EUROPEAN COMMISSION

Brussels, 13.9.2012
COM(2012) 494 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Blue Growth

opportunities for marine and maritime sustainable growth

(Text with EEA relevance)

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Blue Growth

opportunities for marine and maritime sustainable growth

(Text with EEA relevance)

1. INTRODUCTION

If we count all economic activities that depend on the sea, then the EU's blue economy[1] represents 5.4 million jobs and a gross added value of just under €500 billion per year[2]. In all, 75% of Europe's external trade[3] and 37% of trade within the EU[4] is seaborne. Much of this activity is concentrated around Europe's coasts, but not all. Some landlocked countries host very successful manufacturers of marine equipment.

The sea and the coasts are drivers of the economy. Because of their outward-looking geography, ports and coastal communities have traditionally been centres for new ideas and innovation. In addition to this traditional propensity for innovation, three new factors have now come into play.

– First, there has been rapid technological progress in working offshore in ever-deeper waters. Robotics, video-surveillance and submersible technology are now routinely packaged into machinery for operations that were not feasible ten years ago.

– Second, we are increasingly aware that land and freshwater are finite resources. Further clearing of forests or draining of wetland will deprive future generations of the benefits they provide. We need to look how the 71% of the planet that is ocean can deliver human necessities such as food and energy in a way that is more sustainable. Meeting environmental targets can also be a source of innovation and growth.

– Third, the need to reduce greenhouse gas emissions has not only driven the deployment of offshore renewable energy installations, but has also provided a further impetus for energy saving and an additional reason to favour seaborne transport over land transport due to its lower emissions per tonne-kilometre. There is significant potential to reduce these emissions which account for about 3% of the total greenhouse gas emissions by further improving the energy efficiency of ships.

This has opened up an opportunity for blue growth – an initiative to harness the untapped potential of Europe's oceans, seas and coasts for jobs and growth. The

1 not including military activities.

2 based on data from the Blue Growth Study 'Scenarios and drivers for sustainable growth from the oceans, seas and coasts', ECORYS, 2012. https://webgate.ec.europa.eu/maritimeforum/content/2946

3 by volume.

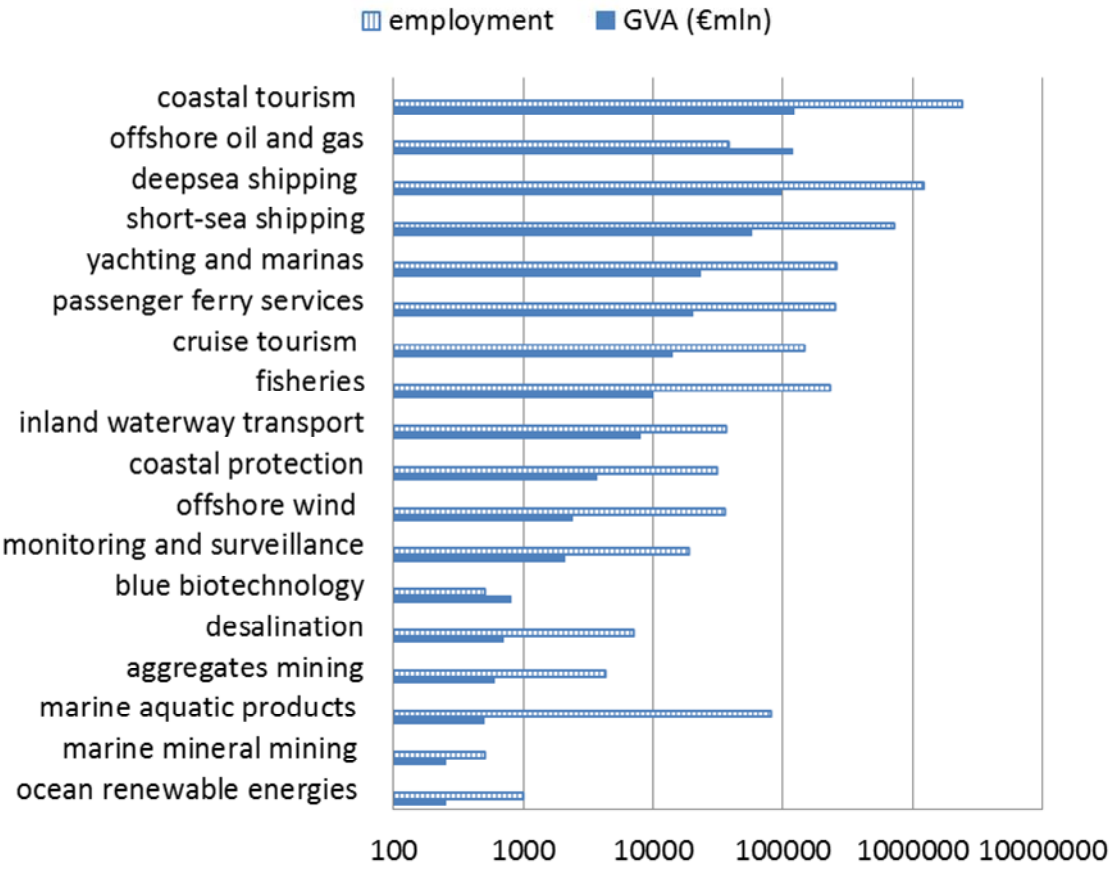
4 per tonne-kilometre.

potential is significant, provided the appropriate investments and research are made. Growth in the blue economy offers new and innovative ways to help steer the EU out of its current economic crisis. It represents the maritime dimension of the Europe 2020 strategy. It can contribute to the EU's international competitiveness, resource efficiency[5], job creation and new sources of growth whilst safeguarding biodiversity and protecting the marine environment, thus preserving the services that healthy and resilient marine and coastal ecosystems provide.

This Communication drives forward the Commission's Integrated Maritime Policy and launches a process which will place the blue economy firmly on the agenda of Member States, regions, enterprise and civil society. It describes how Member States and EU policies are already supporting the blue economy. It then identifies specific areas where targeted action could provide an additional stimulus. A set of initiatives will subsequently be launched to explore and develop the growth potential in these areas.

2. WHAT IS THE BLUE ECONOMY?

The individual sectors of the blue economy are interdependent. They rely on common skills and shared infrastructure such as ports and electricity distribution networks. They depend on others using the sea sustainably.



[5] See Roadmap to a Resource Efficient Europe COM(2011) 571.

Figure 1 Employment and economic size of marine and maritime economic activities. Please note the logarithmic scale.

Figure 1 shows the blue economy's value chains in terms of gross value added and employment. This includes their upstream and downstream activities. For instance, the activity of the important shipbuilding and marine equipment sectors has been distributed among the relevant value chains.

The picture may look different by 2020. We need to prepare for technological progress, demographic shifts, increasing scarcity of natural resources and growth in hitherto underdeveloped economies, including our neighbouring countries. A number of traditional activities will remain significant employers, while emerging sectors will provide new jobs.

The blue economy needs to be sustainable and to respect potential environmental concerns given the fragile nature of the marine environment. Efforts are needed to reduce negative environmental impacts of maritime acitivies such as the emissions of pollutants and the discharge of noxious substances.

3. MEMBER STATE SUPPORT FOR THE BLUE ECONOMY

Member States are already making strategic investments to unlock the potential of the blue economy. These include Ireland's INFOMAR[6] programme for mapping marine resources and the refurbishing of the Bremerhaven port to meet the needs of manufacturers and suppliers in the offshore wind industry. The €8 billion MOSE project currently under construction, is aimed at protecting the city of Venice from floods and morphological degradation.

Legislative measures that reassure investors that there will be no unforeseen delays in planning processes or infrastructure connections can give as much impetus to investment as financial support. A UK Department for Transport 'Harbour Empowerment Order' gave statutory powers to the London Gateway as a port and distribution centre. Not only will this £1.5 billion private investment reduce carbon emissions by bringing containers nearer to their final destination, it will also deliver about 12000 new jobs by the end of 2013.

Lack of access to finance and a shortage of suitably skilled workers have been identified as blocking growth in nearly all economic sectors. In the blue economy, Member States are tackling this by developing maritime clusters. These are groupings of larger industries, smaller suppliers and educational establishments that reinforce each other through their close proximity. The better communication brought about by geographical proximity mean that educational courses and research can meet the needs of local industry and suppliers can understand the market and predict future trends. Examples include the offshore energy industry in Scotland and the ship-repair business in Brest which plays host to France's largest maritime cluster, the 'Pôle de competitivité mer'. Ostend has made land and quays available for renewable energy companies close to research institutes; and the Marine Institute in Galway is developing new ideas for marine observation and communication with large multinationals and small businesses in its SmartBay project.

[6] Integrated Mapping for the Sustainable Development of Ireland’s Marine Resources.

In order to tackle the big research questions more efficiently through commonly agreed work programmes, Member States are collaborating on a Joint Programming Initiative on "Healthy and Productive Seas and Oceans".

4. ONGOING EU INITIATIVES

EU policies are designed to reinforce the efforts of Member States and regions and provide common building blocks for a successful blue economy. These include the following:

(1) A Commission initiative on maritime spatial planning and integrated coastal zone management which should provide business with the legal certainty it needs to invest.

(2) The "Marine Knowledge 2020" initiative[7]. This will provide an integrated knowledge infrastructure based on national data collection systems delivering data products at a European-level through the internet. This will include a flagship multi-resolution digital seabed map of European waters as well as up-to-date information on the water column by 2020. Benefits of at least €500 million a year[8] through increased efficiency and innovation are expected.

(3) A Common Information Sharing Environment (CISE)[9] for the surveillance of the EU maritime domain. This will allow maritime authorities responsible for activities such as safe navigation or fisheries control to share information on risks and threats. This reduces their costs and the risk to businesses operating at sea.

(4) The Marine Strategy Framework Directive[10] which introduces an ecosystem-based approach, aiming to ensure that the collective pressure of human activities on the environment is kept within levels compatible with the achievement of good environmental status by 2020. The Rio+20 Summit commitments also address the sustainable use of a diverse marine ecosystem.

(5) The European Maritime Transport Space without Barriers, which aims at simplifying administrative procedures for maritime transport[11] and which should be further developed into a 'Blue Belt' of free maritime movement in and around Europe.

(6) An Action Plan to facilitate access to finance for Europe's 23 million SMEs, adopted by the Commission in December 2011[12] and a proposal for a new EU framework creating a genuine single market for venture capital funds.[13]

(7) Actions in education and training financed by the forthcoming 'Erasmus for All Programme', such as Knowledge Alliances and Sector Skills Alliances; instruments for facilitating the mutual recognition of skills and qualifications such as European Qualifications Frameworks; and better anticipation of skills

---

7 COM(2012) 473 final.
8 European Marine Observation and Data Network Impact Assessment, 8.9.2010, SEC(2010) 998.
9 COM(2010) 584 final.
10 2008/56/EC.
11 COM(2009) 10.
12 COM(2011) 870.
13 COM(2011) 860.

and labour market needs through European Sector Skills Councils and the EU Skills Panorama.

(8) The EU's programmes for marine and maritime research and innovation[14] funded through the framework programme. These include dedicated initiatives, such as the FP7 Ocean of Tomorrow calls, to further our understanding of the marine environment and its climatic and non-climatic stressors and to promote the sustainable use of marine resources. The future Horizon 2020 programme will target research and innovation on food security, clean energy, green transport, climate action and resource efficiency, as well as cross-thematic marine and maritime research.

(9) The LeaderSHIP 2015 initiative which is currently under review with the aim of adapting the strategy to better tackle the new challenges the EU shipbuilding sector is facing.[15]

EU funding under the 2014-2020 financial framework can reinforce these efforts. Member States and regions will be able to focus EU-funded investment on promising maritime economic activities and their supporting infrastructures.

Sea-basin strategies, such as those for the Baltic, the Atlantic and the Adriatic-Ionian, complement preparations for the new financial framework by identifying common issues, solutions and actions. They offer a platform for Member States to engage at an early stage in defining priorities. For instance, through the Commission's Atlantic strategy, national and regional authorities along the Atlantic seaboard are identifying which priority investments could be funded under the 2014-2020 structural budget envelope and which knowledge gaps could be filled by research within the Horizon 2020 initiative. Bringing in private sector funding, including through the European Investment Bank, will also help unlock the potential of the blue economy.

5. BLUE GROWTH FOCUS AREAS

An analysis of the job-creation potential[16], as well as the potential for research and development to deliver technology improvements and innovation and the need for action at EU level, has suggested that the following five value chains could deliver sustainable growth and jobs in the blue economy. They could therefore benefit from clear-sighted policymaking, allowing the private sector to play a leading role in helping the blue economy reach its sustainable growth potential. This list should not be considered exhaustive. Ongoing EU initiatives are already encouraging innovation in sectors such as maritime transport. Other value chains may emerge over time as suitable areas for further policy focus.

5.1. Blue energy

Marine energies have the potential to enhance the efficiency of harvesting the European energy resource, minimize land-use requirements of the power sector and reduce the European greenhouse gas emissions (by about 65 Mt CO_2 in 2020). Thanks to the EU renewable energy targets and incentives for investments such as feed-in tariffs or green certificates, offshore wind power generation has started to expand rapidly in Europe. In 2011, offshore wind

[14] COM(2008) 534.
[15] COM(2003) 717.
[16] See Blue Growth Study, ECORYS, 2012.

accounted for 10% of installed capacity, employed 35000 people directly and indirectly across Europe and represented €2.4bn in annual investments. By the end of 2011 the total capacity offshore was 3.8GW. On the basis of Member States' National Renewable Energy Action Plans, the electricity produced from wind power in 2020 will be 494.6 TWh and of that 133.3 TWh will be generated offshore. By 2030 the annual installation of offshore capacity could exceed that onshore. Offshore wind could meet 4% of the EU electricity demand by 2020 and 14% by 2030. This would mean 170000 jobs by 2020, increasing to 300000 by 2030. Continued efforts to reduce the cost of offshore wind technology will accelerate this growth. This is a prime objective of the Strategic Energy Technology Plan's (SET-Plan)[17] European Industrial initiative on wind energy. Several Member States are active in this plan.

Other offshore renewable energy technologies are still at an early stage of development, with Member States planning to install only a moderate capacity of 2 to 4 GW by 2020. The challenge is to accelerate the commercialisation of ocean energy through reductions in technology costs as world-wide demand is expected to double annually in the near future. Different combinations of geographic and oceanographic conditions suit different technologies. These technologies offer a more predictable base-load supply of electricity that compensates the fluctuating supply from wind:

– Tidal barrage, a dam-like structure used to capture energy from masses of water moving in and out of a bay or estuary. The best example of this technology in Europe is the La Rance Power Station in France with capacity of 240MW, which is the second largest plant of its kind in the world.

– Wave power devices are currently being demonstrated and underwater turbines driven by currents (tidal or other) are close to commercialisation. In all, 22MW of wave and current devices were installed in 2012.

– Ocean thermal energy conversion, which uses the temperature difference between cooler deep ocean waters and warmer shallow or surface ocean waters to run a heat engine could be a feasible option for the EU's overseas territories in the Caribbean and Indian Ocean.

Commercial operation of blue energy technologies will need investments in grid connections and transmission capacity. Long-term support mechanisms, which have been successful in encouraging investment in other types of renewable energy, will also be needed for emerging wave and tidal current technologies.

As recently stressed in the Communication "Renewable Energy: a major player in the European energy market"[18], further efforts to reinforce research and development in the field of ocean energy are needed. This will help to further reduce costs, lengthen the operating life of equipment and streamline logistics in technologies that will help to achieve the 2020 targets. Given the long lead time for EU research projects, increased effort should now be devoted to

[17] COM(2007) 723 and COM(2009) (519).
[18] COM(2012) 271.

technologies such as wave and currents that will reach full maturity in the coming decades.

EU measures, including funding, can have a crucial role in providing a framework that gives investors the confidence to invest. The European Investment Bank lent €3.3 billion for offshore wind projects between 2005 and 2011. The sale of the first 200 million allowances for the NER300 funding instrument[19] will raise nearly €1.5 billion by October 2012. A proportion of this will support demonstration projects for offshore energy in Member States. These efforts in new technologies should be sustained and structural funds should be mobilised for demonstration projects. At the same time efforts must be deployed to reconcile tidal barrages with EU nature protection legislation, possibly in the framework of integrated coastal zone management or strategic planning.

EU industry is a world leader in blue energy and can contribute to reductions in carbon emissions outside Europe through exports. In addition, synergies can also be explored with the offshore conventional energy sector, for example by tackling safety and infrastructure challenges together. The Commission proposal for levellling up safety standards in the offshore oil and gas sector EU-wide[20] is a key initiative. Working together with the conventional energy sector will help secure affordable energy supplies in the EU.

5.2. Aquaculture

Fish accounts for about 15.7% of the animal protein consumed globally. The UN Food and Agriculture Organisation estimates[21] that aquaculture provides half of this and that by 2030 it will reach 65%. It is currently 25% in the EU. Globally, it has a growth rate of 6.6% per annum, making it the fastest-growing animal-food-producing sector and faster than the 1.8% annual global population increase. It is thus contributing to an overall improvement in human diet. Growth in the aquaculture sector in Asia, which accounts for more than 89% of global production is more than 5% a year, while EU growth in the sector is stagnant.

More than 90% of aquaculture businesses in the EU are SMEs, providing around 80000 jobs[22]. Aquaculture has the potential to grow by providing more quality merchandise to consumers willing to choose fresh, trustworthy products, increasingly including those that are sustainably or organically produced. Moreover, it can help coastal communities diversify their activities while alleviating fishing pressure and thus helping to preserve fish stocks.