

Report on the *Blue economy for local and regional authorities in the Mediterranean*

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Introduction

The blue economy, the marine ecosystem, and the protection of the environment are issues of great interest to citizens. Local communities are key players in these areas, and the choice made by the Euro-Mediterranean Regional and Local Assembly is welcome and significant.

The effects of climate change are visible in our communities: there are many alien species in the Mediterranean, and many of these are invasive. The frequency and intensity of extreme weather events such as hurricanes – which, in particular, exacerbate coastal erosion – droughts and floods are obvious to all, without the need to consult historical records.

On the one hand, the potential of the blue economy – for the revitalisation of traditional sectors and the development of new sectors – is increasingly recognised as added value in socio-economic terms for the people of the Mediterranean and for the competitiveness of the area within Europe and globally. On the other hand, tackling climate change is a matter of urgency that cannot be postponed. The Mediterranean region is one of the areas in the world where the effects of global warming will be more critical. The Mediterranean region is warming 20% faster than the global average, and sea level rises may exceed one metre by 2100, impacting one third of the population in the Mediterranean, while fresh water availability is projected to decrease by up to 15%.

Cities and regions are key players in this transition: their actions and interventions have a direct impact on both citizens, in socio-economic terms, and the environment and marine ecosystems, and directly or indirectly have a bearing on the development and operation of blue sectors. Moreover, they can also interact quickly and effectively with citizens. A renewed awareness is needed. And this awareness must be shared with the communities we administer in order to ensure the sustainable development of the blue economy in the Mediterranean. It must become the energy needed for the bold choices to be made, and to overcome any obstacles.

The Mediterranean Sea, referred to by the Romans as "Mare Nostrum", is the cradle of our civilisations and democracies. The Mediterranean has enabled the growth of civilisations, from the Phoenician trade routes, to the bastion of our democracy: the Greek *polis*.

Now the life of the Mediterranean, its history, is under serious threat: from people. Its ecosystems are being irreparably damaged, with serious consequences, including in economic terms.

Coupled with the high density of the Mediterranean coastline, mass tourism is having a major impact on our coasts and seas because of irresponsible waste management, excessive energy consumption, and the alteration of the annual cycle of economic activities. Plastic waste, with 30 000 bottles dumped in the sea every minute, is threatening marine species, ecosystems and the food chain, which we are part of¹. It is expected that, by 2050, there will be more plastic than fish in the sea². Fish are continuing to reach our plates, but more than 80% of the catch is at risk of overfishing.

Are we at risk of approaching the end of Mare Nostrum? Yes, if we fail to completely change course.

¹ Dalberg Advisors, WWF Mediterranean Marine Initiative, 2019: *Stop the Flood of Plastic: How Mediterranean countries can save their sea*.

² Ellen MacArthur Foundation: *The New Plastics Economy. Rethinking the future of plastics*, <https://www.ellenmacarthurfoundation.org/the-new-plastics-economy-rethinking-the-future-of-plastics>, last accessed on 1 August 2019.

However, a crisis is also an opportunity. Consumers are more open to environmentally sustainable tourism, when the product on offer is attractive, and tourism is and will continue to be one of the main economic activities of the Mediterranean. Wind energy has not reached its potential, and remains a very attractive option for moving beyond fossil fuels. Sustainable and small-scale fishing have proved to be very positive in some regions³.

History is repeating itself: the *polis* again has huge potential and responsibility. Local and regional communities are the first to be affected by environmental impacts, but at the same time they can become drivers of change. However, in order to change course there must be effective and sustainable alternatives: infrastructure and services for sustainable tourism and alternative energy sources to fossil fuels. Education, in a broad sense, is one of the keys to success. Our young people are crucial here, through training, but also active citizenship. Setting in motion the transition is the responsibility of each one of us, by unlocking the savings that can act as a catalyst for the transformation and promoting a governance model for the Mediterranean countries that is consistent with the sustainability principles.

Aims of the document

The Mediterranean is the "mother" of civilisation in Europe and the world. The first urban settlements emerged along the Mediterranean, which has been and is the main source of food, economic development and life. Globally, the oceans are an extraordinary force of nature, supporting the "blue planet" where we all live.

The blue economy has been defined as "the set of human activities depending on the sea and/or underpinned by land-sea interactions in the context of sustainable development"⁴. These economic activities include: aquaculture, fisheries, marine biotechnology, coastal and maritime tourism, shipping, ship-building/repair, ports, and renewable energy (wind, tidal). The new European Commission has patented the EU's commitment to delivering effective and efficient solutions to the new difficult scenarios it is facing by devising the new Green Deal. This is its response to a climate emergency recognised by the whole world. We need to act and transform our economies in order to preserve the ecosystems that we live in and that sustain our lives. The UN defines the blue economy as the "Green economy in a blue world"⁵, reinforcing the importance of sustainability. A worldwide transition to a low-carbon, circular and green economy will not be possible unless the seas and oceans are a key part of this urgent and vital transformation. The current situation, in which the seas and oceans are among the main drivers of climate change and, at the same time, are heavily affected by waste and pollution, must be completely reversed. The oceans and seas must become repositories for supporting natural ecosystems, the green economy and sustainability, in accordance with UN Sustainability Goal 14 "Conserve and sustainably use the oceans, seas and marine resources"⁶.

³ Randone et al., 2017: *Reviving the Economy of the Mediterranean Sea: Actions for a Sustainable Future*, WWF Mediterranean Marine Initiative, Rome, Italy, 64 pp.

⁴ Union for the Mediterranean (2015), Ministerial conference on blue economy, https://ufmsecretariat.org/wp-content/uploads/2015/11/2015-11-17-declaration-on-blue-economy_en.pdf, last accessed on 1 August 2019.

⁵ United Nations Environment Program (UNEP), *Green Economy in a Blue World*, https://www.unep.org/content/dam/undp/library/Environment%20and%20Energy/Water%20and%20Ocean%20Governance/Green_Economy_Blue_Full.pdf, last accessed on 1 August 2019.

⁶ UN Sustainable Development Goals, Goal 14: Conserve and sustainably use the oceans, seas and marine resources, <https://www.un.org/sustainabledevelopment/oceans/>, last accessed on 1 August 2019.

The current situation has mainly been caused by human activities: when we burn fossil fuels (coal, oil and gas), when we produce concrete, when we cultivate the land, when we destroy forests, we release all kinds of harmful particles into the atmosphere (nitrogen dioxide (NO₂), sulphur dioxide (SO₂), etc.)⁷, as well as carbon dioxide (CO₂), a strong greenhouse gas. Excess carbon dioxide has a strong impact on the seas, which regulate the global climate: they drive temperatures and influence the climate through rain, drought and flooding. Seas are also the main repository of carbon: approximately 83% of the carbon cycle passes through our seas.

These issues are not far away from us in space and time. A recent report from the network of Mediterranean Experts on Climate and Environmental Change (MedECC) show that the Mediterranean region is warming 20% faster than the global average⁸. The temperature of the Mediterranean region is expected to increase by 2.2°C by 2040 with current policies. This increase would lead to a number of catastrophic events: sea level rises may exceed one metre by 2100, impacting one third of the population in the Mediterranean. Half of the 20 cities set to suffer most from sea level rises by 2050 are in the Mediterranean; fresh water availability is to decrease by up to 15% in the Mediterranean, i.e. one of the largest decreases in the world; the Mediterranean basin is one of the most prominent hotspots of climate and environmental change. More than 700 non-indigenous animal species have been recorded because of warmer conditions. Increasing water acidification is causing the mass death of marine species. Mega fires have destroyed huge areas of forests due to climate change; food security will decrease, since yields of crops, fish and livestock will decline; the increase in the frequency, intensity and duration of heat waves entails significant health risks for vulnerable people especially in cities; conflicts caused by limited natural resources may increase large-scale human migrations.

In this framework, the blue economy is one of the most promising actions to mitigate climate change. Plan Bleu – the French regional agency for the Mediterranean Action Plan (MAP) under the United Nations Environment Programme (UNEP) – defines the blue economy as a "low-polluting circular economy based on sustainable consumption and production patterns, enhancing human well-being and social equity, generating economic value and employment, and significantly reducing environmental risks and ecological scarcities"⁹.

Against this backdrop, **ARLEM is committed to promoting the charting of a "complete change of direction", a pathway in which the blue economy is a key player, driving the economy towards sustainable development and the protection of the environment and the land.**

Another key point is the role of local and regional administrations. On the basis that the general principles, rules and objectives are set by the supraregional and supranational authorities (the EU and the other supranational institutions in the Mediterranean), local and regional administrations want to

⁷ COM&CAP MarInA-Med policy paper (2015), bringing together the technical conclusions of 13 maritime projects including research projects on air quality in urban ports. http://www.medmaritimeprojects.eu/download/MyTemplate/Pdf/20150615_Policy_Paper_final_version_checked.pdf (accessed in December 2019).

⁸ *Risks Associated to Climate and Environmental Changes in the Mediterranean Region. A preliminary assessment by the MedECC Network Science-policy interface, 2019*, https://www.medecc.org/wp-content/uploads/2018/12/MedECC-Booklet_EN_WEB.pdf, last accessed on 7 November 2019.

⁹ Jean-Pierre Giraud, *A Blue Economy for a healthy Mediterranean, Implementation and outputs*, http://planbleu.org/sites/default/files/upload/files/1_A_blue_economy_for_healthy_Mediterranean_Giraud_Plan_Bleu.pdf, last accessed on 1 August 2019.

be the leading players in the change; it is they that can bring about and manage the "complete change of course".

Barriers to the blue economy in the Mediterranean

The blue economy can become an extraordinary tool for development. Its importance has largely been measured and recognised in economic, social and environmental terms. However, its impact on local and regional administrations has not been fully analysed to date. In particular, there is no system of indicators that can accurately measure the direct or indirect effects of blue-economy activities on the marine ecosystem and the economy.

The opportunities are huge. The potential of the blue economy can yield significant results in terms of employment, economic development and environmental protection.

The barriers here can be divided into three main categories:

- A) Interoperability, availability and integrity of data (economic, social, environmental).
- B) Governance and regulation of the blue economy.
- C) Financial instruments in support of the blue economy.

A) Data management (and indicators) is a key barrier, because data integrity and interoperability are indispensable for carrying out reliable analyses and comparisons over time and on a geographical basis. There are many sources of data, and these are often inconsistent and have large gaps in terms of time periods and geographical areas. In addition, there is a lack of reliable and standardised indicators: maritime data are fragmented; the data are often not harmonised for the various sectors and geographical areas.

B) The governance of the blue economy has not yet been established. A large number of associations, authorities and administrations operate in this area, lacking coordination and knowledge of each other's work, so that their efforts are inconsistent and sometimes contradictory. Legislation governing blue sectors is not harmonised. The lack of coordination can lead to serious problems, as individual actions can lose any value if not agreed across the Mediterranean basin. There are no political borders at sea, and a beneficial initiative in an individual region is most likely to be ineffective. On the other hand, local and regional administrations are the entities that can implement measures most easily and to the greatest effect. The blue economy represents a great opportunity to enhance their capacities, skills and knowledge, and their decision-support tools, and to increase their spending capacity to support the necessary investments.

C) Bringing about the "complete change of course" requires huge investments at national, regional and local level. The main effect of these investments is to reduce environmental impacts, thus they are not viable from a strictly financial point of view. In other words, the complete change of course cannot be brought about through private financing, unless tax instruments or dedicated incentives are adopted.

Key figures and best practices

The European Commission has produced the following economic figures for the blue economy in the EU-28 in 2016, and the percentage changes between 2009 and 2016, shown in brackets below:

- Turnover: EUR 566 billion (+ 7.2%).
- Gross value added: EUR 174.2 billion (+9.7%).
- Gross profit: EUR 95.1 billion (8.1%).
- Gross profit margin: 16.8% (+8.1%).
- Employment: 3.5 million (+2%). This represents 1.6% of total employment in the EU.
- Net investment: EUR 22.2 billion (71.7%).
- Ratio between net investment and GVA: 29% (compared to 18% in 2009).
- Average annual income: EUR 28 300 (+14.2%).

The blue economy accounts for 1.3% of total EU GDP (2016).

The Union for the Mediterranean and Plan Bleu provide similar data on the blue economy in all Mediterranean countries, including non-EU countries: EUR 169 billion of GVA; 4.2 million people employed.

Although fragmented, these figures lead to certain observations: the potential for growth is very significant, especially in terms of employment and investment. Coastal and maritime tourism accounts for more than 80% of the GVA and of the number of people employed. Moreover, there is great potential for increasing tourist numbers, particularly in the countries of the south-eastern Mediterranean. The five main tourist destinations in the Mediterranean – France, Spain, Italy, Turkey and Greece – account for more than 80% of tourist numbers.

To increase the number of tourists, measures need to be taken to promote sustainable tourism, services and their quality. The difference in attractiveness between the north and the south-east often hinges on the quality of the services: waste management, availability of drinking water, water purification, public transport, and security; elements which are highly valued and sought after by visitors. To reduce these disparities, major investments are required in the countries of the south-east Mediterranean, as well as shared standards and objectives. The EU directives on water, waste and energy should be harmonised and adopted in the legislation of non-EU countries. This would increase the credibility of and sense of security within the non-EU Mediterranean countries. In addition, common regulation would enable economies of scale and the transfer of good practice between cities and between countries in the Mediterranean, reducing costs and spurring on the transition.

Energy is another very important issue. The sector is responsible (directly or indirectly) for more than 80% of greenhouse gas emissions. The transition to renewables would bring countless benefits for local communities and for sustainable tourism, as well as reducing costs. In fact, renewables can be used profitably to produce the electricity and heating (or cooling) that is required by local communities. This is a very significant advantage for Mediterranean coastal areas where solar energy can easily be absorbed by solar or photovoltaic panels; and wind energy can be harnessed by means of plants on land, at sea or in the air. In addition, energy costs can be reduced by improving the efficiency of residential and tourist buildings. Taking these steps would also bring major economic benefits: energy independence, and opportunities for growth and employment, since the installation, operation and maintenance of these plants requires a local labour force.

Currently in the Mediterranean, energy needs are mainly met by fossil fuels. Dependency on imports is at 40%. Renewables would reduce energy imports to below 25% and going beyond this could also be envisaged.

The only energy activities at sea are gas and oil exploration and extraction, which is not sustainable; there is still no offshore wind farm in the Mediterranean, despite an estimated potential output of 21.967 TWh per year, 34 times greater than that of the northern European regions. Despite the potential that has been studied, no infrastructure exists beyond the pilot phases on wave, tidal, thermal and osmotic energy¹⁰.

In addition, the blue economy can have a positive impact on both the environment and local communities, provided that certain conditions are met: (1) full coordination between local, regional and supranational authorities; (2) full coordination between the various initiatives relating to the blue economy in the Mediterranean: UNEP, MAP, UfM, MSSD, OuestMed, and the governance project PANORAMED (Interreg Med); (3) extension of the economic benefits from the coast to inland areas to foster social inclusion and reduce inequality; (4) harmonisation of EU directives and standards with those adopted in non-EU Mediterranean countries.

Against this backdrop, the complete change of course should be mapped out by an international authority with the active participation of local and regional administrations in the Mediterranean. This approach will have to be guided by the following parameters:

- clear and shared objectives on revitalising traditional sectors and developing emerging sectors, such as renewable energy, in the Mediterranean basin, in a sustainable way that respects its ecosystems;
- fossil fuels should be phased out as appropriate;
- clear and shared objectives in the Mediterranean basin on the circular economy (rational use of resources);
- clear and shared objectives in the Mediterranean basin on waste reduction; the production and distribution of single-use plastics should be banned;
- harmonised rules and standards in the Mediterranean basin on water and waste;
- achieving the target of protected areas accounting for at least 10% of marine areas by 2025 (UN SDG 14.5).
- effective and people-centred initiatives to raise public awareness of the blue economy and of the importance of acting collectively and knowing the benefits of this approach.

Several actions are already running in the Mediterranean basin to foster the blue economy. The European Commission's Directorate-General for Maritime Affairs and Fisheries and the Joint Research Centre have recently issued a report on the blue economy that paves the way to innovation in related fields, providing an official source of information, including barriers, opportunities and best practices¹¹.

Moreover, the lack of reliable data on sea status and parameters is being tackled by the European Marine Observation and Data Network (EMODnet), a network of organisations supported by the EU's

¹⁰ Among the studies, see the report on the MAESTRALE project on the potential of blue energy in a number of Mediterranean countries. Although not exhaustive, it gives an interesting idea of the research areas to be harnessed in the future. https://maestrale.interreg-med.eu/fileadmin/user_upload/Sites/Blue_Growth/Projects/MAESTRALE/D3.3.2_BE_Potential_analysis_MED_04_2018.pdf, consulted in December 2019.

¹¹ European Commission (2019), *The EU Blue Economy Report*, Publications Office of the European Union, Luxembourg.

integrated maritime policy¹². These organisations work together to observe the sea, process the data according to international standards and make that information freely available as interoperable data layers and data products. This tool is at the final stage of implementation and several applications are already being tested. As an example, it is being used to provide sea situational awareness for tourist navigation; to support the development of offshore wind farms; to check marine littering.

Proposals

We, regions, cities, and local authorities of the Mediterranean do not wish to endorse a list of statements of principle or a sterile analysis. We want to promote awareness and knowledge of the problems among the citizens and local authorities and, above all, highlight the opportunities associated with the transition to sustainability. The proposals listed below are intended to inspire and encourage the cities and regions to play a new leading role in the blue economy.

The complete change of course should be developed and implemented by means of an appropriate transition, which can be brought about by taking certain measures.

- 1) The EU should be a global leader in mapping out this pathway, including by linking up existing experiences into a network (UfM, WestMED, UNEP MAP, 5+5 Dialogue, PANORAMED, associations of local and regional authorities). This network could adopt documents that would be binding on all Mediterranean countries, covering, inter alia, the reduction of marine pollution, in accordance with Goal 14.1 (UN SDGs).
- 2) Define social, economic and environmental standards and objectives and a set of indicators to measure them objectively. The set of indicators proposed by Plan Bleu for the three pillars of sustainability (economy, society and the environment) on the five main economic sectors of the blue economy – fisheries/aquaculture, tourism, maritime transport, offshore energy, and biotechnology – is an excellent starting point¹³.
- 3) Establish and use economic tools to stimulate and launch the transition. Consolidate the EU's financial instruments, including the multiannual plan for 2021-2027 for the purposes of promoting the exchange of good practices, and funding pilot projects to build a list of success stories at local and regional level. Success stories are a formidable tool for demonstrating that the change of course is not a utopia and for showcasing the economic potential of the transition in economic areas such as: renewable energy, energy upgrading of buildings, sustainable tourism, and efficient water and waste management. The EU's BlueMed initiative¹⁴ can become a strong pillar to be strengthened and expanded. The UfM's "Greening the blue economy" document is an excellent collection of good practices geared towards sustainability in the blue economy in the Mediterranean¹⁵. The Intermediterranean Commission of the Conference of Peripheral Maritime Regions (CPMR IMC) is a partner of a

¹² EMODnet, gateway to European marine data, <http://www.emodnet.eu>.

¹³ Set of indicators for the blue economy, Plan Bleu, eco-union, http://planbleu.org/sites/default/files/upload/files/2_set_of_indicators_for_blue_economy_Fosse_Petrick_Eco-union.pdf, last accessed on 1 August 2019.

¹⁴ BlueMed is the research and innovation initiative for promoting the blue economy in the Mediterranean basin through cooperation. <http://www.blumed-initiative.eu>

¹⁵ Union for the Mediterranean, "Greening the Blue Economy", <https://ufmsecretariat.org/wp-content/uploads/2017/12/Greening-the-Blue-Economy-UfM-Report.pdf>, last accessed on 1 August 2019.

range of projects that could lead to a number of success stories in the blue economy, such as the Blue Growth and Biodiversity Protection Communities (Interreg MED)¹⁶. Finally, the "sustainable blue economy finance principles", promoted by the European Commission's Directorate-General for Maritime Affairs and Fisheries, the World Wide Fund For Nature (WWF), the Prince of Wales's International Sustainability Unit and the European Investment Bank (EIB), aim to "build an international coalition of financial institutions that endorse the Sustainable Blue Economy Finance Principles on a voluntary basis and thereby demonstrate their support for healthy oceans in their investment decisions and for the development of a sustainable blue economy"¹⁷.

- 4) Lay the foundations for creating and promoting a genuine knowledge of marine culture. Developing a blue awareness among citizens to improve the state of our seas, create synergies and work together for a blue consciousness is now a matter of urgency. It therefore makes sense to pave the way towards a culture of the sea and blue issues, which could be included and shared with the general public.

Finally, this document should be a real opportunity to increase knowledge of the environmental issues in local communities and to create networks that can facilitate joint initiatives and exchanges of good practice on the blue economy in the Mediterranean basin. This important process can be driven by: education, training and active citizenship. The first step towards the necessary transition requires awareness and consciousness of the environmental problems and the opportunities from an economic perspective **This training will be heavily geared towards: building active citizenship, promoting a change of behaviour and priorities, and co-creating innovative pathways fully in step with all economic, social and environmental stakeholders.** The main players in the blue economy are: NGOs, trade unions, universities, young people, local and regional administrations and the media. In particular, relations between all Mediterranean countries and communities should be strengthened to create active citizenship. Good practices achieved by private and public operators and companies should be shared. Examples include innovative production processes, and tax incentives to promote solutions. Finally, the exchange of best practices should be promoted through common standards and between the northern and south-eastern Mediterranean. Local and regional communities are ready to tackle this major challenge.

The success of this important ARLEM initiative will largely depend on our ability to raise awareness among, discuss and engage with, and involve our citizens, businesses, the world of work, scientific and academic institutions, young people, and the voluntary sector. ARLEM's commitment to the blue economy will be demonstrated by its participation in the permanent working group on this issue.

Let us launch one hundred initiatives in all regions of the EU and the Mediterranean to stimulate views, critical responses, questions, and, above all, action to clean up **the sea that is our common highway.**

¹⁶ These communities, through the [InnoBlueGrowth](#) and [PANACeA](#) projects, have produced a significant number of policy recommendations building on three years of studies and pilot projects covering areas such as recreational boating, renewable energy, sustainable tourism, maritime surveillance, marine litter, and the management of marine protected areas.

¹⁷ <https://ec.europa.eu/maritimeaffairs/befp/> accessed in December 2019.