifts, reefers, etc.

- **the development of Mediterranean ports could lead to positive externalities in favour of traditional maritime sectors.** Ports infrastructures and services play an important role in the development of sustainable tourism. Indeed, they could serve to influence the number and profile of tourists who arrive at destination, through the availability of tourist facilities and activities. Economically speaking, ports contribute to the diversification of the tourism economy and the development of agglomeration economies or external economies in the Mediterranean area. Socially speaking, enhancing Port-City connections potentially allows a more positive attitude of tourist-city residents to tourism activities through for example the participation of the port local community within the city. Besides, the development of port facilities could contribute to the construction of sustainable tourist infrastructures, which play a crucial role to minimise the impact of tourism on the coastal environment (sustainable energy efficient parameters, waste recycling, water depollution, reduction of water consumption, etc.).
- **synergies between several traditional economic sectors could lead to the emergence of new niche markets and/or sectors.** A classic example of such kind of phenomena is fishing tourism, which is an industry that results from the interaction of different traditional and emerging economic sectors (e.g. accommodation and catering services, service stations, retail trade, etc.). At Mediterranean level, fishing tourism is still in its infancy. However, it has a huge socio-economic potential and could contribute to the mitigation of environmental pressures generated by fisheries, hence creating not only socio-economic but also environmental positive externalities.

b) Supporting Blue Growth in key maritime sectors

i. Blue energies

The Med Maritime projects call to **keep on affirming clear political support for the development of blue energies in the Mediterranean Sea**, on the basis that this sector is a promising one which can bring a broad contribution to policy energy-related, maritime, industrial and environment-climate related objectives.

Due to the physical characteristics of the Mediterranean Sea, blue energies today are less developed in the basin than in other European sea-basins. Wind and wave climate characteristics of the Mediterranean Sea are for instance clearly milder than the ones in the Northern European Seas and the Atlantic Ocean, while coastal waters are deep. **However, as shown by analyses developed by the Med Maritime Projects, the blue energy sector represents a great potential in the Mediterranean**, in particular with regard to the exploitation of offshore wind, waves, tides-currents, and thermal gradients.⁶

This potential makes blue energies one of the most promising sectors in the production of electricity from renewable sources, especially in Mediterranean countries, which still have a lesser share of renewable energy sources than Northern Europe. Their contributions to the fulfilment of European objectives in the area of renewable energies would be strong, in a context where requirements of the 2009 Directive “on the

⁶ See more particularly the BLUENE and ENERCOAST projects.

Promotion of the use of energy from renewable sources” are still far from being met.⁷ Beyond a general contribution to the share of renewable energies, blue energies will be able to provide increasing energy supply to other maritime or non-maritime economic sectors. Besides, a robust marine renewable energy industry would offer strong opportunities to create jobs in coastal territories through activities, revitalise abandoned shipyards and improve the economies of coastal communities. Besides, they also constitute one of the important potential energy sources that can provide strong contribution to the production of greenhouse gas free energy.

For these reasons, investors and other stakeholders need policy makers to maintain clear political choices in favour of the development of blue energies in order to provide strong long-term market signals to encourage investments, while supporting full inclusion of these energies in sustainable development strategies shared with populations. **These signals should involve ambitious objectives in the areas of climate and renewable energies.**

Beyond a general support to the development of blue energies, the Med Maritime projects call **to remove specific barriers to the development of this sector.**

- a first element to fulfil this goal would be to **keep on developing knowledge about the potential for blue energies.** This potential is progressively better known but needs nevertheless to be better understood. There is for instance a lack of knowledge concerning offshore wind, wave and current measurements, which is notably due to the difficulties in using satellite measurements, known to be inefficient close to the shore, and uncertainties of various data sources. Increased knowledge about the potential of blue energies would facilitate the development of innovative technologies that are adapted to the characteristics of the Mediterranean Sea in terms of bottom depth, bottom morphology, or distance from the shore. Besides, there are still serious gaps to be filled with regard to the potential of energy sources, the diffusion of energy plants, and the lack of cost-benefit analyses;
- **de-risking projects and facilitating access to finance also remains an important challenge.** Indeed, development of these technologies is today dominated by a large number of small, mostly start-up, companies, each developing different devices. A big issue is whether or not these companies have all the required technical and managerial resources that are necessary to accomplish projects requiring a higher investment than conventional sources of energy, which banks are often unwilling to support.

In a context where there is a proliferation of device concepts that are only marginally different, it is necessary to strengthen investments in R&D and technological development, and at the same time to mutualise investments as far as possible. Initiatives such as Ocean ERA-Net (Horizon 2020) could be inspirational in this regard, for example as a model for such coordination to be undertaken for the Mediterranean, or for various actors from the blue energy sector to submit projects as well.

Clusters and co-development are also one of the tools that can facilitate access to finance, definition of common objectives, development of R&D activities and interaction with other stakeholders.⁸

⁷ Directive 2009/28/EC.

⁸ Strengthening cooperation between large companies and SMEs through maritime clusters that have a strong energy component can be observed at regional level in several areas in the Mediterranean Sea.

Since more specific skills are required for the development of technologies and the management of projects, the education and training offer should continue to be developed and should include the development of training/educational courses for example focusing as a priority on energy company management.

Finally, the development of blue energies requires more legal certainty, through better maritime spatial planning and integrated coastal zone management, simplification of legal processes, and social acceptance.

- **decision-making concerning the location of blue energy projects is often long and complex due to a lack of maritime spatial planning and integrated coastal zone management.** Most countries surrounding the Mediterranean Sea are well developed as regards tourism and coastal recreation or professional activities such as fishing, fish-farming, and shipping, in areas that might also be of interest for the development of blue energy projects.

Besides, in several countries there are a very high number of areas of potential interest for blue energies which are protected by environmental regulations such as Natura 2000. For this reason, it is often difficult to find areas in which to develop blue energies, and to anticipate whether interesting areas will remain available.

Further development of maritime spatial planning and integrated coastal zone management (since all activities taking place at sea have an impact onshore in terms of land planning) is therefore required. In parallel to the implementation of the MSP Directive which will contribute to this, it is necessary to find ways—through better capacity to analyse environmental impacts, develop specific technologies and/or define compensation measures—to protect the marine environment without hindering the development of blue energy projects;

- **in the meantime, simplifying administrative and legal proceedings is a crucial necessity.** Time needed to obtain licences is for instance still far too long, due to the complexity of rules, and the involvement of different levels of proceedings at both national and sometimes regional levels;
- **finally, social acceptance is a decisive factor for the long-term development of marine energies.** Involvement of populations in the definition of regional development strategies, is an important element which contributes to the long-term visibility of investors. Regional and local authorities play a crucial role among citizens to create a favourable approach towards these investments and try to obtain some positive effects in favour of the local communities.

ii. Ports and maritime transport

The Med Maritime Projects call for a better monitoring of container ports activities in order to increase ports' competitiveness in the Mediterranean. Indeed, following the smart-port concept introduced by the Med Maritime Projects,⁹ the competitiveness of container ports should be evaluated according to their operational, environmental and energy performance. Nonetheless, it appears that so far, ports do not calculate their rates with a break-down of their different activities, which makes the analysis of container

⁹ In particular the SMART-PORT project.

activities challenging. Besides, there is a general lack of data regarding the technological facilities available (level of automation...) at container terminals and about security in the supply chain (ISO 28001). More information is available about arrangements and certificates on occupational health and safety (OHSAS 18001) and quality (ISO 9001) though.

In addition, Port Authorities generally do not have a clear, exhaustive and updated overview of Key Performance Indicators (KPIs) values (with the exception of **operational** KPIs). Available data are often detected with different protocols, units, time-scales, etc. which makes the comparison between ports very difficult. This also applies to the set of indicators used to monitor energy consumption and environmental impacts. **The Med Maritime Projects therefore encourage the harmonisation, the sharing and/or the publication of data relative to energy and environmental performance of Mediterranean container ports.**

Further to the monitoring of container ports performances, the Med Maritime Projects underlined the need to enhance innovation and technology in the port sector. So far, there seems to be a lack of advanced R&D transfer infrastructure and policies that stimulate innovation, exchange information, and take risks together. **To solve this issue, the Med Maritime Projects strongly advocate for the development of Maritime Clusters according to a triple helix matrix** which would allow closer cooperation and interaction between Academia, Public Authorities and the Private Sector, hence enhancing triptych knowledge-consensus-innovation dynamics to overcome R&D gaps.

They also underlined the need to promote the presence of leader firms able to set demanding standards, trigger innovation and organise a number of companies (from the supply sectors) to address innovation challenges. Their presence would be most useful, especially because although regulations and increasing competitiveness are major drivers of technology implementation in the maritime transportation industry, poor economic conditions in the Mediterranean tend to limit the funding of new technologies.

The shipping industry will have to adopt **new technologies & energy efficiency over the next decade in order to be able to adapt to upcoming regulations and market pressures.**

Moreover, there is a **need to develop more high quality and multidisciplinary maritime educational infrastructures** to enhance training and attract workers to this sector. Indeed, it appears that there will not be enough skilled personnel in the ship/port industry to meet the labour demand in the future.

Regarding connections, several observations were made and needs identified by the Med Maritime Projects. In the supply chain and intermodality infrastructures, besides the fact that the majority of container ports are linked to Rail Transport which helps decrease solid and liquid wastes, air emissions to the environment, and the overall energy consumption, **intermodality between ports and land networks needs to be greatly improved.** Indeed, air emissions to the environment (mainly via road transport) are still a competitive disadvantage for ports' competitiveness. This also applies to the weight of ship traffic and harbour activities emissions as they are comparable to those of road traffic. Besides, the state of internal competition (Road Transport) and Technology and Communications (Maritime Transport) plays an important role in determining ports' competitiveness.

Connections to the hinterland and cities should also be promoted, as efficient connections would ensure, on the one hand, a better competitiveness for the ports, especially (though not restrictively) with European countries. On the other hand, improved "port-city" connections could play an active role in the development

of sustainable tourism in the Mediterranean area, and render ports more attractive to actors from the tourism sector.

The Med Maritime Projects also noted that ports' competitiveness relied on their internationalisation (port and maritime transport in general). However, it appears that apart from some exceptions, Mediterranean ports are not very involved in international platforms such as ECOPORTS, IAPH-World Ports Climate Initiative, and that fragmentation is more usual, counting individual initiatives and projects. **To this end, the Med Maritime Projects underline the crucial need to internationalise maritime cluster economic activities, including clusters which ports are parts of.** Strong lobbying activities on facilitating the access to new markets are needed, for example by building **networks, alliances or close contacts with other international maritime clusters and sharing risk in the development of R&D activities.** In this sense, competition between Mediterranean Ports would need to be **reduced** in order for clustering processes to be more easily implemented, and hence competitiveness enhanced.

Regarding the environment, the Med Maritime Projects stressed that environmental awareness in the port and maritime transport sectors as well as within maritime clusters is rising. **However, environmental awareness still needs to be greatly improved, as it is not yet considered a priority element in the definition of competitiveness for maritime economies.** Indeed, the Med Maritime projects underlined several pressures exerted by these economic drivers in the Mediterranean.¹⁰ For example, in the Western Mediterranean, high pressures originate from sea transit, cruise ships, port activities of major commercial and passenger ports (pollution, invasive species, etc.), while in the Adriatic-Ionian eco-region, regional ferry traffic usually causes a high occurrence of accidents and oil spills. To mitigate those pressures, the Med Maritime Projects therefore call for:

- a better assessment and monitoring of environmental pressures, through the production of **seamless time series**;
- **an open access to transport data (AIS) for detailed analyses of different vessel types would be very useful** as well. Indeed, besides the fact that maritime transport impacts on air quality are more important concerning small particles, the **concentration of ultrafine particles and nanoparticles (PNC)** is not considered in European policies;¹¹
- **future actions that could involve reduction strategies for other pollutants like NO₂ included in Air Quality Standards**, such as the use of low-sulphur fuel has had positive effects on impact on SO₂ and PM concentrations (as a consequence of both European legislation and local agreements).

Generally speaking and according to the evaluations performed on container ports,¹² ISO 14001—and to a lesser extent EMAS III—are the most frequently used standards to ensure the environmental management in Mediterranean ports. **There is however a lack of information about the generation and use of a balanced ecological energy mix in those same ports, while control on energy consumption levels (energy efficiency) and on costs and expenditures that this consumption represents remains very unclear or partial.**

¹⁰ More specifically, on the basis of the results of the Med-IAMER, POSEIDON and CAIMANs projects.

¹¹ Nevertheless it is a better surrogate to monitor this specific source compared to PM₁₀ and/or PM_{2.5}.

¹² By the SMART-PORT project.

More particularly in urban and port areas where pressures can be more important, the Med Maritime Projects highlighted several actions that could be undertaken to monitor and overcome environmental pressures.¹³ As for container and industrial ports, among the most important impacts urban port activities can produce are impacts on air quality degradation, noise, water quality degradation, energy and water consumptions, and biodiversity degradation.

Several regulations and technical solutions exist to mitigate these impacts and to monitor them, e.g.:

- a scientific basis with existing sensors, data processing and analysis;
- regarding mitigation on air quality: the use of sea-scrubbers, Liquefied Natural Gas, low sulphur fuels, shore power plugging, the installation of dust filters on ships, the containment of powdered products in storage areas, the creation of more energy efficient vessels, the moistening and maintenance of equipment and trucks at the dock;
- regarding mitigation on water quality: on-board effluent collection, on-board waste water data register, effluent collection according to local regulations (European directives on reception facilities), treatment of port industrial areas, treatment of ship waste water through the city treatment plants;
- regarding mitigation of noise: the use of slabs for noise absorption,¹⁴ electric driven compressors for trucks instead of thermal compressors but also relocation of activities;
- the enforcement of regulations, possible through the International Maritime Organisation or the European Commission, like SECA areas;
- bodies of specialists from flag state or port state authorities for enforcement.

In situations of high levels of environmental pressures exerted by ports, the latter need to **increase awareness of pollutant situations and react preventively before citizens complain**. Indeed, ports play a crucial role between ships and cruise operators and the local community, be it official stakeholders, environmental associations or individual most sensitive citizens.

To this end, **Environmental Monitoring Systems (EMS), whether real time or through year-round sampling, represent an efficient tool to evaluate both the environmental impacts of port activities and the efficacy of solutions implemented in order to mitigate them, while allowing awareness raising and the reactivity of local stakeholders accordingly**. More specifically, the use of EMS is encouraged as they are useful to:

- perform diagnoses of the territory;
- follow trends and temporal and spatial evolutions;
- control environmental parameters, receive alerts and thus be able to react in real time;
- study, analyse and model environmental parameters in order to optimise the development of new activities and infrastructures;

¹³ In particular based on the MERMAID project.

¹⁴ E.g. the use of ertalon.

- communicate and inform populations and stakeholders in order to be more transparent.

Bearing in mind these elements, the prerequisites for deployment of an EMS usually imply that there be:

- the need for it, depending on the port/city configuration such as the proximity between the port and the residents, the inadequacy of railway and road networks, the geographical and climatic conditions, etc.;
- the willingness of the port authority to deal with the issues;
- the capacity of port/city governance to exchange and communicate around a sustainable development of the port activity;
- a culture of transparency and democracy.

Though it may take another 10 or 20 years to fully deploy these appropriate measures, **stakeholders should keep an interest in this continued deployment of best practices in ports so that each individual port may progress towards city/port acceptability and sustainability.** Indeed, new challenges for the future have emerged. Among them are:

- the improvement and development of EMS, for example by investigating new sensors (smart and less costly), develop smart tools and real time alerts, develop an integrated approach between all sensors with new software, and develop operational, pragmatic actions, and long-term action plans;
- investigations about other fields of impacts, such as traffic generated by the port and its interactions in the city, the energy consumption of the port and its interactions with consumption on the territory/land, etc.;
- the strengthening and development of new communication channels between all stakeholders (ship, port, neighbours, local community and authorities) to increase transparency.

In addition to the technical and regulatory tools already existing to monitor and mitigate the environmental impact of port activities, it appears that R&D would allow the development and improvement of new technologies and sensors, for which the promotion and deployment of EMS in ports would be particularly relevant.

Nevertheless, another kind of impact shall also be considered and was identified by the Med Maritime Projects: **congestion due to port and city traffic.** Indeed, increased difficulties appear in the Mediterranean tourist ports, not only in industrial activities but also in cruise and ferry activities due to the ever increasing size numbers and economic objectives: ship size, passenger/container numbers, level of expectation, requirements from economic operators regarding return on investment, etc. The increasing number of destinations and improvement of infrastructures cannot, by themselves, mitigate the congestion issue. There is therefore a need to study this issue in depth, i.e. consider it as a sociological problem of how the increasing exasperation of local residents can be reduced, when "their" roads, market places, museums, public transportation, neighbourhoods, are saturated by peaks of visitors, buses, trucks etc., putting a high pressure,

though for short durations, on a given location.¹⁵ In this sense, **EMS can allow stakeholders to evaluate the impact of traffic on the basis of environmental parameters, impacts which also need to be addressed both sociologically and in terms of logistics.**

Information should be made available to **local communities** as well as to **local authorities** (mayors, regions, health services, etc.), which should be involved in the process of informing the population. Possibilities to fulfil this goal could include the creation of **open websites** for the general public, the direction of scientific research on **improving methods, modelling, forecasting**, etc., and/or the creation and development of public debates (to make new Port developments possible) in order to manage information and promote transparency efficiently. This is indeed an important component to build up confidence with coastal communities and actors. Besides, confidence would prove to be very useful in the event of the preparation of critical situations and any possible crisis management.

Last but not least, as transportation, the shipping industry, and tourism are the major pillars of the Ports sector in the Mediterranean region, the Med Maritime Projects identified the potential role ports could play in the Mediterranean economy if linked to other sectors such as Tourism. According to the anthropic assets identified, **ports could play an important role in the development of sustainable tourism in terms of accessibility, hence influencing the number and profile of tourists who arrive at destination, through the availability of tourist facilities and activities.**

Economically speaking, ports would contribute to the diversification of the tourism economy and the development of agglomeration economies or external economies in the Mediterranean area. This could contribute to the enrichment of Destination Management, fostering entrepreneurship in new tourism segments and influencing the image of the destination positively.

Socially speaking, the Med Maritime projects also call for the **enhancement of port-city connections**. These connections would potentially allow a more positive attitude of tourist-city residents towards tourism activities, through for example the **participation of the port local community within the city**. In this sense, **it is important to “reconcile” the relation between cruise passenger ships and the cities for, at the same time as the development of sustainable tourism, the better conservation of the identity of destination cities.**

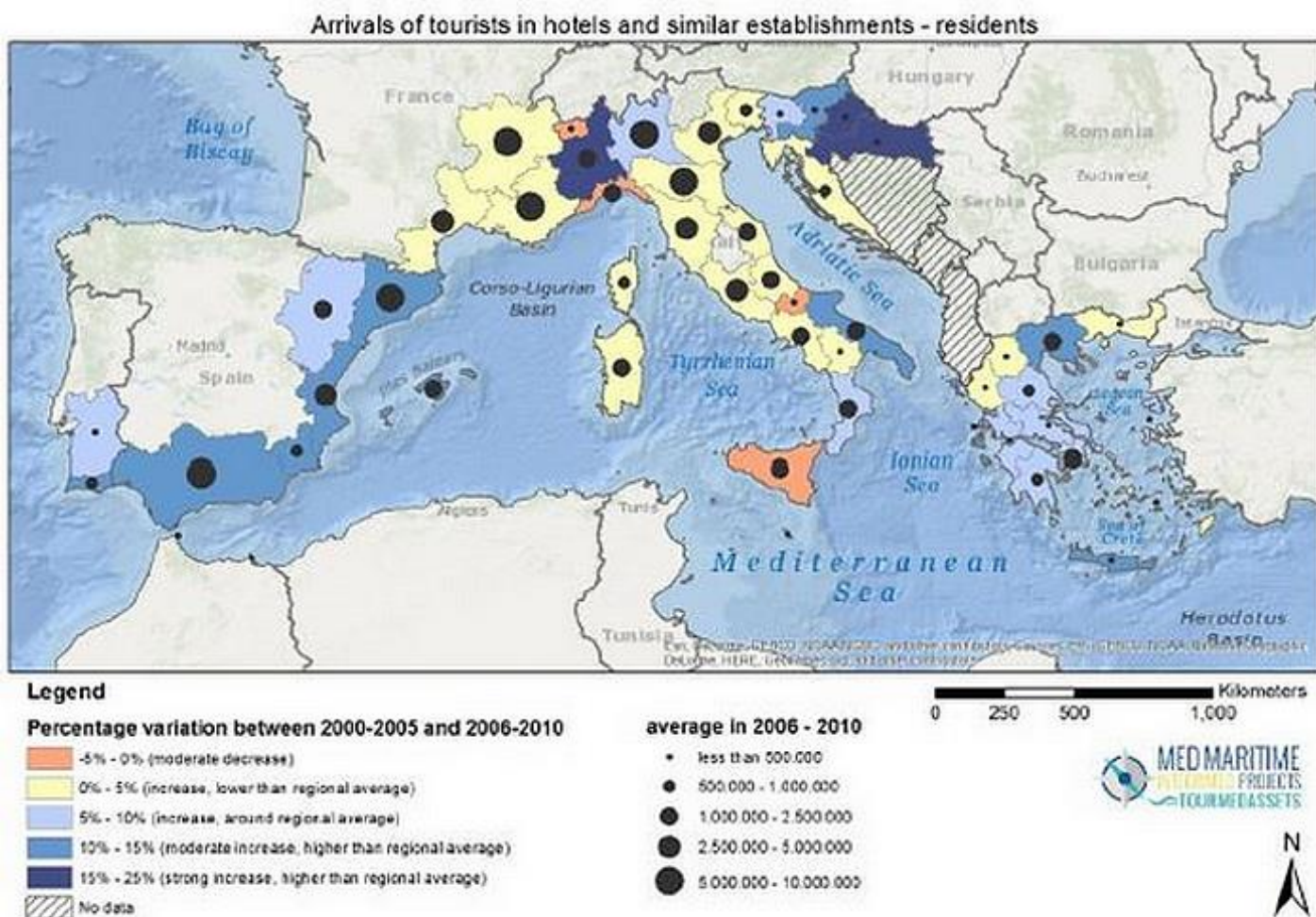
Finally, coupled with synergies with other sectors, ports could participate in stepping up the use of sustainable tourist infrastructures, which would help minimise the impact of tourism in the territory (sustainable energy efficient parameters, recycling, etc.).

iii. Tourism

The Mediterranean Sea basin is the world's leading destination in terms of international and domestic tourism. Mediterranean coastal areas are very mature tourist destinations accounting for one third of total arrivals worldwide. However, despite its socio-economic potential, the coastal and maritime tourism industry is faced with huge socio-economic and environmental challenges that threaten the important contribution

¹⁵ This issue was recognised at the pan-European dialogue on cruise activity, last March 2015 in Brussels.

of this strategic sector to the economic recovery and growth of the Mediterranean regions and of their coastal communities. The following map show the evolution of tourist arrivals in Mediterranean coastal areas.¹⁶



In this context, in order to promote the design and implementation of sustainable integrated maritime and coastal tourism strategies, the Med Maritime Projects call on national, regional and local Mediterranean governments, the representatives of the tourism sector, higher education organisations and maritime clusters, to take on the following recommendations.¹⁷

Sustainability and durability of the tourism sector are challenged by seasonality. **Addressing the need to stretch the tourism season by reducing the impacts of seasonality is therefore crucial**, as many Mediterranean coastal communities derive considerable income from maritime and coastal tourism activities, thereby exposing their economic stability to the increased volatility of the tourism market. In this context, though the Mediterranean still remains the world's first destination in terms of international and domestic tourism, entrepreneurs and policy-makers have been facing increased competition from new global destinations for which prices are lower than in the Mediterranean area. **Consequently, stretching the tourism season and increase the predictability of maritime and coastal tourism flows is a strategic priority for**

¹⁶ This map was elaborated by the TOURMEDASSETS project. The arrivals data correspond to international visitors entering the economic territory of the country of reference and include both tourists and same-day, non-resident visitors: <http://statistics.unwto.org/content/yearbook-tourism-statistics>.

¹⁷ In particular, the TOURMEDASSETS and MITOMED projects.

Mediterranean policy makers and entrepreneurs. In this respect, it is urgent to undertake appropriate measures aiming to:

- encourage customer loyalty *vis-à-vis* Mediterranean maritime and coastal destinations by promoting the involvement of tourists in local and cultural events;
- reduce tourist “monoculture” (sun & sea tourism) and promote diversification of traditional maritime and coastal tourism goods and products by developing initiatives in favour of marinas and nautical leisure, film festivals, fishing tourism, recreational angling, local cuisine, protection and restoration of coastal and underwater cultural attractions and maritime heritage sites with archaeological, ecological or historical value, etc.;
- encourage a better distribution of tourists in time and space in order to reduce environmental pressures on coastal areas during peak seasons.

Indeed, with regard to the environment, mitigating environmental impacts and pressures exerted by maritime and coastal tourism activities is crucial. Further development of Mediterranean tourist areas therefore depends on the ability of the sector to fully exploit its competitive factors without increasing its pressures and/or impacts on Mediterranean maritime and coastal resources. Analyses by the Med Maritime Projects have underlined that the current “mass-tourism” model tends to produce and provoke marine and fresh water pollution, air pollution, loss of marine resources, loss of natural land resources and land degradation, loss of public access to the coast, and noise and traffic congestion. In order to mitigate the environmental impacts and pressures related to the development of maritime and coastal tourism, which would also help to reinforce its competitiveness, the following measures could be undertaken:

- to improve the control and the enforcement of environmental standards (noise, drinking water, bathing water, waste-water treatment, etc.) in existing national, regional and local legislations;
- to identify and protect endangered marine and coastal habitats;
- to create buffer zones around sensitive coastal areas in order to attenuate environmental pressures to the greatest extent possible;
- to enhance a strict application of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment procedures on all maritime and coastal tourism projects and programmes;
- to develop joint pilot actions on innovative and “green” tourism products (e.g. cycling routes, green beaches) and infrastructures.

As regards employability, there is a need for the maritime and coastal tourism sector to face and tackle the lack of professional skills. At Mediterranean level, there is indeed a mismatch between skills requirements and demand expectations, and skills offer, which affects the sustainable development of the sector. Overall, there is a limited awareness about key actors and policies, specific skills such as education and training required and available in the sector. Besides, appeal for the maritime and coastal tourism labour market is

also limited, as competition between coastal destinations is largely based on price differences and price-quality ratios.¹⁸ To counterbalance those limits, it is urgent to take appropriate measures aiming to:

- carry out education and training mapping exercises focusing on current and emerging skill needs related to the maritime and coastal tourism sector;
- put in place innovative educational and training schemes, including cross-border programmes acting to enhance entrepreneurship;
- promote mobility of maritime and coastal tourism workers across Mediterranean maritime and coastal destinations, in order to promote and increase professional skills (adaptability, languages, etc.) as well as exchange of good practices;
- encourage mutual recognition of national and regional education and training programmes.

Further to these elements, it is worth underlining that one of the main barriers affecting the maritime and coastal tourism at European and Mediterranean level is the high degree of fragmentation and the lack of coordination amongst policy makers and entrepreneurs. Faced with such a reality, a purely sectorial and thematic approach to maritime and coastal tourism is no longer sufficient to create the necessary conditions for the sector to be able to fully exploit its socio-economic potential. **To tackle these barriers, it is urgent to enhance coordination among key stakeholders by:**

- developing a multi-sectorial approach by promoting cooperation and coordination among several national, regional and local public administration units and/or departments, with the final aim of setting up common sustainable and integrated strategies on maritime and coastal tourism;
- promoting cooperation and coordination among public administrations, SMEs, local, national and international NGOs, academic institutions and universities, research centres, etc. In this respect, a particular effort in this direction must be made as regards the promotion of networking and clustering by implementing the quadruple helix concept;
- setting up networks of local producers to ensure better marketing of maritime and coastal tourism goods and products and/or contribute to the creation of new ones;
- encouraging the participation of citizens in the design of integrated management schemes on maritime and coastal tourism facilities and/or policies;
- setting up Local Action Plans (LAPs) aiming to implement integrated and cross-sectorial strategies in favour of the development of new and more competitive maritime and coastal goods and products.

Beforehand though, encouragement of data collection and exchange of knowledge should be fully considered. Indeed, as maritime and coastal tourism is a very complex industry bringing together several economic sectors (boating, yachting cruising, nautical sports, swimming, surfing, sun bathing, cultural tourism, recreational angling, fishing tourism, catering, hotels, etc.), it is still difficult to undertake and deliver exhaustive statistical sector analyses to foster its sustainable development. In addition, at European and Mediterranean levels, there is a shortage of relevant and comparable data on maritime and coastal tourism.

¹⁸ Study in support of policy measures for maritime and coastal tourism at EU level, Brussels, September 2015.

All these bottlenecks make it very difficult for policy makers and entrepreneurs to design and implement *ad hoc* mechanism as well as effective strategies. In this context, to address these barriers, it is crucial to take appropriate measures aiming to:

- enhance mapping of availability data and indicators on coastal and maritime tourism sectors (boating, yachting, cruising, nautical sports, swimming, surfing, sun bathing, cultural tourism, recreational angling, fishing tourism, catering, hotels, etc.);
- improve monitoring systems, in terms of coverage, sectors quality and resolution, by setting up a protocol defining *formulae*, exact definition and territorial localisation for a selected list of maritime and coastal tourism indicators;
- improve data interoperability at regional, cross-border, and transnational levels;
- develop new indicators dealing with emerging phenomena that have a huge impact on the competitiveness and sustainability of tourist destinations.¹⁹ In this respect, specific attention must be given to data and indicators measuring the environmental impacts of maritime and coastal tourism activities on the Mediterranean coastal zones, seas and eco-regions;
- identify sustainable potential thresholds within key indicators and datasets, as the current set of European performance indicators on maritime and coastal tourism does not specify threshold values. This lack of limits makes it challenging for policy makers and entrepreneurs to interpret used data effectively, which can lead to underestimations of the economic potential of tourism and/or of the environmental and socio-economic impacts that its development could produce on various Mediterranean coastal zones;
- increase the use of Decision Support Systems (DSS).²⁰ These innovative tools allow policy makers and entrepreneurs to obtain a clearer and better understanding about the competitiveness and attractiveness factors of Mediterranean tourism destinations, while taking into account the impacts, at Mediterranean scale, of the “new” globalised trends, challenges, and scenarios of world tourism economies;
- encourage the exchange of best practices in integrated tourism management.

Finally, promote investments in the maritime and coastal tourism sector. The majority of Mediterranean coastal areas are mature tourism destinations which generally compete with each other by lowering prices of their tourist goods and products. Due to this stiff price competition, net profits of SMEs operating in maritime and coastal tourism are fluctuating significantly. In this context, it is difficult for entrepreneurs to ensure substantial investments in favour of newer and/or more competitive goods and products. To face such a challenge, national, regional and local governments should use available funds (e.g. ERDF, ESF, EMFF, etc.) to ensure targeted investments in favour of:

- infrastructures for coastal cities (ferry ports, train stations, airports, marinas, beaches, etc.);

¹⁹ E.g. education, change of value and lifestyles, changing work patterns, demographic trends, migration trends, urbanisation, shift of the economic barycentre to the South and East, deregulation and/or liberalisation of international trade, ICT use, and climate change.

²⁰ See the TOURMEDASSETS project for more details.

- new and/or more competitive services (e.g. attractive public transport and modal split from in-land city-hubs to the coastline);
- innovative tools and/or procedures for: waste management and/or reduction, water and electricity consumption reduction, etc.;
- local advertising campaigns on maritime and coastal tourism goods and products;
- information technologies and/or synergies with the ICT sector contributing to the development of new maritime and coastal tourism goods and products.

iv. Fisheries and fisheries-related tourism

Fisheries represent a strategic economic sector for the Mediterranean countries and their coastal regions. Their fisheries constitutes an important source of non-outsourcable jobs as well as a pillar of the cultural and social heritage of Mediterranean coastal communities. However, despite its important socio-economic role, fisheries have been facing huge structural and environmental challenges over the last decades. In this respect, although many efforts have been made at European level in the framework of the Common Fisheries Policy (CFP), today overfishing still remains one of the main issues threatening the sustainable exploitation of the Mediterranean living marine resources.

As a consequence, it is urgent that all key stakeholders operating in the fisheries sectors (policy makers, representatives of the fisheries sector, NGOs, civil society, etc.) take appropriate measures aiming to achieve a sustainable “compromise” between the need to restore fish stocks to levels that can produce the Maximum Sustainable Yield (MSY) and the necessity of maintaining the economic viability of the Mediterranean fishing sector.

In this context, according to the main results delivered by the Med Maritime Projects,²¹ two concrete measures should be reproduced and developed on a broader scale at Mediterranean level:

- improving diversification of fishing activities by encouraging the development of fishing tourism;
- encouraging the sustainable exploitation of the Marine Protected Areas (MPAs) by setting up new models of governance laying down a crucial role of representatives of the artisanal fisheries sector in the co-management of MPAs.

As in other economic domains, the development of fisheries-related tourism activities needs a clear and effective legislative framework. Unfortunately, this is not the case for the Mediterranean area, where, in many Member States, the procedures needed for issuing operational licences in the field of fishing tourism still remain very complex, long, and sometimes expensive. Consequently, **it has become urgent for policy decision makers to simplify and/or harmonise existing legislative frameworks dealing with fishing-tourism by pursuing a threefold objective of modernising, simplifying and rendering it more flexible.** In this context, special

²¹ See the results of the NEMO and FishMPABlue projects.

attention should be paid to ensure coherence and legislative uniformity across neighbouring Member States in specific Mediterranean sub-areas (e.g. the Adriatic-Ionian basin).

Besides, as the fishing-tourism sector is the result of the interaction of different economic sectors (e.g. accommodation and catering services, service stations, retail trade, programme service, etc.) **a broader and more integrated political approach is needed in order to fully exploit its economic potential.** In this respect, the following concrete initiatives could be developed in each coastal community:

- greater collaboration, coordination and functional synergies between key stakeholders such as national, regional and local governments and/or administrations, fisheries and tourism sectors, Fisheries Local Actions Groups (FLAGs), the scientific sector, NGOs, and any other relevant actor. These informal platforms should aim to enhance networking as well as capitalisation and dissemination of best practices on fisheries related tourism activities;
- promote diagnostic analyses of existing tourism facilities, itineraries and networking;
- design *ad hoc* fishing tourism packages and/or programmes and insert them into national, regional and local tourism strategies and plans.

In this sense, at Mediterranean level, **providing fishermen with updated competences and skills matching with specific business needs related to the tourism sector** (e.g. a good command of foreign languages, ICT facilities, marketing solutions, etc.) **appears to be much needed.** Specific initiatives should therefore be developed in favour of those young students who are interested in starting a fishing tourism-business. In addition, both fishermen and young students should have access to mobility schemes to allow them to travel and visit foreign fisheries communities where fishing-related tourism activities are well developed, ensuring strong economic viability as well as mitigated impacts on marine living resources.

This should go hand-in-hand with the provision of financial support to fishermen to modernise and renew their fishing vessels. Generally speaking, fishing vessels are very uncomfortable and dangerous workplaces. As a consequence, in order to reduce risk of accidents on board for tourists, fishermen must bring their vessels up to the necessary security standards.²² Nevertheless, in many cases these types of intervention are very expensive preventing fishermen from starting a regular fishing tourism business. In this context, public grants and loans (e.g. the EMFF) play a key role in ensuring an important leverage effect and enabling fishermen to cover a great majority of the costs needed to renew and/or modernise their own fishing vessels.

It is also necessary to develop fishing tourism sustainably, improve data collection and transfer knowledge since this is lacking at present. In this respect, concrete initiatives should be set up and implemented in order to:

- raise awareness about the environmental impacts of fishing tourism on living marine resources. Indeed, although fishing tourism is said to operate with small impacts on fish stocks, official comprehensive and exhaustive data on overall catches related to such activities are still missing. This data gap hinders fishing tourism from generating a full consensus on its “environmental added value” and contributes significantly to its development shortfall. **In this respect, the promotion of data**

²² E.g. structural interventions on vessels, modernisation of vessel gear, adaptation of fishing gear, purchase of safety equipment, etc.

collection campaigns to gather information about all catches related to fishing tourism activities represents a key priority for the further development of such an emerging sector;

- facilitate the exchange of best practices. In many cases, different coastal communities are faced with the same challenges affecting the development of fishing tourism. Enhancing capitalisation and transfer of knowledge in the fishing tourism field is a crucial tool to boost entrepreneurship, raise awareness about innovative, more sustainable, and less expensive technical solutions and, as a consequence, to encourage economies of scale.

Fishing tourism is a niche sector that often lacks visibility *vis-à-vis* foreign and/or local customers which is why the **set-up of innovative marketing solutions is highly recommendable**. In order to address such a challenge it is crucial to:

- improve the utilisation of ICT facilities. In this respect, it is important to value the success registered by thematic web-platforms aiming to promote itineraries of fishing tourism activities;²³
- set up unique selling proposition/branding for fisheries related activities. These kinds of initiative are strategic for regions and/or areas sharing the same futures in the tourism fishing field (e.g. the Adriatic-Ionian basin);
- encourage the extension of the tourism season through the organisation of festivals and/or gastronomic events, the development of museums and/or thematic villages, etc.

With regard to the environmental dimension, **looking for new solutions to improve the management of Mediterranean maritime living resources is needed**. In this respect, MPAs have been seen as effective tools that contribute to the recovery of fish stocks, while boosting production as well as maintaining traditional activities alongside biodiversity conservation. In this context, in order to create the necessary conditions to promote the conservation and sustainable exploitation of marine living resources in multipurpose MPAs, it is urgent to:

- enhance the promotion of the conservation and sustainable exploitation of marine living resources in existing multipurpose MPAs, as Marine Protected Areas indeed represent a strategic tool ensuring high protection of marine waters and their living resources;
- support the creation of new MPAs as well as the enlargement of those already existing as this is a key challenge to reach the GES of Mediterranean waters by 2020;
- clarify the role played by each administrative level (national, regional and local) and identify their main competences related to the management of Mediterranean MPAs;
- reinforce and/or develop linkages and synergies between environment and fisheries administrations in each of the Mediterranean countries, regions and their coastal communities;
- review the existing legislative framework (national, regional and local) on MPAs in order to introduce **new co-management tools and mechanisms** (partnership agreements with artisanal fishermen,

²³ An example of such pilot initiatives is the already running [MEDNET PESCA](#) portal. Such kinds of facilities should be enlarged, updated and/or duplicated in the forthcoming years.

advisory boards, assemblies, discussion platforms, etc.). This should be conjugated with the set-up of new rules laying down the conditions under which artisanal fishermen would **participate in the co-management of Mediterranean MPAs**, as well as regulating artisanal fisheries activities within offshore marine conservation areas. The relevant **integration of elements from international conventions and regional agreements into national legislative frameworks** to facilitate marine conservation and sustainable use of fisheries resources would also need to be considered;

- develop MSP (and related management measures) based on GIS in order to reduce overlapping of activities and cumulative impacts, and improve integrated management of the marine environment;
- promote the sustainable exploitation of MPAs by encouraging fisheries-related tourism activities, eco-tourism packages, artisanal fisheries activities, etc.;
- develop mechanisms through institutional interactions for the resolution of conflicts in MPA management;
- encourage voluntary conservation initiatives for the marine environment by fisheries cooperatives and/or associations;
- set-up *ad hoc* training schemes (on the important role played by coastal and marine protected areas in the restoration of the ecosystem functions and productivity of marine resources) for representatives of national, regional and local authorities participating in the co-management of MPAs;
- develop specific communication and training material (codes of good practices, management tools and schemes, etc.) for artisanal, commercial and recreational fishermen;
- promote and implement optional certification mechanisms in MPAs associating artisanal sustainable fisheries;
- ensure strong financial support for MPAs co-managed by artisanal fisheries and fishermen;
- develop participatory mechanisms to allow the co-existence of different activities in coastal wetland areas. As a matter of fact, coastal wetland areas are often not considered as MPAs but the management of artisanal fisheries activities operating in these zones is facing the same issues and challenges as in MPAs.

Finance the development of international research projects. To mitigate the environmental pressures of fishing tourism activities on the Mediterranean marine living resources, greater efforts are needed to improve the selectivity of the fishing gear and practices. In this respect, a crucial role is played by the implementation of transnational research projects, which could capitalise expertise and knowledge already existing across the Mediterranean as well as coming from the other European sea basins.

c) Specific tools and instruments for the sustainable management of the coexistence of maritime activities

Sustainable management of the coexistence of maritime activities requires the development of tools that enable the development of better cross-cutting knowledge about maritime economies and their environment, as well as specific tools for maritime spatial planning and integrated coastal zone management.

i. Developing better cross-cutting knowledge in support of maritime policies

Continuous development of data useful for the understanding of economic trends and technological needs in maritime sectors, as well as of their impacts on marine and coastal ecosystems is a constant need for the development of the maritime economy. In this perspective, **constant and continuous efforts should be made by public authorities and stakeholders to ensure:**

- the production of technical data and analyses required for the economic development of maritime activities and the understanding of their impacts on ecosystems;
- public availability, transparency and reliability of data;
- the interoperability and comparability of data;
- the sharing of data through open source based platforms, as well as the capitalisation and exchange of best practices between data producers and users.

Strong efforts need to be made in this perspective. In some sectors information is very scarce, and when available is not detailed nor updated. There is also a strong resistance to share these data (which are in most cases private) or to make it public.

Furthermore, if knowledge about global trends in the maritime economy tends to be available, reports published by the European Commission in the context of the implementation of the MSFD state very clearly that the indicators gathered so far do not yet constitute a reliable basis allowing the adoption of policy measures needed to reach and protect GES. **Strong improvement of available knowledge on environmental pressures caused by different sectors and drivers is therefore needed.**

Harmonised trans-boundary socio-economic and environmental data, at higher scales and in good resolutions are thus required for analysing spatially explicit patterns of environmental change. In this sense, the set-up of a network of researchers with regional and national statistics institutions would encourage the continuity of data harmonisation downstream and the addition of further details upstream. This network could function on four main pillars regarding the better understanding of local data, the improvement of capacities and techniques for acquiring and compiling local data, a solid approach for the harmonisation and definition of indicators and the setting-up of common tools in Geographic Information Systems (GIS) and interactive cartography platforms.

From a wider point of view and concerning temporal and spatial perspectives, smart and innovative solutions to face environmental challenges need to be developed at a rate that coincides with the increasing exploitation of the seas. The implementation of EU policy tools and policies (MSFD, IMP, etc.) needs to take into account enlarged temporal and spatial dimensions to better anticipate these challenges. For example at

temporal level, it would be necessary to establish development trends scenarios of the maritime economy sectors over a minimum scale of 15 to 20 years. At spatial level, given the semi-enclosed nature of the Mediterranean where any national development may easily impact several neighbouring countries, these trends would also need also to be anticipated at a transnational level.

In the meantime, needs for more data in some specific sectors have been identified, and are as follows:

- concerning **marine renewable energies** in particular, there is still a need for both improvement of knowledge about their development potential and a lack of complementary coastal data;
- as for **Environmental Monitoring Systems operated by port authorities**, they are frequently independent of the equivalent systems operated by other public agencies (except for air quality in general). In particular, data and policies in this domain are seldom exchanged or consolidated. **Therefore, it is paramount to promote and further develop EMS by implementing them in port areas to improve knowledge on environmental aspects related to port activities, facilitating also decision-making and ensuring regulatory compliance.** The improvement at the level of data exchange in different environmental related aspects would also contribute to the widening of the scope of the EMS (currently air & water quality as well as noise) to waste management, energy efficiency and road traffic;
- on **the maritime transport side**, the use of low-sulphur content fuels in ships has proved to be efficient in reducing the impact of pollution on primary particles concentration (in addition to SO₂ concentrations) though it had a limited effect on other pollutants like NO_x, metals and PAHs. Future actions in this field could involve improvement of the international legislation or guidelines to curb ship emissions of these pollutants. It is therefore fundamental to work on all aspects concerning the improvement of data, in order to contribute to a real evidence-based policy making;
- in the **tourism sector**, which is a complex industry that brings together several sub-sectors,²⁴ there is a clear need to cope with the lack and fragmentation of data, as well as to define “ideal thresholds” (for each specific indicators related to this sector) to be used for monitoring, benchmarking and for the development of actions and policies. In this sense, integrated models require more complete and reliable knowledge pertaining to the tourism sector and cross-sectorial indicator systems,²⁵ which can help policy makers to make more informed decisions towards integrated marine/maritime strategies.

Availability, interoperability of data (at regional, cross-border and transnational level), and the reduction of its fragmentation shall be definitely improved, as the exchange of best practices in this field should be promoted. It is also important to underline that the competitiveness of destinations in the Mediterranean basin as well as the sustainability of tourism development might be compromised by a number of global changes that affect society, economy, demography, and climate in the area. Therefore, enhancing measurement through further indicators able to describe the

²⁴ As cruise ship tourism, nautical sports, yachting tourism, sun and beach tourism, fishing tourism, catering, hotels etc.

²⁵ E.g. the one developed by MITOMED project.

emerging phenomena affecting Mediterranean destinations and in particular the use of Decision Support Systems (DSS) shall be considered;²⁶

- in the specific domain of **fishing tourism**, there is also the need to establish and apply a common and jointly defined methodology to collect, benchmark and develop data and information on the activities concerning this emerging sector.²⁷ The performance of SWOT analyses and medium or long-term scenarios for the development of fishing tourism are basic for the future development of the sector in the Adriatic-Ionian sea basin, and could help raise awareness about the mitigated impacts of fishing tourism on living marine resources.

Another key aspect to be improved is the transfer of knowledge and capitalisation that could be important factors for boosting entrepreneurship, raising awareness on innovative and less expensive technical solutions, and encourage economies of scale;

- finally, as reflected in sections of this document that are concerning trends in key maritime economic sectors, **Research & Development** as such, together with innovation are also very important aspects that require more efforts in several areas.

ii. Sharing maritime and coastal space in the Med: MSP and ICZM

Both **Maritime Spatial Planning and Integrated Coastal Zone Management must be a part of the same joint effort towards an improved and multilevel management of land and sea at basin and sub-basin levels**. As a general recommendation, and because all activities in the sea also impact on the land, **this approach shall be at the core of the implementation of the MSP Directive²⁸ and of the Protocol on ICZM** linked to the Barcelona Convention. In this sense, it is important to develop specific tools to support its sustainable implementation in the future.

Moreover, sub-national governments and territorial communities should be actively involved in decision-making processes in order to exploit their territorial knowledge and to reach common and peacefully shared solutions. This also applies to decisions about the transnational dimension of MSP, since such decisions have a strong impact on land too.

Thus, **concrete choices about location of maritime activities and the use of maritime and coastal areas must by nature reflect regional development priorities that are shared with populations, stakeholders and authorities**. These development priorities must ideally be based on an integration of blue and green growth, therefore in compatibility between economic development needs and the need to reach and protect GES as

²⁶ E.g. education, change of value and lifestyles, changing work patterns, population trends, urbanisation, shift of economic barycenter to the South/East, deregulation and or liberalisation of international trade, population migrations, ICT technological usage, and climate change.

²⁷ Which is scarce for now, especially regarding overall catches, and not enough integrated, determining a minor consensus on its environmental added value.

²⁸ (COM(2013)133 final)

defined under the MSFD. This would result in the combined use of several options from the angle of the use of maritime and coastal space, which also needs to be adapted to specific regional contexts.

- These options can for instance consist in the further development of interconnected MPAs, and in the meantime in the sustainable management of maritime and coastal areas remaining open to human activities.
- Blue energies for instance constitute an example of a sector directly contributing to green growth, and raising issues from the angle of occupation of areas that can be protected under environmental regulations. In this sector, solutions need to be found at local and regional levels to enable the development of the strategic economic development potential of blue energies while at the same time protecting marine and coastal ecosystems.

In fact, development priorities in terms of MSP and ICZM currently underline choices made as a reflection of economic choices. In a context in which the economic potential of maritime activities is growing, it is vital for economic stakeholders from various sectors (e.g. tourism, shipping, blue energies, etc.) to benefit from a better legal certainty about possibilities for them to use maritime and coastal areas sustainably, in order to be able to invest in the long-term.

To achieve this end though, transnational cooperation is required, in relation with the development of sea-basin strategies. In the Adriatic-Ionian area in particular, there are some key experiences to be capitalised on, such as ADRIPLAN which **addresses directly the harmonisation of MSP (the emergent MSP systems of the Member States) and the relationship with ICZM for their closer integration, taking into account both the evolution of the EUSAIR strategy and the EU ecosystem-based approach.**²⁹ Such experiences should be adapted/replicated in the rest of the Mediterranean basin.

Finally, bearing in mind the above information, it is necessary to remember that these human activities and their potential developments, taking place both at land and sea alike, have generated—and will keep generating—increasingly important pressures impacting on the surrounding and fragile marine environment, its ecosystem and living resources (air and water pollution, over-exploitation of fish stocks, etc.). These pressures threaten the durability and sustainability of the Mediterranean. The following part hence underlines some actions that could be undertaken to enforce the mitigation of already existing pressures and potential forthcoming ones, in accordance with the implementation of the Marine Strategy Framework Directive.

2) The need to address increasing environmental impacts

To determine and monitor the whole range of specific interactions among maritime activities, their pressures on the marine environment and their cumulative impacts is an important aspect for the sustainable

²⁹ ADRIPLAN already produced an open source-based and flexible “data portal” called GeoNode available for partners, stakeholders and the general public for searching and sharing knowledge, data, and information related to MSP in the area (Bathymetry, LNG, etc.). This initiative has also been a model concerning the involvement of institutional actors (including regional governments) and key stakeholders regarding the identification of barriers and the formulation of recommendations on the evaluation of cross-border MSP based on an integrated overall assessment (environmental, legal, administrative, economic and social) and taking into account multiple demands and potentials.

development of maritime economies.³⁰ In conjunction with climate change, the expected growth of the use of maritime space and coastal zones indeed poses a considerable threat to the health of already-stressed Mediterranean ecosystems.

Since 2008, the Marine Strategy Framework Directive (MSFD) has been the cornerstone of the action of the European Union to ensure a better and efficient protection of its marine environment. Following its entry into force, it has also been instrumental in the application of international conventions in EU Member States, while developing a scientific and regulatory integrated environmental approach as a binding component to be included in the set-up and implementation of all EU and EU Member States' policies (e.g. specific maritime regulations or initiatives such as the Maritime Spatial Planning Directive, the Sulphur Directive, the Water Directive, the Habitats and Bird Directives, and any regulation or initiative having an impact on the quality of air and marine waters).

a) Key pressures and trends in the evolution of the Mediterranean maritime environment

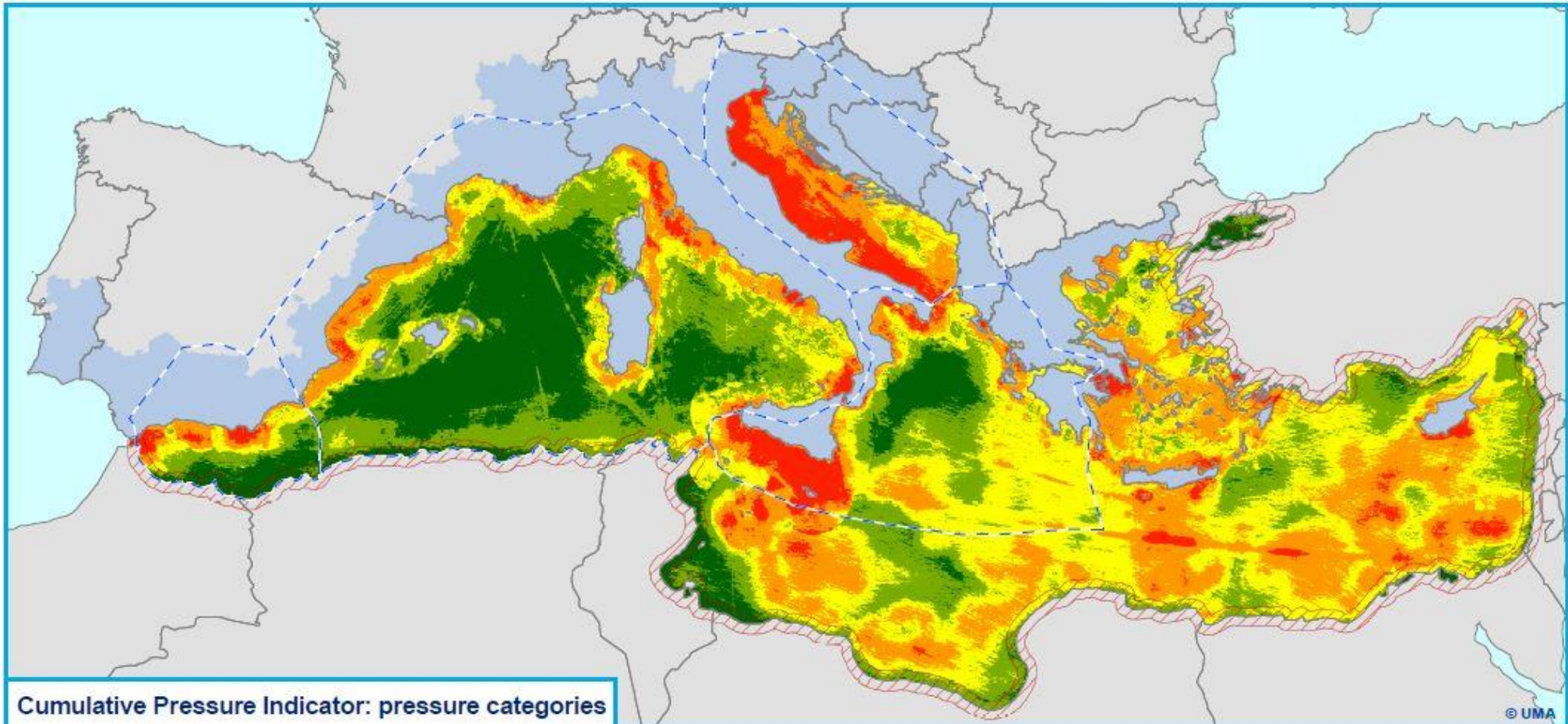
In the Mediterranean, the protection of the environment is of great importance to keep developing healthy and more sustainable maritime economies while exploiting the resources of the sea durably. Indeed, the semi-closed nature of the Mediterranean presents a specific and fragile ecosystem which, from the development of maritime economies and activities, has experienced various pressures over time. The increasing trends of using the Mediterranean Sea—the drivers of which have been identified as fisheries, aquaculture, tourism, maritime transport, marine litter, urbanisation, and to a further extent, climate change—have increased the chances that specific threats cause more impacts when occurring simultaneously than the additive effect of individual pressures.³¹ From these observations, the chances of achieving the MSFD main objective, i.e. the Good Environmental Status (GES) of marine waters by 2020, are very low.³² The following map shows in more concrete details the cumulative pressures exerted by maritime activities in the Mediterranean, the zones where they are the strongest (from the weakest in green to the strongest in red) and that require priority action for mitigation.³³

³⁰ Cumulative impacts result from the incremental, accumulating, and/or interacting impacts of an activity and its stressors on habitats and species, when added to other past, present or potential future impacts. Hegmann *et al.*, (1999) quoted in the Med-IAMER project

³¹ UNEP/MAP (2012).

³² GES can be evaluated by the indicators prescribed in the MSFD.

³³ This map has been produced by the Med-IAMER project.



Cumulative Pressure Indicator: pressure categories

- Very Low
- Low
- Medium
- High
- Very High
- Area influenced by lack of data
- MED cooperation area
- Study regions

The map represents the Cumulative Pressure Indicator. This indicator combines the effect of six socio-economic and environmental drivers of pressure: climate change, fishing, aquaculture, maritime transport, coastal tourism and marine litter.

From these observations, it clearly appears that to maintain and improve environmental sustainability, Member States should make more efforts and work towards reaching the GES of the Mediterranean sea the soonest possible. The further development of human activities in the sea, for example for future blue energy installations, shall consider and play a full part in this process.

Besides, as the Med Maritime Projects rightly underlined, **the sustainable development of maritime economies needs to be based on sound data and evidence**. So far, and despite the efforts made through the implementation of the MSFD in compiling data from Member States on the Environmental status of their waters and other initiatives,³⁴ data regarding the ecological status of the Mediterranean and likewise on the potential for development of maritime economic activities in the basin, drivers, and their respective ecological impacts and pressures are still substantially lacking. Available information is usually insufficient in quantity and quality to enable evidence-based management of the Mediterranean.³⁵ This worrying observation makes it **highly recommendable and necessary to apply the precautionary principle when key data necessary to inform smart decision-making is missing**, while working at the same time towards improving **data and efficient evaluation indicators**.

Finally, bearing in mind the efforts already deployed to evaluate the state of implementation of the MSFD as well as the conclusions drawn after its first years of implementation, the identification of frameworks and tools to tackle these challenges is more than needed. This applies to the same extent as the necessity to **ensure the concrete implementation, enforcement, and integration of the common frameworks for environmental status monitoring and evaluation systems directed to national, regional and local authorities, and relevant bodies, to the best extent possible**. Parties to the Barcelona Convention should be particularly useful to give impetus to these processes.³⁶ In this sense, determining a more thorough definition of “sustainable blue economy” as well as “sustainable Blue Growth” would prove useful to Member States and stakeholders to implement the Blue Growth strategy and the MSFD requirements efficiently by 2016 and beyond, while using tools such as MSP, ICZM, and transnational cooperation frameworks efficiently.³⁷

b) Mitigation of environmental challenges in the Med

From observing the different major drivers and bearing in mind that more than 30% of the Mediterranean Sea is highly impacted by their respective pressures and cumulative impacts, the Med Maritime Projects underlined the necessity to **integrate Blue and Green Growth to better tackle environmental challenges by comprehensive and complementary actions in the Mediterranean area**.³⁸ More specifically, it is worth noting that the **intensity of individual pressures is ecoregion specific** besides the trans-boundary character of drivers in the whole Sea. The number of pressures affecting ecoregions have showed to be spatially heterogeneous, proving that cumulative impacts tend to aggregate in specific regions, therefore creating hotspots where

³⁴ For example, as compiled by the MSFD Competence Center (MCC).

³⁵ Mee, *et al.*, (2015) in the Med-IAMER project results.

³⁶ As listed by the Med-IAMER project, several programmes developed under the umbrella of the Barcelona Convention include environmental monitoring (MED POL), but also environmental data sharing (SEIS), management to achieve GES (EcAp) and sustainable development (MSSF). [The Horizon 2020 Initiative](#) also constitutes an important part in implementing the EU environmental strategy in the Mediterranean.

³⁷ For more information, see the results of the MEDTRENDS project.

³⁸ Those observations correlate the fact that land-based activities do impact on the marine environment to the same extent as maritime activities. As a matter of fact and for example, about 80% of pollution affecting marine waters originates from land-based activities.

intense socio-economic drivers are likely to produce negative effects on the environment.³⁹ To this extent, **integrating the maritime dimension into the eco-system approach in a balanced way to ensure the sustainable development of maritime economies identified in the Blue Growth strategy would be greatly needed.**

To this end, **policy-makers would need to take potential trends into account**, especially with regard to the relevance of applicable policies as well as economic development in the Mediterranean and the environmental pressures and sustainability it would imply.

- from the baseline, spatial and temporal trends are in fact crucial for monitoring long term effectiveness of policies towards sustainable uses of the Mediterranean sea. Observing and performing real-time monitoring, seamless time series, and potential impact studies, would therefore prove useful in these processes so as to better tailor decision-making;
- for example, sectors that are still in their infancy in the Mediterranean—such as the Blue Energy sector—should be developed so as to contribute as far as possible to the enforcement of environment-climate related policies and objectives. Indeed, considering the potential added value the development of the blue energy sector would bring to the economic dynamism of the Mediterranean, evaluating future economic and ecological trends when shaping environment-climate related policies and objectives based on the development and implementation of blue energies would allow a more efficient and sustainable development of their infrastructures, with a lesser impact on the surrounding environment and a better anticipation for social acceptance;
- moreover, carefully studying potentialities for an improved use of spatial planning (through MSP and ICZM) would contribute towards the smoother implementation of blue energy infrastructures in the Mediterranean, while ensuring coherence and shared spaces with other maritime activities and protected areas;
- nonetheless, solutions promoting on the one hand the need to develop Blue Growth, and on the other hand, the European objective of enlarging MPA networks and their connectivity should be assessed and taken into account in planning processes. Developing buffer zones between the activities of some maritime sectors and MPAs could be envisaged for set-up in this regard (though non-exhaustively);
- in this sense, establishing a framework of understanding regarding potential impacts of blue energy and other emerging technologies, underpinned by transferable and scalable methodologies across sites to enable formal meta-analyses of their potential environmental impacts is urgent. An assessment of challenges and potential solutions to be implemented regarding MSP and ICZM would also need to be performed;
- as regards traditional sectors like tourism, actions could be focused on developing alternative types of tourism products to reduce monoculture, concentration and seasonality, favouring prevention, reduction, and recycling of natural resources and waste.

Further to this, the Med Maritime Projects underlined the need for a relevant identification of stakeholders responding to the identification of eco-regional needs and pressures in order to ensure the thorough enforcement the MSFD and IMP requirements. To this end, **enhancing the role of local and regional authorities in the provision of sound and relevant eco-regional-based data and in the implementation of**

³⁹ As highlighted by the Med-IAMER project on the previous map, the indicator shows that the highest cumulative impacts are registered in the Adriatic ecoregion (82%) followed by the Ionian and the Alboran Seas (25 and 27% of their regions respectively), whereas only 14% of the Western Mediterranean Sea is highly impacted.

legislation is strongly needed and would complement assessments performed at national levels.⁴⁰ These multilevel and multi-governance dynamics should in turn help to identify potential trends and drivers, their respective pressures, and mitigation actions at the **transnational level in order to ensure the mitigation of identified issues in an integrated way.**

- For example, with regard to air quality mitigation in urban ports and the impacts on the local population, planning strategies on the local scale could, on the one hand, be more effective in implementing specific mitigation actions, such as displacement of ship terminals or manoeuvring routes, which could significantly reduce emissions as well as the exposure of populations to the latter. On the other hand, European and international policies on fuels, engine technologies and ship emission abatement, by acting on a wider domain, could be very effective in the mitigation of negative impacts on public health and the environment.⁴¹ Besides, not only should these policies allow the reduction of emissions, but also support the development of related new technologies.

In this regard, the design of sea-basin and/or macro-regional strategies to support sustainable and competitive maritime economies while contributing towards the preservation and the mitigation of environmental challenges would be most relevant.

Finally, while other challenges are posed for the development of Blue Growth as drivers and their trends can potentially generate significant conflicts among sectors that rely strongly on marine ecosystem services (maritime and coastal tourism, fisheries, and aquaculture) and extractive industries and maritime traffic, it is important to bear in mind that the enforcement of environmental policies could contribute to the development of the environmental dimension as a great added value for the further competitiveness of maritime activities. This would apply notably to tourism (natural heritage sites, diving, etc.), but also to ports (through the enforcement of the smart-port concept) and fisheries (regeneration of fish stocks) among other examples.

3) The need to foster multilevel maritime governance in the Mediterranean area

a) For the promotion of the macro-regional and sea-basin strategy approach in the Mediterranean

The Mediterranean basin is particularly complex in terms of geopolitics, while presenting at the same time a clear potential for cooperation in several sectors responding to the main challenges of the area.⁴² More precisely, there is a strong **need for strengthening cooperation and synergies among policies, multilevel actors, instruments and funds, in order to make them more efficient and increase their impacts.** In a nutshell, there is a clear need **to foster multilevel governance in the Mediterranean area.**

⁴⁰ Beyond their roles in MSP and ICZM implementation and consultations.

⁴¹ As underlined by the results of the CAIMANs project.

⁴² These elements were specifically underlined during the capitalisation seminar the "[Med Cooperation Days](#)" in the basin.

While this is true in several domains in particular, it is especially relevant concerning environmental challenges and the development of the maritime economy and the implementation of EU maritime policies, which imply actions at all scales: local, regional, national, European and Mediterranean.

This need for more synergies and coordinated cooperation at MED level in these thematic frameworks is identified in several EU directives, regulations and initiatives. For instance, it is evident if one looks at the sea basin angle of the MSFD, the MSP, Sulphur Directives, or at the regionalisation of the Common Fisheries Policy, or even the action lines of the H2020 Programme which concern more specifically the Mediterranean basin, including projects on marine research.

In this context Macro-Regional and Sea Basin strategies already experimented by the EU in other basins⁴³ and currently in the Adriatic-Ionian Sea (EUSAIR), could constitute useful instruments to be adapted for the purposes of strengthening cooperation in the basin. Some key players of the Mediterranean like the ARLEM⁴⁴ or the Intermediterranean Commission of the CPMR, together with the rest of Mediterranean LRA Networks (the Mediterranean Commission of UCLG, Arco Latino, Med Cities, etc.) have already started a reflection process on the initiatives to be capitalised on towards the definition of future thematic pillars, key actions and governance for these strategies as a **possible road map** for setting them up and implementing them.

Some **key concepts** concerning the road map promote in particular:

- a gradual variable geometry scheme concerning the geography for the emerging strategies based on the specific potential for cooperation of each sub-basin of the Mediterranean basin (EUSAIR, EUSWEST, EUSEAST, and the EUSMED Integrated strategy). Underlining in particular the potential of the Western Mediterranean area to be the first one, after the Adriatic-Ionian, to develop and implement such strategies, which could consolidate cooperation in the basin;
- a step-by-step, gradual and tailored approach concerning the inclusion of the key players from Mediterranean Partner Countries;
- thematic concentration regarding the identification of the priorities for these emerging strategies;
- a balanced polycentric and multilevel approach concerning bottom-up and top-down impetuses in the framework of participatory governance mechanisms (including the need for setting up public-private synergies);
- the key role of territorial cooperation and the importance of capitalising on previous relevant projects/initiatives in the area and of taking stock of existing experiences from other EU basins (Danube, Baltic, Atlantic), and in particular from the EUSAIR (which shall be considered as the first pilot for the rest of the MED).

The development of macro-regional and sea basin approaches in the basin (bearing in mind their points in common and main differences) could, among other added values:

⁴³ EUSBR in the Baltic Sea region or EUSDR in the Danube Region.

⁴⁴ For more information see the Report of the ARLEM ECOTER Commission approved in Tangiers in February 2014: "A Cohesion Strategy for the Mediterranean" and its annexes.

- create more synergies at basin and sub-basin level in a multi-stakeholder and multilevel governance cooperation framework;
- help select key themes and core priorities in order to better structure political initiatives and cooperation projects funded by INTERREG and other Programmes, the EIB, etc.;
- improve awareness raising towards specific issues or challenges to be jointly overcome such as those concerning environmental pressures in the Mediterranean.

The Med maritime projects conclusions stressed that **maritime issues in particular could constitute a good basis to build future sea basin strategies, for instance in the Western Mediterranean area. In the long term, this could indeed lead to broadening the scope of sea basin strategies for them to become macro-regional ones.** Mediterranean Members States, jointly with the EC and with the help of programmes like MED INTERREG, should deepen dialogue on this possibility, taking stock of the EUSAIR experience in particular. Maritime issues shall then be at the core of the next strategies as is currently the case for the EUSAIR. Indeed, the Blue economy in particular could be considered both a driver and a competitive factor for the Mediterranean. It also entails a strong connection with environmental challenges and the EU ecosystem-based approach.

Concerning the **key themes and topics to be treated in the maritime sphere at a macro-regional and sea-basin level, the following shall be underlined:**⁴⁵

- The promotion of a shift towards a true **Mediterranean Sustainable Region for a joint response to environmental challenges** through efficient adaptation and mitigation actions:
 - relying on specific scenarios based on eco-regions, scientific evidence and knowledge, and working towards improving data-related issues;
 - fostering the protection and sustainable development of coastal and marine areas in connection with a better implementation at a basin level of MSP, ICZM, MSFD and the improvement of MPAs/EBSA;⁴⁶
 - enhancing the monitoring and mitigation of air pollution/air quality and the improvement of environmental practices and energy efficiency of Mediterranean ports (e.g. modelling, exchange of best practices, experimentations, development of better policies at basin level etc.);
- The rise of the **Blue Economy as a driver and a competitive factor**. In particular:
 - blue energies development (improving technology and related legislation at basin level, while taking into account best practices and instruments to deal with environmental and citizens' concerns);

⁴⁵ Please see the specific recommendations of the projects: MEDTRENDS, MEDIAMER, POSEIDON, CAIMANS, NEMO, MITOMED, CORINTHOS, BLUENE, and MERMAID.

⁴⁶ In this sense, initiatives as the Bologna Charter <http://bolognacharter.facecoast.eu> and its Joint Action Plan, shall be deeply discussed and promoted.

- o the promotion of clustering in maritime sectors based on the triple helix model at basin level;
- o Maritime and Coastal Sustainable Tourism and in particular fishing tourism (e.g. developing unique selling propositions, specific basin strategies, effective monitoring tools for decision makers etc.).

b) For a stronger involvement of local and regional authorities and stakeholders in maritime policies in the Mediterranean Sea

Stronger involvement of local and regional populations, stakeholders and authorities in maritime policies in the Mediterranean is much needed for its correct set-up and implementation.

Maritime policies and initiatives can only succeed if they are well embedded in the specific socio-economic context of the territories. The development of the maritime economy, and its interaction with the marine and coastal environment needs to be considered as part of a development project that is shared by populations, socio-economic stakeholders, and relevant public authorities.

Such actors do play a considerable role in the definition of initiatives that are desirable, acceptable (or not) in the places where they are active and live. The definition of economic and environmental choices which are driving economic and environmental policies are also a societal fact, and cannot be made abstractly.

This need to embed maritime activities in inclusive development strategies is obvious in the context of the discussions about the use of coastal and maritime areas. The content of MSP and ICZM, and therefore the nature of activities that are developed in coastal areas and their impacts on both the economy and the environment, are for instance heavily dependent on choices that have to be shared by local and regional stakeholders.

Beyond the use of space, the development of the maritime economy strongly relies on economic activities and cooperation that are taking place at local and regional levels. This is strongly reflected in the dynamism of maritime districts or clusters, which can involve strategic cooperation dynamics between large companies, universities and research centres, and local and regional SMEs that can provide technological and non-technological solutions. Whether it be in the framework of identified clusters or just the result of more conventional partnerships, maritime economic sectors are tending to increasingly cooperate. Emblematic actors, such as ports for instance, are increasingly becoming places where various maritime activities are taking place at the same time, while constituting strategic interfaces with the hinterland. In the meantime, several maritime sectors have also been diversifying their activities towards other sectors (e.g. fisheries towards tourism, shipbuilding towards blue energies, etc.).

The direction that these cooperation dynamics can take can be captured, reflected and promoted through the definition of regional development strategies. The role of regional and local authorities is fundamental here, and the development of smart-specialisation strategies (S³) is an answer to the need—shared by EU institutions since the development of these strategies in an *ex ante* condition of EU regional policy—to develop strategic approaches shared by populations, stakeholders and authorities. Added to regional development strategies that are often broader, these strategies help to establish priorities that can orientate the role of public authorities, as well as fostering synergies between public and private investments. Such priorities can

also orientate the production of services that are useful to the whole maritime economy, through the development of information data and geo-information services about maritime activities and their environments (accessibility, harmonisation, development of tools, models etc.). The role of local and regional authorities is clear and their networking on this issue among researchers and national statistic institutions is paramount for the improvement of the current situation as well as for the final exploitation of such data for policy-making purposes. Regional priorities also drive investments made by public authorities, which are often encouraging clustering and cooperation between stakeholders who are active at regional level.

Furthermore, regional strategies reflect key specificities of maritime economies, which also incarnate the basis for transnational cooperation between authorities and stakeholders. By nature, the maritime economy is transnational since a very large share of regulations and investment flows are adopted or decided by authorities and stakeholders at international, European and national levels.

Therefore, the role of regions in particular and together with territorial stakeholders is key to supporting the creation of knowledge-based jobs and growth but also to support thematic concentration of funds and reinforcing strategic programming and performance orientations. In this sense, the role of regions—added to the role of Member States—in the mainstreaming and alignment processes between the Regional and National Operational Programmes concerning the ESIF, the INTERREG and other Programmes (H2020, etc.) and the EU Strategies (e.g. Macro-Regional strategies) becomes fundamental and should be improved in the future. Initiatives such as the creation of platforms to study and improve regional maritime investments linked to S³ shall be promoted by the EU, the regions themselves, and the cooperation programmes.

It is to be underlined that the local and regional authorities and their networks already play a **key role in the framework of European Territorial Cooperation**. Their participation as managing authorities and as partners in cooperation projects are often an added value for the success of cooperation, for the capitalisation of its projects and the follow-up of their outputs “on the ground” and at EU level. This is especially true for maritime affairs: e.g. capitalisation, clustering process and technical and political follow-up promoted by some Mediterranean regions and their networks, starting with the RFO BEACHMED, the Bologna Charter, the FACECOAST cluster, and the MAREMED, COASTGAP, MEDSANDCOAST and Med Maritime Projects, among others linked to the previous ones.

III. Core recommendations to the Med Programme and other cooperation programmes in the Med area

1) Recommendations for the new MED Cooperation Programme 2014-2020

Regarding the new MED cooperation programme, the Med maritime projects shaped a set of general and specific recommendations per axis.

a) General recommendations and suggestions concerning all cooperation axes



As a first general recommendation valid for all axes (with a more specific and technical focus on axes 1 and 3), the programme shall:

- ensure data availability, compatibility and interoperability at least on maritime and environmental issues within the Mediterranean basin based on a rationale of open data;
- encourage the creation of a maritime GIS allowing the pooling of existing tools.

The improvement of data production, availability, exchange and integration would also allow the provision of better and more systematised information (through more representative indicators, analyses models, etc.) to feed into and implement the reflections on the governance of the Mediterranean within axis 4 of the new programme.

- in particular, the possibility to set up a platform for the capitalisation and interoperability of data could be envisaged. In this sense, a specific working group on this theme could be created under axis 4 of the programme. It should gather MED Programme representatives (and its Secretariat in particular), representatives of ESPON, DG MARE (which is developing platforms such as EMODNET or the Atlas of the Sea), the thematic experts from the sectorial ministries of the Member States involved in the MED programme (other than the ones involved in the TF), regional and university experts on data, and the new horizontal projects (for the thematic entry);
- the possibility to involve experts from other basins and to fund a specific project (under axis 4) with the aim of working more specifically on data harmonisation solutions (complying with INSPIRE directive standards) which could feed into the reflection of the above mentioned working group under axis 4 could also be considered. In this context, the specific reflections on environmental and coastal data developed by projects such as MEDIAMER or COASTGAP shall be considered.

To fulfil this, a possible solution could be:

- on the one hand, to work towards increasing the interoperability of technical platforms for data storage/exchange already in place or that are being developed at EU level (ESPON, DG MARE, other SDI like the one developed by OTREMED etc.), feeding them with data coming from past and future MED projects;
- on the other hand, to develop a specific interoperable MED platform to be located on the new web site of the MED Programme. This platform, or SDI, shall be able to store and offer the projects and other programmes/stakeholder users a way to download and upload detailed data in a format that could allow its practical use for further studies, analyses, models, maps, the aggregation of data, etc.

Future horizontal projects of the programme could also develop useful reflections/tools in this sense to feed into the work of axis 4. The workload for such a task—combined with the rest of the COM&CAP duties—may however be excessive, hence the need to consider other options for this purpose.

Finally, and on a broader level, the MED Programme could enlarge maritime questions to other oceans, seas and basins in a spirit of benchmarking and transferability. It would nonetheless need to bear in mind that integrating maritime economies can be difficult and complex to manage as the project managers are both cooperating and competing. The programme shall also work towards creating more opportunities and

incentives for the outward expansion of the maritime sector aiming at enhancing the development of synergies among different regions or countries.

b) Specific recommendations per axis

As the MED programme was already approved by the European Commission, to fully exploit the outcomes of the Med Maritime Projects, it should take into account the following recommendations during the conception of the terms of reference of the next calls for proposals and the related evaluation processes over 2014-2020.

Here below is a non-exhaustive list of recommendations. More specific recommendations can be found in the annex of the Policy Paper and in the main outputs of the Med Maritime Projects.

AXIS 1: Promoting Mediterranean innovation capacities to develop smart and sustainable growth

- foster the link with regional operational programmes and regional innovation and smart specialisation strategies focusing on maritime issues and investments;
- enhance research and technological development, innovative models, processes and products aiming to improve competitiveness and sustainability of SMEs within Mediterranean maritime sectors (renewable energy sources and in particular blue energies, maritime and coastal tourism, fisheries, maritime transport and port operations, etc.);
- capitalise on best practices and promote transfer of knowledge to foster innovation, competitiveness, sustainability of maritime sectors;
- promote synergies between different maritime sectors and encourage the quadruple helix approach by setting up strategic and innovative maritime clusters at regional, national and transnational levels;
- encourage the development of Public & Private Partnerships (PPP) able to boost blue economies;
- ensure high degree of participation of the private sector (e.g. SMEs) within the project *consortia*;
- foster investments in favour of innovative training and education programmes and/or products;
- encourage mobility of students and/or young workers (e.g. in the fields of maritime and coastal tourism, small scale fisheries, blue energies, maritime transport, yachting, etc.);
- support the reduction of energy consumption, including the efforts to get a balanced ecologic energy mix in coastal infrastructures;

- promote eco-innovation in the fields of marine environmental industries (e.g. innovative solutions on air quality⁴⁷ and environmental monitoring systems in harbours);
- fully exploit the potential of maritime sectors through innovative marketing solutions and ICT tools;
- set up innovative policies and governance tools for an integrated land-sea management of maritime economies (e.g. in the fields of intermodal transport planning in ports, coastal cities, urban areas and hinterlands, etc.);
- promote bottom-up experiments addressing blue growth development with smart tools for new sensors and new integrated EMS software, including maritime clusters, R&D, companies, urban ports and local authorities.

AXIS 2: Fostering low-carbon strategies and energy efficiency in specific MED territories: cities, islands and remote areas

- strengthen the promotion of blue energies through specific regional and local energy policies in coastal areas and islands (e.g. focusing on grids, supply, energy efficiency, etc.);
- improve coordination and management of technical priorities and potential initiatives on energy in MED container ports;
- promote awareness and training for port operators in the fields of energy efficiency and smart energy management to boost competitiveness and sustainability of Mediterranean harbours (e.g. creation of specific professional profiles such as Port Energy and Environmental Manager, lifelong learning dedicated to port clusters employees, benchmarking visits, workshops, dissemination of best practices, etc.);
- foster the adoption of international standards to ensure an optimal quality, security, safety, environment and energy management of container ports;
- boost technology innovation for monitoring and optimising intra-port operations and energy consumption, including the efforts to get a balanced ecological energy mix;
- promote incentive systems that better reward small and medium-sized plants of Renewable Energy Systems (RES);
- develop tools and strategies to ensure concrete benefits for the local community from the deployment of renewable power plants (e.g. to introduce at regional or local level a sort of mechanism for ensuring some positive impacts—such as the Payment for Environmental Services (PES) mechanism);

⁴⁷ The impact of maritime traffic and harbor activities emissions to local air quality in Mediterranean port-cities is influenced by both in-port emissions and emissions of international traffic (not berthing in MED harbors). It is therefore necessary to orient future cooperation projects to distinguish the impacts of the two typologies of ship traffic, using robust scientific approaches. This because mitigation strategies and actions are different for the two typologies of maritime traffic, from the technical and the legislative points of view.

- enhance energy mix strategies that give incentives for the promotion of blue energies taking into account the specificities and diversity of coastal and inland territories;
- support R&D on RES technologies, in particular in the field of blue energy, to reduce investment costs (e.g. pilot initiatives to solve technical problems related to sea impacts such as erosion, strong winds, marine storms, etc.);
- promote multimodality, physical and ICT connections with hinterlands and accessibility, addressing synchronisation efforts;
- optimise the use of intra-port infrastructures and superstructures (warehouses, container yard, berth).

AXIS 3: Protecting and promoting Mediterranean natural and cultural resources

- promote an integrated and ecosystem based management⁴⁸ of Mediterranean waters and coastal zones and their resources;⁴⁹
- boost the use of decision-making support tools (e.g. ICZM and MSP) able to combine social, economic and environmental data;
- enhance the inclusion of new variables, like the value of ecosystem services, in existing as well as future spatial scenarios dealing with the economic exploitation of Mediterranean coastal areas and waters;
- identify endangered marine and coastal habitats and promote the creation of buffer zones around sensitive coastal areas in order to attenuate environmental pressures as far as possible;⁵⁰
- ensure a strict application of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment procedures;
- promote and boost ecologically coherent and effectively managed MPA networks as required by the MSFD, improving the interconnection of protection measures and multilevel governance;⁵¹
- consider air quality as an indicator of the efficiency of maritime public policies and set up local and regional reduction strategies for pollutants other than SO₂ and PM, like NO₂, that is included in Air Quality Standards;⁵²

⁴⁸ Based on assessments and spatial analysis at eco-regional scale.

⁴⁹ In order to reduce the potential threats to the health of already stressed Med ecosystems that could be provoked by the expected growth of the marine economy as for reducing conflicts between sectors that rely on marine ecosystem services (e.g. maritime and coastal tourism, fisheries, aquaculture) and offshore extractive industries or maritime traffic.

⁵⁰ Cumulative impact maps should be overlapped with priority areas for conservation so as to identify clear priority areas that require specific action.

⁵¹ In this field, actions promoting the establishment of high sea and deep sea MPAs in Med areas, identified as priorities for biodiversity conservation shall also be promoted.

⁵² this recommendation shall apply also for axis 1 and 2.3 in particular.

- contribute to the implementation of an integrative policy framework for the deployment of sustainable development policies in the Mediterranean region;
- enhancing state of play and benchmarking analyses on enforcement of environmental standards (noise, drinking water, bathing water, waste-water treatment, etc.) in existing national, regional and local legislation;
- promote the development and use of a region-wide Tourism Sustainable Development Indicator Systems (e.g. ETIS) as a management tool for multilevel key stakeholders;
- set up more sustainable and responsible national, regional and local strategies and/or action plans enable to reduce and/or better manage the impacts of tourism activities on Mediterranean coastal zones, waters and their living resources;
- conduct bottom-up evaluations and experiments within a project platform including destinations, shipping lines (including cruise and ferry lines), ports and appropriate study centres;
- enhance diversification of traditional sectors (e.g. small scale fisheries) in order to develop innovative sustainable tourism transnational routes and products (e.g. fishing tourism, ecotourism, cycling routes, green beaches, etc.);
- promote the exchange of best practices and capacity building (for public authorities, and economic operators) on sustainable tourism systems and/or processes;
- capitalise main existing knowledge on sustainable tourism products and services and transfer it towards regional ERDF programmes;
- facilitate the integration of objectives and principles envisaged by the MSFD and by the protocol on ICZM (Barcelona convention) into national and regional policy framework and instruments dealing with tourism.

AXIS 4: A shared Mediterranean Sea

- act as a facilitator for creating the conditions for dialogue between European, National, Regional and Local levels, especially as maritime competences are shared among those levels;
- strengthen the links with key MED institutional players such as the Union for the Mediterranean and some of its actions and projects;
- work hand-in-hand and capitalise on the experience of cooperation instruments allowing the participation of South Mediterranean countries;
- evaluate the feasibility to experiment the macro-regional and sea-basin approach in the Mediterranean through the implementation of a forerunner process for an integrated maritime governance in the Mediterranean, based on the thematic concentration principle and drawing lessons from other sea basins (e.g. the Atlantic Forum implemented in the Atlantic basin) and from

the pilot experience of the EUSAIR. To this end, synergies shall be foreseen with the EU Parliament, the CoR/ARLEM and the EESC;

- foster the clustering of projects;
- experiment—through the implementation of pilot projects—inclusive, participatory and multi-stakeholder governance models for managing coastal and maritime areas;
- contribute to the implementation of an integrative policy framework for achieving the vision of a sustainable Mediterranean region, as well as for the deployment of sustainable development policies;⁵³
- strengthen the support offered by European Regulations and legislative frameworks in order to improve the position of MED maritime sectors at international level, enabling them to become more competitive in comparison with other countries that offer cheaper services. This should be combined with the promotion of more funding opportunities implying less bureaucratic processes and more support to the players that are involved in maritime sectors aiming at investing in quality services that will boost their development;
- develop reflections concerning governance on specific topics that correspond to important challenges at basin level, such as air pollution⁵⁴ or blue energies,⁵⁵ among others.

c) General recommendations to all cooperation programmes in the Mediterranean

Bearing in mind that all the specific recommendations are included in the Med Maritime Projects outputs (summarised in the annex of this PP), and considering that the majority of the thematic recommendations already explained in the previous sections (2 and 3) could be extended to other cooperation programmes in the Mediterranean, these latter could also:

- ensure multi-level periodical cooperation and joint strategies among them on maritime-related issues (for instance an annual coordination meeting or forum where exchanging views also with external key stakeholders could be foreseen with the help of DG REGIO, MARE and the INTERACT programme);
- contribute to drawing stronger links between EU “maritime” policies (e.g. IMP, CFP, Environmental Policy) and their main legislative and financial instruments (e.g. MSFD, MSP, ICZM protocol, WFD, HD and BD, EMFF) in order to improve their external dimensions and enhance capacity building initiatives *vis-à-vis* the Neighbourhood South;

⁵³ See complete recommendation related to the axis 3 and link with the general recommendation concerning data.

⁵⁴ In this field, future cooperation projects on governance level should be promoted, aiming at mitigating air pollution due to maritime transport, strengthening, and enhancing networking between Ports, Local Environmental Authorities and Scientific Institutions.

⁵⁵ The coordination between stakeholders and between public authorities (and available funds) shall be promoted (the EUSAIR could be the occasion to see how the implementation of blue energies could be experimented on the scale of a Macro-region or a sub-basin in the Mediterranean from a multi-level coordination of actors and after adapted to other areas).

- exploit, share and turn into action the reflections concerning the governance of the Mediterranean on the most relevant common challenges of the area, arising from the exercise of crossing priorities from different programmes as well as from LRAs and civil society demands;
- encourage synergies between all types of cooperation programmes in order to foster North-South/South-North cooperation (MED Programme, ENPI CBC Med, IPA, UfM projects labelling, 5+5 dialogue);
- monitor cooperation projects so that they are complementary (via the strengthening and the optimisation of their impacts while adopting an environmental and eco-system based approach), capitalise and efficiently use data provided through previous projects;
- monitor other cooperation programmes so that the strategies could be complementary and coordinated (optimisation/alignment of public/EU funding) and be coherent with EU 2014-2020 regulations, developing synergies between regional operational programmes, national programmes and thematic and INTERREG programmes in the EU;
- communicate efficiently in order to be visible and therefore make public funding visible as well (hence encourage further initiatives, give more visibility to the European project worldwide);
- evaluate the possibility to undertake horizontal communication and capitalisation actions like COM&CAP MarInA-Med, in order to boost *in itinere* synergies, the transferability of project results into the right policies/instruments, and to the end users, building upon project thematic clustering, and creating a sound living project and stakeholder community;
- encourage the development and sharing of available and interoperable data on transnational as well as local scales, transparency of information, and the involvement of multi-level stakeholders in the matter (via for example consultations processes);
- promote technical projects and initiatives that address the monitoring and management of the environmental risks in an integrated perspective⁵⁶ and in particular foster the development of integrated monitoring networks on air pollution.⁵⁷

2) Recommendations on the COM&CAP approach

In the opinion of the Med Maritime projects, the first COM&CAP experience has been a useful and positive pilot, so that it shall be replicated in the new INTERREG MED Programme, used, and potentially spread to other cooperation programmes.

This COM&CAP horizontal approach could be fundamental to:

⁵⁶ As in Mediterranean harbour areas high population density often coexists with industrial sites.

⁵⁷ These networks would use harbour activity information, territorial data, and air quality measurements, and through the use of modelling tools would allow a better air quality assessment both in space and in time.



- shape and feed into axis 4 on governance of the new programme and the implementation of emerging sea-basin and macro-regional strategies in the Mediterranean;
- retro-feed INTERREG programmes implementation in a gradual, coordinated, and participative way, by taking stock of past and on-going experiences and including those coming from other programmes;
- develop a framework for identifying, monitoring and measuring multidimensional policy effects (direct, indirect; synergies; spill overs etc.)
- maximise the co-ownership of the cooperation processes, experiences and outputs by reaching the widest range of stakeholders possible;
- build and provide a more efficient, joint, consistent and tailored communication of results, and in a more constant way (combining at the same time a joint visual image, ICT tools, actions, and local tailored but coordinated communication/events);
- promote specific advocacy and awareness raising activities on strategic issues that are relevant for the reference area of cooperation programmes addressing the right targets and in the proper way;
- build a true project and knowledge community on a specific group of related topics or themes.

Moreover, other horizontal projects shall count on a longer period of implementation in comparison to the very short pilot (1 year), adapted to the specific calendar of the projects that will be capitalised on and on an increased and proportioned budget.

In this sense, a set of specific technical recommendations has been submitted from the COM&CAP MarInA-Med partnership to the JTS of the MED programme during its process of drawing-up.

IV. Conclusion and Outlook for the Future

The Med Maritime Projects clearly underlined the need to keep on developing much more integrated approaches based on the COM&CAP experience, in areas such as maritime affairs and in specific key sectors of Blue Growth, where several activities and policies interact with each other generating benefits at socio-economic level and solutions to possible conflicts.

They also advised to keep on supporting the development of maritime activities in the Mediterranean Sea, in line with recommendations put forward in this document, notably with regard to environmental challenges, the ecosystem-based approach, MSP and ICZM, among other key elements.

The promotion, the sharing, the endorsement and further dissemination of these recommendations by National, Regional and Local governments (and their networks), representative of maritime economy sectors and other key relevant stakeholders (clusters, NGOs, etc.) in the Mediterranean Sea will therefore constitute

an important objective of the forthcoming programmes and projects, and in particular of the MED programme. They should therefore be strongly considered and encouraged.

Finally, using these recommendations in the development of maritime policies in the Mediterranean area, through the implementation of EU existing policies and instruments (including emerging sea-basin and macro-regional strategies), and in other frameworks enabling dialogue between the Northern and Southern parts of the Mediterranean Sea is also supported by the Med Maritime Projects.

PART C: ANNEXES - TECHNICAL OUTPUTS AND DETAILS OF THE 13 PROJECTS

See attached document.