Towards a future
Maritime Policy for the Union:
A European vision for the oceans and seas

"How inappropriate to call this planet Earth
when it is quite clearly Ocean"

attributed to Arthur C. Clarke

European Commission

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Message from the President
of the European Commission

The oceans and seas sustain the livelihoods of hundreds of millions of people, as a source of food and energy, as an avenue for trade and communication and as a recreational and scenic asset for tourism in coastal regions. So their contribution to the economic prosperity of present and future generations cannot be underestimated.

As a Portuguese, it is only natural that maritime issues are close to my heart. That is why the sustainable use and governance of our oceans has been, for a long time, a matter of considerable importance to me. I find it striking, therefore, that while the oceans are an essential element of life-support for our planet, even influencing our climate, they remain relatively unknown. Equally, their importance to our lives is often underestimated.

This is particularly the case in Europe which is a *Maritime Continent*, surrounded by two oceans and four seas, with close to 70,000 km of coastline. Europeans have always been, and still are, maritime leaders world wide. This is hardly surprising, with 20 of the European Union's 25 Member States being coastal or island States, and with 90% of the Union external trade and more than 40% of her domestic trade being carried by sea.

Maritime sectors and marine resources are thus critical to Europe's economy, representing the world's largest merchant fleet, over 1,200 ports, a hi-tech shipbuilding industry, coastal tourism, and an important source and means of transport for the energy we consume.

We need to recognise all this, draw the necessary conclusions, and use policy as a means of promoting our maritime economy, while ensuring the proper protection of our marine environment.

This is important, as the oceans and seas are not inexhaustible. In fact, they face considerable problems due to pollution, biodiversity depletion and environmental degradation. Scientific research and new technology developments are allowing for more, competing, and at times conflicting, uses of the seas. New challenges such as climate change, rising sea levels, storms, coastal erosion and illegal activities ranging from traffic of human beings to piracy and terrorism, are demanding innovative solutions. All of these issues will require a fresh approach in the way we manage the oceans and seas.

In order to solve existing problems and anticipate new ones, to explore economic opportunities and rise to the challenges ahead, the Commission is building a European vision for the oceans and seas based on a new, all inclusive and more integrated approach.

This is an ambitious development, as for the first time in the history of the European Union the sea as a whole is becoming the subject of our focus, and Europe's maritime dimension is becoming a strategic priority for the Commission. With this forward looking initiative we are also responding to international commitments for better ocean governance and in the process, affirming Europe's leadership in world maritime affairs.

This decision is already having an energizing effect. Member States and regional authorities, stakeholder groups and international partners have already submitted numerous positive reactions and suggestions for a future, all-encompassing maritime policy. This is very welcome as such a policy could not, and should not, be imposed from the top down. It needs time to be discussed, to emerge and to develop.

With this in mind we have launched a wide consultation on such a future maritime policy for the Union. This Green Paper constitutes a first step towards this public debate, and towards an all embracing EU Maritime Policy.

We look forward to your views.

José Manuel Barroso

Foreword by the European Commissioner for Fisheries and Maritime Affairs

With the adoption of this Green Paper the Commission has launched a wide public debate on a future Maritime Policy for the European Union.

The Green Paper lays the groundwork for an EU Maritime Policy which will put ocean and seas management on a sound basis, allowing for the development of well-balanced and coherent sea-based policies and activities. This integrated approach has been possible due to the collaborative efforts of many services within the Commission, given political direction by a Steering Group of Commissioners that has as its members Vice Presidents Verheugen, Barrot and Frattini, and Commissioners Dimas, Hübner, Potočnik, Ferrero-Waldner, Špidla, Piebalgs and myself.

The Green Paper examines the opportunities offered by Europe's oceans and seas, and the challenges we face if we are to make the best of them in a sustainable way. It does not seek to provide all the answers, but to ask the right questions, such as:

• How are we to assure Europe's economic leadership and competitiveness not only in the shipping, ports and shipbuilding sectors, but also in fast growing industries such as blue biotechnology, ocean monitoring and marine robotics, modern aquaculture, cruise shipping and the sea-based energy sector?

• How can we maximise our knowledge of the oceans and seas through scientific research and technology, and use that knowledge to ensure that we protect the ocean resource base and reverse environmental degradation?

• How can we maximise quality of life in our coastal regions, and boost the development of sustainable coastal tourism?

• What instruments can be developed and used to manage our relationship with the sea better, including data collection, spatial planning and financial instruments?

• How can we establish better governance in maritime affairs for optimal results at a regional, national, European and international level, and how can we foster cooperation in the offshore activities of governments?

• How can we sustain and promote our European maritime heritage, and strengthen the maritime identity of Europe?

A core message of the Green Paper is that we can no longer afford to consider the oceans and seas on a purely sectoral basis. The challenge for us is to explore how different maritime sectoral policies interact, and how they can be combined to complement each other and to create synergies, given that they all relate to the same basic resource: the world's single ocean.

This is a major challenge, and we can achieve it only if we manage to mobilise stakeholders across Europe.

Tell us what you think. Let us know where and how you believe an EU Maritime Policy could bring added value to coastal regions, the marine environment and your maritime activity, or simply where a new, fresh look at existing issues can move things forward.

We hope you enjoy reading this Green Paper as much as we enjoyed writing it!

Joe Borg

1. INTRODUCTION

Any European will remember learning about the great voyages of discovery which opened the eyes of our forebears to the vastness of our planet, to the diversity of its cultures and the richness of its resources. Most of these voyages were made by sea. Most of them required for their success openness to new ideas, meticulous planning, courage and determination. As time went by, they not only opened up previously uncharted areas of the globe, they also generated new technologies such as the chronometer to allow for the exact calculation of longitude and the steam turbine to bring independence from the tyranny of prevailing winds.

Many Europeans have always lived beside or close to the sea. It has provided them with a living as fishers and mariners, it has given them health and enjoyment, new horizons to dream of and a rich vocabulary of words and metaphors to be used in literature and their daily lives. It has been seen as a source of romance, but also of separation, unknown perils and grief. It has provided us with a constant challenge and a deep yearning to understand it better.

Europe is surrounded by many islands and by four seas: the Mediterranean, the Baltic, the North Sea and the Black Sea; and by two oceans: the Atlantic and the Arctic. This Continent is a peninsula with thousands of kilometres of coast – longer than that of other large land masses such as the United States or the Russian Federation. This geographical reality means that over two thirds of the Union's borders are coastal and that the maritime spaces under the jurisdiction of its Member States are larger than their terrestrial territory. Through its outermost regions, in addition to the Atlantic Ocean, Europe is also present in the Indian Ocean and the Caribbean Sea. Their maritime stakes are many and concern the EU as a whole.

Europe's geography, therefore, has always been one of the primary reasons for Europe's special relationship with the oceans. From the earliest times, the oceans have played a leading role in the development of European culture, identity and history.

This is no less the case today. As the EU seeks to revitalise its economy, it is important to

recognise the economic potential of her maritime dimension. Between 3 and 5% of Europe's Gross Domestic Product (GDP) is estimated to be generated by marine based industries and services, without including the value of raw materials, such as oil, gas or fish. The maritime regions account for over 40% of GDP.

Despite this, our citizens are not always well-informed of the importance of the oceans and seas in their lives. They know how crucial water is, but may not make the link with most of its being recycled from the oceans as rain or snow. They worry about climate change, but may not always see the key role of the oceans in modulating it. They benefit from their ability to buy cheap products from around the world, without realising how complex the web of logistics is which brings them to us.

The rationale

Sustainable development is at the heart of the EU agenda[1]. Its challenge is to ensure mutual reinforcement of economic growth, social welfare and environmental protection.

The EU now has the opportunity to apply sustainable development to the oceans. To do this, it can build on the strengths which have always underpinned its maritime leadership: knowledge of the oceans, extensive experience and an ability to seize new challenges, and combine these with its strong commitment to the protection of the resource base.

Oceans and seas cannot be managed without cooperation with third countries and in multilateral fora. EU policy aimed at the oceans must be developed within that international context.

If Europe is to rise to the challenge of finding a better relationship with the oceans it is not only industry which will need to innovate. So too will policy-makers. We should consider a new approach to oceans and seas management that no longer looks only at what humans can extract from the oceans and seas, nor one that looks at the oceans and seas on a purely sectoral basis, but one that looks at them as a whole.

So far our policies on maritime transport, industry, coastal regions, offshore energy, fisheries, the marine environment and other relevant areas have been developed separately. Of course we have tried to ensure that their impact on each other was taken into account. But no one was looking at the broader links between them. No one was examining in a systematic manner how these policies could be combined to reinforce each other.

Fragmentation can result in the adoption of conflicting measures, which in turn have negative consequences on the marine environment or may impose disproportionate constraints on competing maritime activities. Moreover, fragmentation of decision-making makes it difficult to comprehend the potential impact of one set of activities upon another. It prevents us from exploring untapped synergies between different maritime sectors.

It is now time to bring all these elements together and forge a new vision for the management of our relations with the oceans. This will require new ways of designing and implementing policies at the EU, national and local levels, as well as at international level through the external dimension of our internal policies.

The aim

This Green Paper aims to launch a debate about a future Maritime Policy for the EU that treats the oceans and seas in a holistic way. It will underline that our continued enjoyment of the benefits that they provide will only be possible through a profound respect for them at a time when their resources are threatened

by severe pressures and our increasing technological ability to exploit them. The accelerated reduction of marine biodiversity due notably to pollution, impacts of climate change and overfishing are warning signals that we cannot ignore.

The Green Paper builds upon existing EU policies and initiatives and dovetails with the Lisbon Strategy. It seeks to strike the right balance between the economic, social and environmental dimensions of sustainable development.

The Green Paper also hopes to contribute to a new awareness among Europeans of the greatness of their maritime heritage, the importance of the oceans in their lives and their continued potential to provide us with increased wellbeing and economic opportunity.

The way forward

Principles of good governance suggest the need for a European maritime policy that embraces all aspects of the oceans and seas. This policy should be integrated, inter-sectoral and multidisciplinary, and not a mere collection of vertical sectoral policies. It should look at the oceans and seas based on sound knowledge of how they work and how the sustainability of their environment and ecosystems may be preserved. It should aim to provide answers as to how decision-making and the conciliation of competing interests in marine and coastal areas can result in a climate more conducive to invest-ment and to the development of sustainable economic activities.

To achieve this, it is necessary to increase cooperation and to promote effective coordi-nation and integration of ocean and sea-related policies at all levels.

Underlying principles

In its strategic objectives for 2005-2009, the European Commission declared *"the particular*

need for an all-embracing maritime policy aimed at developing a thriving maritime economy, in an environmentally sustainable manner. Such a policy should be supported by excellence in marine scientific research, technology and innovation".

The Commission believes that in pursuing this vision, our approach should rest firmly on twin pillars.

First, it should be anchored within the Lisbon Strategy, stimulating growth and more and better jobs within the Union. Continued investments in knowledge and skills are key factors for maintaining competitiveness and ensuring quality jobs.

The EU's integrated approach to industrial policy emphasises that Europe's future lies in bringing new, high quality products and services to the world market for which customers are prepared to pay a premium[2].

Second, we must maintain and improve the status of the resource upon which all maritime activities are based: the ocean itself. To do this, ecosystem-based management, built on scientific knowledge, is essential. The Commission has completed the groundwork for this by putting forward its Thematic Strategy for the Marine Environment[3].

While using these pillars as the basis for our new maritime policy may seem simple enough, two characteristics of the marine environment need to be borne in mind.

First, the global nature of the oceans. This leads to both complementarity and competi-tion between nations. To regulate maritime activities in the interest of worldwide sustain-able development necessitates developing universally applicable rules. Yet each part of the oceans and seas is different and may require its own more specific rules and administration. This apparent contradiction illustrates why the global nature of the oceans is such a challenge to policy-makers.

2

http://ec.europa.eu/enterprise/ enterprise_policy/industry/index_en.htm

3

'Proposal for a Directive of the European Parliament and of the Council establishing a Framework for Community Action in the field of Marine Environmental Policy (Marine Strategy Directive)' – COM(2005) 505, http://ec.europa.eu/environment/water/ marine/dir_505_en.pdf

The second challenge to maritime good governance, which is directly linked to the first, is that of the multiple actors involved. Multiple sectoral policies have emerged and exist at all levels of government: EU, national, regional, and local[4]. Action proposals may be most appropriately taken up by different actors in different agencies and different countries or by international organisations. In the interest of keeping decisions at a level closest to the stakeholders, action at EU level should be undertaken only where it contributes value-added to the activities of others.

Should the EU have an integrated maritime policy?

How can the EU add value to the many national, local and private initiatives which already exist in the maritime field?

2. RETAINING EUROPE'S LEADERSHIP IN SUSTAINABLE MARITIME DEVELOPMENT

2.1. A Competitive Maritime Industry

The Size of the sector

The EU is the leading maritime power in the world, in particular with regard to shipping, shipbuilding technology, coastal tourism, offshore energy, including renewables, and ancillary services. Looking to the future, according to a study of the Irish Marine Institute, the sectors with most growth potential appear to be cruise shipping, ports, aquaculture, renewable energy, submarine telecommunications and marine biotechnology[5].

Shipping and ports are essential for international trade and commerce. 90% of the EU's external trade and over 40% of its internal trade is transported by sea. Europe's leadership in this global industry is beyond any doubt with 40% of the world fleet. 3.5 billion tonnes of cargo per year and 350 million passengers pass through European seaports. Approximately 350 000 people work in ports and related services which together generate an added value of about € 20 billion[6]. The perspectives for both these sectors are of continued growth, with world trade volume on the rise, and with the development of Short Sea Shipping and Motorways of the Sea in Europe. Maritime transport is a catalyst for other sectors, notably shipbuilding and marine equipment. Maritime ancillary services such as insurance, banking, brokering, classification and consultancy is another area where Europe should maintain its leadership.

The oceans and seas also generate income through tourism. The direct turnover of marine tourism in Europe is estimated at € 72 billion in 2004[7]. Tourists spending their holidays in coastal areas benefit from the seas, the beaches and the coastal area in very different ways. Many tourist destinations owe their popularity to their proximity to the sea and are dependent on its environmental quality.

A high level of protection of coastal areas and of the marine environment are therefore essential for the sustainability of tourism in general and the rapidly growing branch of ecotourism in particular[8]. Tourism generates business for the shipbuilding industry. The cruise industry in Europe has expanded strongly over the last years with an annual growth rate of more than 10%. Cruise ships are virtually all built in Europe. Cruise tourism contributes to the development of coastal areas and islands. The recreational boating industry experienced steady growth during the past years and forecasts point to a 5-6% annual growth within the EU[9]. *"There is no other form of participative recreation which covers such a diversity of ages, interests and locations"*[10].

The sea plays a major role in the competitiveness, sustainability and security of energy supply, key objectives identified by the Commission[11] and the EU Heads of State and Government[12]. The North Sea is the fourth largest source of oil and gas in the world after Russia, the US and Saudi Arabia[13]. The seas around Europe also play a major role in the energy sector as a means for the transportation, by an increasing number of tankers, of a great proportion of the oil and gas consumed in Europe. In this regard the increasing importance of liquefied natural gas requires the construction of new terminals.

Offshore wind energy, ocean currents, waves and tidal movements represent a vast source of renewable energy. If successfully exploited, they could contribute a substantial supply of electricity in many coastal areas of Europe. This could further support economic development and sustainable job creation in these regions.

European companies have developed know-how in marine technology, not only in the offshore exploitation of hydrocarbons, but also in renewable marine resources, deep-sea

5
Marine industries global market analysis, March 2005, Douglas-Westwood Limited, Marine foresight series no 1, the Marine Institute, Ireland.

6
European Sea Ports Organisation (ESPO), contribution to Green Paper.

7
See footnote 5.

8
http://www.tourism-research.org/sustainable.pdf

9
The sector includes e.g. boat building, marine engine and equipment manufacturing, hi-tech electronics, finance, building and operating infrastructure. European Union Recreational Marine Industry Group (EURMIG), contribution to Green Paper.

10
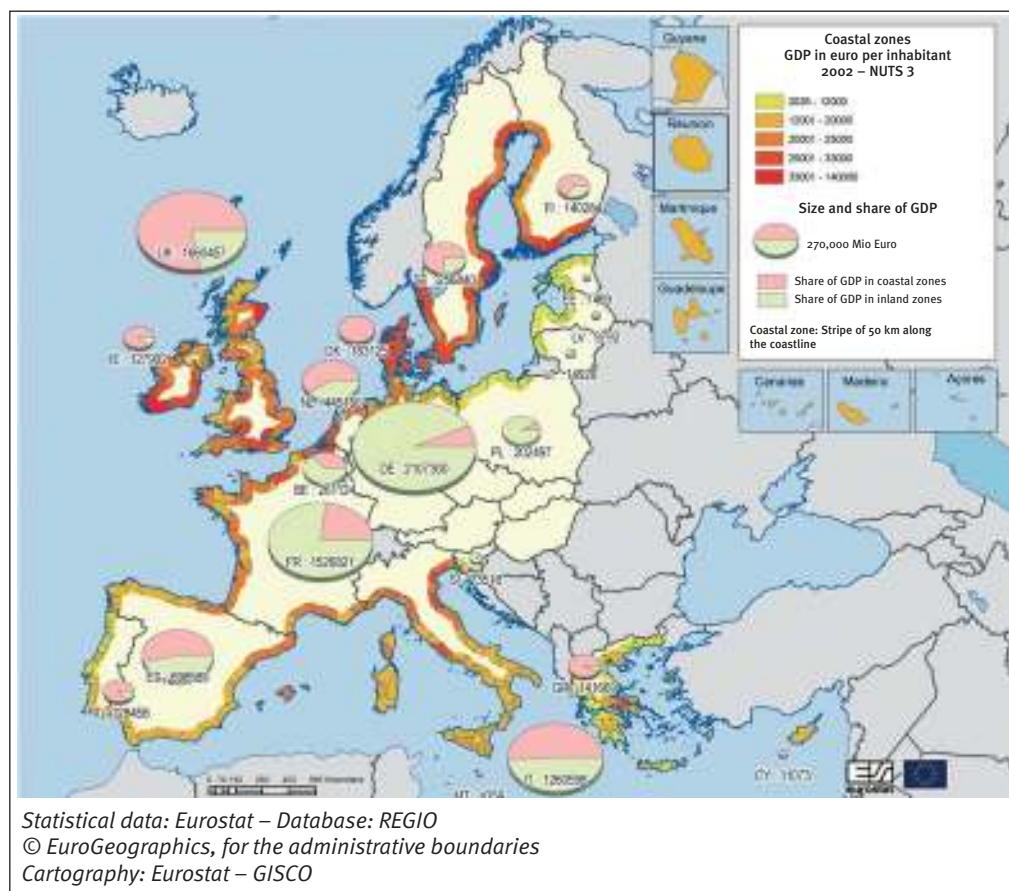European Boating Association (EBA), contribution to Green Paper.

11
Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy" – COM(2006) 105.

12
European Council, 23-24.3.2006, Presidency Conclusions.

13
International Association of Oil and Gas Producers (OGP), contribution to Green Paper.

Statistical data: Eurostat – Database: REGIO
© EuroGeographics, for the administrative boundaries
Cartography: Eurostat – GISCO

operation, oceanographic research, underwater vehicles and robots, maritime works and coastal engineering. These technologies will be increasingly used and will enhance the growth of the European marine technology sector, particularly in worldwide export markets.

The Food and Agricultural Organisation[14] indicates that most of the new demand for fish consumption will have to be met by aquaculture. The challenge will be to manage this increase in a sustainable and environmentally friendly way. As competition for space can also be a major issue in some coastal zones, aquaculture could be moved further from the coast, requiring further research and development on offshore cage farming technology[15].

The EU is one of the world's major world fishing powers and the biggest market for processed fish products. While the number of EU fishers has been declining over the years, some 526 000 are employed in the fisheries sector as a whole[16]. Many jobs are generated in pro-

cessing, packing, transportation and marketing as well as in shipyards, fishing gear manufacturing, chandlers and maintenance, not only in catching fish. These activities play a significant role in the economic and social fabric of fisheries areas. With the gradual transition to more sustainable fisheries that is planned within the Union, and increasing demand for fish as a healthy food, possibilities for greater economic stability, profitability and even growth in some parts of the fisheries sector are increasing.

The importance of being Competitive

Given Europe's export-based economy, the increase in trade volumes and its geographical circumstances, the EU has a vital interest in the competitiveness of shipping, shipbuilding, marine equipment and port industries. To assure this competitiveness it is necessary to provide an international level playing field for those industries. This is even more important as maritime activities mostly compete in a global market.

14
The State of World Fisheries and Aquaculture 2004, FAO.

15
Communication from the Commission to the Council and the European Parliament 'A strategy for the sustainable development of European aquaculture' – COM(2002) 511.

16
The Common Fisheries Policy (CFP) in figures, 2004.

Maritime transport and ports are key components of the logistics chains which link the Single Market the world economy. Their continued efficiency and vitality is crucial to European competitiveness in a globalising world.

Shipyards provide a good case study of how a traditional European maritime sector is facing up to increasing pressures of global competition, most notably from Asia. In the last decade, European shipbuilding has lost 36% of its jobs but gained 43% in productivity. This has resulted in a sector that is specialised in the production of sophisticated vessels. Ships produced in Europe are outstanding in terms of complexity, safety and environmental impact, often well beyond regulatory requirements. The EU shipbuilding industry (including yards and equipment manufacturers) continues to be the technological world leader, with all major innovations coming from Europe. As a result, EU industry has a much higher turnover than the equivalent sectors in the Far East, despite the smaller volume of tonnage produced.

European shipbuilders and their suppliers, lead in market segments such as cruise and passenger ships, small merchant ships, naval vessels and specialised tonnage. Europe has a strong position in leisure boats and equipment, a highly competitive sector because of its modern and advanced production engineering. Innovation in these sectors is driven by societal demands for cleaner coasts as well as by evolving regulations.

Sound policy and programmes can boost competitiveness, as shown by LeaderSHIP 2015[17], addressing the future competitiveness of the shipbuilding and ship-repair sector. This is a co-operative effort based on cutting-edge knowledge, entrepreneurship, innovation and stakeholder participation. The Commission believes that this example can be replicated more broadly. In a number of maritime sectors, such as shipping, shipbuilding and offshore energy, the introduction of new technology to ensure environmental sustainability of their activities creates business and export opportunities, notably as other countries move in the direction of sustainable development.

To be able to seize growth opportunities in shipping and other maritime sectors, European companies must be able to predict with some accuracy the future development of the market. Additional market information and statistics could be helpful in this regard.

For Europe's outermost regions, better access, including through enhanced maritime connections both within and with the European continent, would greatly strengthen their competitiveness.

The lesson here is that the strength of the European maritime industry lies in its entrepreneurship and ability to innovate. Much can be done to ensure that the highest quality production factors are available to the private sector. These are the oceans themselves, as

resource base, scientific knowledge about all aspects of the oceans, and the quality and experience of the work force. It is opportune to now examine them, as well as the regulatory environment within which the industry operates.

> **How can European maritime sectors remain competitive, including taking into account specific needs of SMEs?**
>
> **What mechanisms should be in place to ensure that new maritime development is sustainable?**

2.2. The Importance of the Marine Environment for the Sustainable Use of our Marine Resources

A healthy marine environment is a *sine qua non* to realising the full potential of the oceans. For this reason, preservation of this resource base is the key to improving the EU's competitiveness, long-term growth and employment.

The deterioration of our marine environment reduces the potential of the oceans and seas to provide income and jobs. Economic activities that depend on the quality of the marine environment are particularly affected. The health of coastal and marine tourism, Europe's biggest sea related industry, is at stake.

The isolated outermost regions face specific challenges, in terms of natural conditions, (cyclones or earthquakes), or illegal immigration, requiring specific responses.

Fisheries are also affected. Maintaining a healthy marine environment is about maintaining the size and diversity of the life within it, including fish stocks. Only the achievement of stock levels which can be fished sustainably can provide the resources for a vibrant fisheries sector. Environment and fisheries policies must be seen as partners, striving for common goals based on top biological science. In some seas, these goals will only be realized if other threats to the health of the marine environment, notably from land-based pollution and operational discharges from ships, can be brought under control. A healthy marine environment is required for seafood to contribute in an optimum way to human nutrition and health. There is a growing body of scientific evidence which shows that fish is particularly nutritious, but

Protecting the marine environment

Seabed in a protected area

Seabed with no protection

the presence of contaminants such as heavy metals and persistent organic pollutants in the marine environment can prevent mankind from gaining the maximum health benefit from seafood[18].

Prompt action is called for to safeguard this resource. The Commission has adopted a Thematic Strategy for the Marine Environment which will be the environmental pillar of a future maritime policy. The detailed assessment of the state of the marine environment which the Marine Strategy will provide will be particularly valuable to devising the frameworks through which all uses of the oceans can be regulated. The key aim is to achieve good status of the EU's marine environment by 2021. It introduces the principle of ecosystem based spatial planning. Without this, we will soon be unable to manage the increasing, and often conflicting, uses of the oceans. It may lead to the designation of further marine protected areas, which will help to safeguard biodiversity and to ensure the rapid transition to sustainable levels of fishing.

Effective decision-making must integrate environmental concerns into maritime policies and give our maritime sectors the predictability they need. At the core of a new maritime policy must be the building of a mutual understanding and a common vision among all the decision-makers and players of the various policies impacting on oceans and seas, including maritime transport and ports, fisheries, integrated coastal zone management, regional policy, energy policy and marine research and technology policies. This means joining the dots between different policies with a view to achieving the common goal of economic expansion in a sustainable manner, which is the key challenge of a future Maritime Policy.

Maritime safety policy also plays a major role in the protection of our marine environment.

18

See European Food Safety Authority, 'Opinion of the Scientific Panel on Contaminants in the food chain on a request from the European Parliament related to the safety assessment of Wild and Farmed fish', Question No EFSA-Q-2004-22, the EFSA Journal (2005) 236.

The Evolution of Oil Spills

Oil spills are decreasing despite the fact that shipping has grown substantially from a volume just below 20.000 billion tonne miles in 1994 to 27.500 billion tonne miles in 2004 of which some 45% is oil.
Source: ITOPF

1970-79: 25.2 spills per year on average

1980-89: 9.3 spills per year on average

1990-99: 7.8 spills per year on average

2000-04: 3.8 spills per year on average

Legend: Spills per Year — 10 Year Average
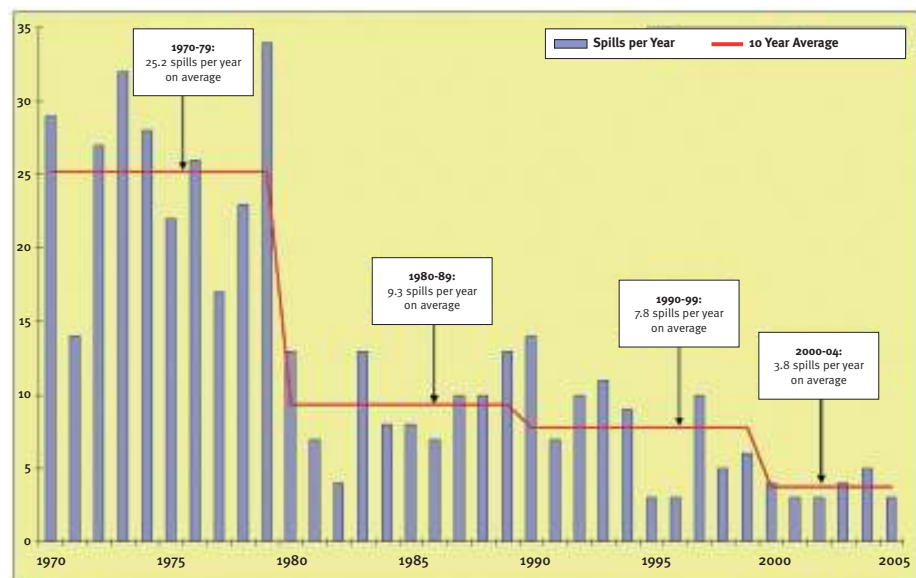
Community legislation, measures and controls have been reinforced following the Erika and Prestige tanker disasters in 1999 and 2002. The banning and the gradual withdrawing of single-hull oil tankers, the close monitoring and strict enforcement of the implementation of existing legislation, more controls in EU territorial waters and inspections in ports, the partial harmonisation of penal sanctions for marine pollution[19] and the creation of the European Maritime Safety Agency (EMSA)[20] are examples of the huge effort which has been made to improve maritime safety in the EU.

The Commission has recently put forward a Third Package of proposals in this area, which will reinforce existing legislation, notably regarding classification societies, port state control, monitoring of maritime traffic, responsibility of flag States, maritime accident investigations and liability of shipowners[21].

To progress further, it is essential to use the full potential of risk assessment as a tool for policy development. This will require a concerted effort from EU institutions to obtain feedback from ports and ships, to develop processes and methods for the provision of better information on maritime incidents and traffic and to reduce uncertainties in the impact and scale of environmentally unfriendly practices through risk assessment.

Legislation can also be backed up by other types of action. As Baltic Sea States Subregional Cooperation (BSSSC)[22] puts it, "The immediate participation of over 40 regional authorities in an Interreg supported project, 'Baltic Master', is the best example for this growing awareness about managing maritime safety and accidents at this level." This is an example of how Community funds can be used to support the implementation of policy measures.

Two examples of international conventions whose ratification will make a contribution to a healthy marine environment are the International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS) and the International Convention for Control and Management of Ship's Ballast Water and Sediments (BWM)[23].

Several Member States have identified the importance of combating invasive species affecting the marine environment through the introduction of ballast water. The introduction of the necessary ballast water treatment technologies should be encouraged. The Commission has made contributions (such as the 5th Framework Programme projects on the Treatment of Ballast Water[24]) to the efforts of the International Maritime Organisation (IMO) in implementing the Global Ballast Water Management Programme, which helps developing countries understand the problem, monitor the situation and prepare to implement the BWM convention. These efforts should be maintained[25].

19
Directive 2005/35/EC and Framework Decision 2005/667/JHA.

20
http://www.emsa.europa.eu

21
Communication from the Commission 'Third package of legislative measures on maritime safety in the European Union' – COM(2005) 585.

22
BSSSC, contribution to Green Paper.

23
http://www.imo.org

24
Treatment of Ballast Water (TREBAWA) and On Board Treatment of Ballast Water (Technologies Development and Applications) and Application of Low-sulphur Marine Fuel (MARTOB).

25
See Background Paper No. 6 on Marine Safety and Security. http://ec.europa.eu/maritimeaffairs/ suppdoc_en.html

How can a maritime policy contribute to maintaining our ocean resources and environment?

How can a maritime policy further the aims of the Marine Thematic Strategy?

How can risk assessment best be used to further safety at sea?

2.3. Remaining at the Cutting Edge of Knowledge and Technology

The Galway declaration endorsed by the 2004 Euroceans Conference identified the contribution of marine industries towards achieving the Lisbon objectives and the role of marine science and technology in the seventh EU Framework Programme for Research and Technological Development (FP7)[26] towards developing world class excellence in marine science and technology. The 2004 Euroceans conference emphasised that alongside marine and maritime research, there is an urgent need to support co-ordinated and sustained collection, archiving of and ready access to, comprehensive marine datasets[27].

Research and technology are needed not only to maintain the European lead in advanced products, but also to make informed policy choices and prevent degradation of the marine environment.

Innovation and R&D in Information and Communication Technologies, can provide added-value solutions in many maritime domains. In the Commission's strategic priorities for 2005-09, marine related science and research accordingly constitute one of the main pillars for a future European maritime policy.

The proposed FP7 identifies priority research themes in areas such as environment, transport, food, agriculture, biotechnology, energy, etc. It declares that special attention will be paid to priority scientific areas which cut across themes, e.g. marine related sciences and technologies with the objective of increasing coordination and integration of marine related research in FP7.

The contribution from FP7 represents a fraction of public and private spending on research in the Community. It is essential that marine related research in Europe is considered as a whole and that co-ordination and co-operation in this area is significantly improved. Work towards co-ordinating national programmes within a truly pan-European research area has begun with the ERA net scheme[28].

26
http://cordis.europa.eu/ist/about/fp7.htm

27
http://www.eurocean2004.com/pdf/
galway_declaration.pdf

28
Examples: ERA-NET's MARINERA, MARIFISH,
AMPERA and BONUS.

A vision is urgently needed for marine related research in Europe leading to a strategy that derives even greater benefits from the Framework Programmes and other sources of funding in Europe[29], avoids duplication, closes gaps and creates synergies. The strategy should include mechanisms for optimising coordination, cooperation and dialogue between the Commission and policymakers, industry and scientific communities in Member States and third countries. On the basis of input from the scientific and technical community, it should set out what is necessary to support strong and durable integration of activities among organisations carrying out research relating to the sea and maritime activities in Europe, and to provide for a stronger cross sectoral dialogue between scientific disciplines and technology developers, to provide input for a holistic approach to maritime policy.

The European Dredging Association (EuDA) suggested the establishment of "a *European Centre of Excellence for the knowledge of the sea and the oceans with as focal themes marine resources, climate change effects, dynamics of coastal zones, impact of infrastructure development, the relationship between development and ecology over longer periods*"[30]. This proposal highlights the multi-faceted nature of marine-related research. Taking account of this could facilitate the exchange of information between sectors and research organisations. Options could include a regular conference to disseminate results of marine-related research and obtaining feedback from industrial stakeholders. The establishment of a single European Internet portal for research-related projects to replace the fragmented web pages that currently exist could be envisaged.

WATERBORNE[31] has established, together with stakeholders and Member States within maritime transport, a vision for the year 2020, including a strategic research agenda. This vision includes a ship with drastically reduced impact on the air and ocean environment. To achieve this, research into clean ship technologies, including cleaner engines, ballast water and oil recovery will be strengthened in FP7.

Marine scientific research is a world-wide activity. While supporting implementation of general policies and planning at the regional level, research will also have to address global pressures such as the impact of climate change. The outermost maritime regions of the EU are well placed for marine observation of the ocean system, weather cycles, biodiversity etc. This potential could be considered in planning future research and development programmes within this domain. Research in the public interest could be necessary concerning EEZs (Exclusive Economic Zones) and continental shelves. Within domains such as these Community agreements with third countries could include the mutual consent necessary for research[32], thus facilitating and promoting underlying research, which is funded in the overall public interest.

Member States could include in their road maps for the implementation of the Environmental Technologies Action Plan (ETAP)[33] a section on marine technologies and innovations.

29

Member States and private funds; e.g. EUREKA – pan-European network for market-oriented, industrial R&D – COST – European Cooperation in the fields of Scientific and Technological Research – European Social Fund and INTERREG III.

30

EuDA, contribution to Green Paper.

31

http://ec.europa.eu/research/transport/news/article_2067_en.html

32

See articles 242-257 UNCLOS.

33

Communication from the Commission to the Council and the European Parliament 'Stimulating Technologies for Sustainable Development: An Environmental Technologies Action Plan for the EU' – COM(2004) 38.

How can a European Marine Related Research Strategy be developed to further deepen our knowledge and promote new technologies?

Should a European Marine Research Network be developed?

What mechanisms can best turn knowledge into income and jobs?

In what ways should stakeholders be involved?

2.4. Innovation under Changing Circumstances

Climate Change

Oceans and seas play a key role in climate and weather patterns. Equally the oceans and seas are particularly sensitive to climate variations. Oceans act as climate regulators either directly by, e.g. transferring heat (an example of this is the Gulf Stream) or indirectly, through CO_2 absorption. They can also be affected by human activities in coastal zones and coastal waters. The icecaps also play a crucial role in the global climate system.

On average, climate warming of the Arctic region is two or three times more marked than elsewhere on the planet, with a 3° C increase over the past 50 years. Arctic pack ice has already shrunk by 15 to 20% over the past 30 years[34]. If this is not addressed, arctic flora and fauna will suffer severe changes, as will the entire food chain from single-cell algae to fish and seals. There will be serious consequences for indigenous peoples. Climate change in the Arctic could become a major challenge for EU Maritime Policy.
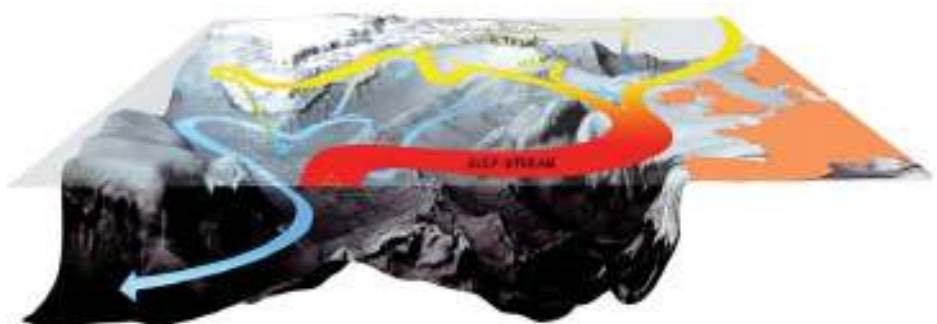
Through sea level rise and increased temperatures, Arctic changes impact the planet as a whole. Safeguarding the Arctic region's climate is a very important part of averting global climate change. It is therefore at the centre of the EU's strategy to combat climate change.

Climate change also has important impacts on Europe. It could contribute to the slowing of the Gulf Stream, with all the effects this would have on the climate in Europe. According to the International Panel on Climate Change (IPCC), the global mean sea level is set to rise significantly during this century[35]. Coastal development and ports will be increasingly vulnerable to storm surges. Tourism may also suffer. Increasing summer temperatures in the south of Europe may cause major changes in favoured tourist destinations. Mediterranean coastal zones are likely to face serious impacts from precipitation pattern changes. The provision of water through desalinisation may well be increasingly needed around our coasts. Major species shifts are to be anticipated. Fish abundance and distribution of marine fish may be affected, with consequences for the fisheries sector.

Carbon dioxide (CO_2)-induced ocean acidification is inevitable. Ocean acidification could lead to a worldwide decline in areas favourable to coral reef growth, major changes in marine ecosystems affecting the marine food chain, and a reduced ability for oceans to absorb carbon dioxide. Major impacts can be feared on the coral reef systems off the coasts of the tropical and sub-tropical territories of Member States.

The consequences of climate change on oceans and seas, the environment at large and in turn our economic prosperity and social well-being are potentially far-reaching and will carry significant costs.

[34]
IPCC climate change 2001: synthesis report. IPCC plenary XVIII (Wembley, UK) 24-29.9.2001.

[35]
Ibid.

North Atlantic Ocean Currents

Is climate change weakening the warm Gulf Stream?
Source: ESA-AOES MEDIALAB

It is thus essential that Europe continue to play a leadership role on the world stage in tackling climate change. It needs to continue to consider appropriate measures aimed at reducing climate change, including in the maritime transport and energy sectors. The shipping sector remains a major source of air pollution in Europe. The principal greenhouse gas emitted by ships is CO_2. Ships' emissions of CO_2 in EU seas were 157 million tonnes in the year 2000[36]. This is more than aviation emissions in EU air space. In the absence of new policy measures, shipping emissions of NOx are projected to be higher than all land-based sources combined by 2020[37]. These emissions need to be reduced in line with the Air Thematic Strategy recently adopted by the Commission[38].

If Europe can develop new technologies for reducing the climate impact of maritime industries and new techniques of planning for the impact of climate change on coastal areas, then these can be exported to those parts of the world experiencing similar impacts. New offshore technologies such as carbon capture and geological storage or new off-shore installations built to resist higher impacts in cases of extreme weather events provide significant economic opportunities. They place Europe at the forefront of technological innovation to mitigate and adapt to climate change. Several research projects supported under the 4th, 5th and 6th Framework Programmes have addressed the practicality, environmental consequences and safety of carbon sequestration. It is estimated that by 2050 around 483 billion tonnes out of the projected 877 billion tonnes of total CO_2 emissions could be captured and stored[39].

Energy

European coastal waters possess many opportunities for offshore renewable energy installations. Offshore wind, ocean currents, waves and tidal movements carry a vast amount of energy. Commission projections are that wind power could generate 70,000 MW by 2010, including 14,000 MW offshore[40]. Other emerging technologies include wave energy devices and tidal current turbines that can be deployed on the shoreline and offshore. In all these cases, competition with other users of coastal waters such as shipping or fisheries is possible, while the needs of the local population have to be respected. This will increase the need for spatial planning as called for in Chapter IV.

Wind farm off the Danish Coast
Source: EC Audiovisual Service

36
Quantification of emissions from ships associated with ship movements between ports in the European Community, http://www.ec.europa.eu/environment/air/background.htm#transport

37
Commission Staff Working Paper – SEC(2005) 1133.

38
Communication from the Commission to the Council and the European Parliament 'Thematic Strategy on Air Pollution' – COM(2005) 446.

39
Institut Français du pétrole. http://www.ifp.fr/IFP/fr/espacepresse/Dossier_CO2/5_ADEME_FicheActionsCO2.pdf

40
Communication from the Commission 'The support of electricity from renewable energy sources' – COM(2005) 627.

As easily accessible offshore oil and gas resources get depleted and producers start considering less accessible reserves, such as the deep sea, a number of questions arise: what could be done to facilitate exploitation of such resources without compromising environmental and economic concerns, what new technologies are necessary to reach such resources and what innovative business models and regulations would be appropriate in this context?

Energy consumption in the transport sector experiences the fastest growth in the EU, but there is potential for energy savings. First, a shift from road transport to shipping can contribute to these savings, because of the relatively low energy consumption of shipping per ton of goods transported. Secondly, shipping could contribute to energy efficiency gains, e.g. through the use of wind and solar energy and biofuels.

Another emerging area is methane hydrates. The present estimate of this resource is around 10,000 Gt carbon equivalent, which amounts to as much as all other fossil fuel resources combined[41]. This form of energy could help diversify sources of supply and releases less CO_2 into the atmosphere than oil or coal per unit of energy obtained. Its exploitation, however, presents major technical challenges in terms of collection, conditioning, transport and conversion to commercial methane gas. Europe is leading the search for methane hydrates and research into the risks and consequences of their accidental release, which could seriously contribute to the greenhouse effect[42].

The sea transport of energy, by pipelines or tankers, creates both economic opportunities and raises concerns from the perspective of safety and potential environmental impacts of accidents. These could be addressed in guidelines for a dedicated Trans-European Network (TEN) for hydrocarbons, covering all infrastructure elements.

Blue Biotechnology[43]

Blue biotechnology is about new products that can be obtained through the exploitation of our rich marine biodiversity. It offers long-term potential. An estimated 80% of the world's living organisms are found in aquatic ecosystems. Marine biotechnology will contribute to many industrial sectors from aquaculture to healthcare and from cosmetics to food products[44].

To realise its potential, it is essential that effective steps be taken as soon as possible to arrive at a multilateral agreement protecting marine biodiversity under the United Nations Convention on the Law of the Sea (UNCLOS)[45]. This would be in line with the EU's Gothenburg target to halt the decline of biodiversity by 2010[46].

Blue biotechnology

41
Eurogif, contribution to Green Paper.

42
See http://www.metrol.org/; http://www.igme.gr/anaximander/; http://www.hydratech.bham.ac.uk/; http://www.geotek.co.uk/hyacinth/; http://www.crimea-info.org/project3/crimeao.htm; http://www.gashydat.org/; http://www.eu-hermes.net/

43
See Background Paper No. 10 on Marine Biotechnology http://ec.europa.eu/maritimeaffairs/suppdoc_en.html

44
A Study into the Prospects for Marine Biotechnology Development in the United Kingdom, Biobridge Ltd, 2005, Executive Summary, http://www.dti.gov.uk/marine_biotechnology_report.html. See also "Marine industries global market analysis", Chapter 23 (footnote 5).

45
http://www.un.org/Depts/los/index.htm

46
Göteborg European Council 15-16.06.2001, Presidency Conclusions.

As blue biotechnology is at an early phase of development, support should focus on exploring and enhancing the knowledge on which the production of new goods and services will be based. This could be done in conjunction with stakeholders.

Member States could build on the example of existing "Green Investment Funds" to mobilise additional risk funding for eco-innovations in oceans affairs, marine environmental technologies, and biotechnology through establishing appropriate "Blue investment funds".

> *What further steps should the EU take to mitigate and adapt to climate change in the marine environment?*
>
> *How can innovative offshore renewable energy technologies be promoted and implemented?*
>
> *How can energy efficiency improvements and fuel diversification in shipping be achieved?*
>
> *What is needed to realise the potential benefits of blue biotechnology?*

2.5. Developing Europe's Maritime Skills and Expanding Sustainable Maritime Employment

Maritime activities need to attract highly qualified people. Yet although overall employment in the maritime sector in Europe may well be stable[47], the number of European seafarers is declining. Current shortages, concerning mostly merchant marine officers, do not, however, affect all Member States to the same extent.

Recruiting well trained and competent seafaring crews and other professionals in sufficient number is crucial for the survival of the maritime industry, for safety reasons, and to maintain Europe's competitive edge. Many sectors, such as port state control authorities and classification societies require a steady flow of former seafarers, particularly officers, pilots, engineers, shipyard managers, ship safety inspectors and instructors. Many jobs aboard vessels are now taken up by personnel from third countries. This is attributable to career constraints, the isolation involved in these professions, the low status attached to the job and the lower remuneration of third country seafarers[48].

Evidence suggests that the causes of this decline are to be found on both the demand and supply sides. In shipping, competitive pressures reduce the willingness of employers to offer openings at wage levels that are attractive to Europeans. Coupled with the impression that jobs are not secure and working conditions are poor, this has led to a reduction in the number of candidates applying for positions within the maritime professions, although some argue that "*there is no evidence to substantiate that young EU nationals do not wish to seek a maritime career*"[49].

[47]
See Background paper No. 2 on 'Employment, social and training aspects of maritime and fishing industries and related sectors'. http://ec.europa.eu/maritimeaffairs/suppdoc_en.html

[48]
France, Spain and Portugal contribution to Green Paper: Towards a future Maritime Policy for the Union, pp. 10-55.

[49]
European Transport Workers' Federation (ETF), contribution on Green Paper.

In a report presented in October 2005, the Commission made proposals for reversing the negative trend in the numbers of European seafarers and attracting people to the seafaring professions[50]. The Conclusions of the Maritime Transport Council of 5 December 2005 indicate some progress on this front.

A key factor to reverse the downward trend of seagoing employment is to encourage job mobility between sectors. This depends on the recognition and implementation of the concept of maritime clusters.

Mobility has a particular role to play in providing alternative employment to fishermen and women.

People at work
(Courtesy of TKMS/HDW)

Maritime education and training should be designed to provide potential recruits with skills which are of the highest quality, and which can provide multiple employment opportunities. Legislative barriers such as the lack of mutual recognition of qualifications or national requirements for officers should be eliminated. The implementation of the Directive on the mutual recognition of seafarers' certificates issued by the Member States should remove any remaining obstacles[51].

Community funds should be used to support the management of change, to facilitate retraining and professional reorientation, including cases of restructuring and job losses. Consideration could be given in discussions within the maritime cluster to setting up systems allowing other sectors to contribute financially to traineeships/apprenticeships in shipping. This would facilitate potential future employees obtaining the sea-going experience necessary for subsequent employment.

Current maritime education and training curricula, for shipping and related sectors, but also for marine engineering, and for fisheries, should be reviewed. The Confederation of European Maritime Technology Societies (CEMT) has suggested in this context that an inventory of the skill needs of industry should be established[52]. The Council has asked the Commission to prepare "*a structured survey of cadet motivations over time*" in order to address the reasons for students not completing their training[53]. The aim must be to ensure that all EU recruits are trained to international standards, such as the ones prescribed in the Standards for Training, Certification and Watchkeeping (STCW Convention)[54], and that they are given a range of additional skills, which correspond to the needs of the industry and enable them to enhance their employability and the competitiveness of the European fleet. For the fisheries sector, the poor ratification of the STCW-F Convention[55] prevents the agreed standards for training

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Commission Staff Working Document on the actions taken by the Commission in the field of maritime employment – SEC(2005) 1400.

51

Directive 2005/45/EC of the European Parliament and the Council of 07.09.2005 amending Directive 2001/25/EC – OJ L 255, 30.9.2005.

52

Confederation of European Maritime Technology Societies, contribution to Green Paper.

53

Council Conclusions 15208/05: Transport, Telecommunications and Energy Council of 5.12.2005 on boosting employment prospects in the Community maritime sector and attracting young people to the seafaring profession.

54

http://www.stcw.org/

55

International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995.

and certification from entering into force and thus from being applied internationally.

EU actions should continue to address minimum training requirements, working conditions and enforcement. In the maritime transport industry, seafarers are sometimes paid on what is referred to as 'home/residence conditions'. In cases where EC law on freedom of movement of workers applies and where maritime social partners of the flag state have concluded agreements on wages, such practices may be problematic.

The assimilation of ships with their flag state territory and the existence of flags of convenience with weak enforcement of international and national regulations add further complexity to this issue. In cases where flag state remuneration conditions apply and the social partners of the flag state have agreed higher rates of pay for seafarers than those agreed in the home/residence state, some shipowners may consider flagging out or replacing EU seafarers with seafarers from third countries. These questions need further consideration at EU level, in close cooperation with social partners.

EU actions should also identify and promote the implementation of best practices. The project on Coordinated Academic Research and Education to Support Innovation in European Marine Industries (CAREMAR) is an example of this approach[56].

The excellence of recruits depends on attracting the best young men and women into maritime education and training. It is here that the poor image of the sector must be tackled. It is essential to provide adequate living and working conditions for seafarers, both male and female, which are of a standard that Europeans have rightfully grown to expect. Ratification of the Consolidated Maritime Labour Convention, which was adopted by the International Labour Organisation (ILO) in February 2006 is crucial in this respect. The Commission intends to present in 2006

a Communication on minimum maritime labour standards addressing the implementation of the ILO consolidated Convention within the framework of Community law, possibly through an agreement of social partners. Such implementation should extend port state control to labour standards applied on board all ships calling at European ports regardless of the flag and the nationality of seafarers. Member States should ratify ILO Convention 185 on the seafarer's identity document as this is important both for the wellbeing of seafarers in relation to shore leave and transit, and for strengthening security[57].

Fishing is known to be much more accident-prone than other seafaring activities. Working conditions are often worse than in other professions. Reform and improvement of both EU and ILO regulations concerning working conditions aboard ships should pay particular attention to the fishing sector. This is done in the current operation of the European Fisheries Fund (EFF) and the Financial Instrument for Fisheries Guidance (FIFG)[58].

There are enough cases of single companies or of collective agreements to suggest that higher wages, better conditions, improved opera-

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International Collective Bargaining

On the 6th of October 2005 the International Bargaining Forum – consisting on the employer side of the International Maritime Employers Committee (IMEC) and the International Mariners Management Committee of Japan (IMMAJ) and on the employee side the International Transport Workers Federation (ITF) – concluded a new settlement covering 55,000 seafarers on 3,200 ships on the basis of the former international bargaining agreement from 2003. The outcome of the negotiations was described as successful.[59]

56
Polish Society of Naval Architects and Marine Engineers (KORAB), contribution to Green Paper.

57
Council Decision 2005/367/EC of 14.04.2005 authorising Member States to ratify, in the interests of the European Community, the Seafarers' Identity Documents Convention of the International Labour Organisation (Convention 185) – OJ L 136, 30.5.2005.

58
Proposal for a Council Regulation European Fisheries Fund, 2004/0169 CNS, COM (2004) 497 final and Council Regulation (EC) No 1263/1999 of 21 June 1999 on the 'Financial Instrument for Fisheries Guidance' and http://ec.europa.eu/scadplus/leg/en/lvb/l60017.htm

59
See joint statement from the International Bargaining Forum. Meeting in Tokyo 5-6 October 2005, http://www.itfglobal.org/press-area/index.cfm/pressdetail/611/region/1/section/0/order/1

tional efficiency and safety can be combined. The objective for Europe should be to have quality ships, manned by highly skilled employees, working under the best conditions.

> **How can the decline in the number of Europeans entering certain maritime professions be reversed and the safety and attractiveness of jobs ensured?**
>
> **How can better working conditions, wages and safety be combined with sectoral competitiveness?**
>
> **How can the quality of education, training and certification be assured?**

2.6. Clustering

The image of the maritime sectors can be enhanced, their attractiveness increased and their productivity strengthened, if a common understanding can be developed of the inter-relationships between them. This idea has come to be known as the cluster concept.

For example, European Marine Equipment Council (EMEC) suggests that, *"A strong maritime community in Europe is an essential condition for the well-being and the development of maritime transport. Given the high degree of interaction and the interdependency of all players in the (shipbuilding) sector a change of fortune in any one industry will influence others"*[60].

Clusters can help advance the competitiveness of entire sectors, or a group of sectors. This can be done by sharing knowledge, carry-

Manufacturing

Boatbuilding and repair
Marine and Nonmarine suppliers
Marine and offshore equipment
Ship building, repair, conversion

Transport

Inland navigation
Ports & Terminals
Shipping

Resources

Fish processing
Fisheries & Aquaculture
Oil, gas & renewables

INTERNATIONAL ORGANISATIONS

EUROPEAN UNION

MEMBER STATES

REGIONS

Brokers & Agents
Bunkering
Classification
Dredging
Financing
Insurance
Pilotage
Specialised Media

Cruising
Coastal Activities
Yachting & Marinas

Education & Training
Governance
Hydrographic offices
Navies, Coast Guards
and SAR services
NGOs
Trade Unions &
associations

Consultancy
Oceanography and
Oceanology Institutes
Towing tanks
Universities

**Services &
other operations**

**Leisure
and Tourism**

Public sector

Research

60

EMEC, contribution to Green Paper.

ing out joint research and innovation (product development), pooling education and training, sharing innovative organisation methods among a group of enterprises (common procurement or distribution) or common promotion, including in marketing and advertising[61].

Exploiting the potential of clustering is relevant in sectors with complex supply-chains involving manufacturing and services and a large number of small and medium sized enterprises. This is the case in shipbuilding. In modern ship construction, more than 70% of the final vessel is produced by a vast network of system, equipment and service providers[62]. Best practice can be spread by connecting these sectors and developing them into net-

works of maritime excellence, covering the full range of the maritime industries including services.

The cluster concept has been successfully implemented within a number of Member States[63]. Several initiatives are underway to tighten cluster links at a European level too. The Maritime Industries Forum (MIF)[64] brings together European representatives of maritime industries. Recently a European Maritime Cluster Network was set up. Despite the fact that many clusters are concentrated in coastal areas, the maritime economy has impacts beyond the coastal regions and connections with players in regions distant from the coast need to be established too.

> *What role can maritime clusters play in increasing competitiveness, in particular for SMEs, in improving the attractiveness of maritime jobs, and promoting a sense of maritime identity?*
>
> *How can the EU promote synergies between interrelated sectors?*

2.7. The Regulatory Framework

In sectors such as shipping, port infrastructure and offshore resource exploitation, including fisheries, where large investments are being made in innovative products designed to last for many years, a stable regulatory environment is important. This is particularly true for rules affecting the location of economic activity. This is another reason why a comprehensive system of spatial planning should be put into place as soon as possible for European coastal waters.

Much should be done to ensure better, simpler, and more consolidated regulation. Within the EU, work to simplify and streamline regulation is underway. These efforts should also be directed at the regulations covering maritime and related sectors. Internationally, the ILO convention on working conditions at sea demonstrates that better regulation at the international level can be both beneficial

to seafarers and improve transparency and efficiency of the regulatory framework.

The exclusion of maritime sectors from European labour and social legislation on a number of issues, e.g. the Directive on collective redundancies or the Directive on transfer of undertakings[65], should be reassessed in close cooperation with social partners.

The interdependence of the maritime sectors and policies may mean that legislation developed for the needs and objectives of one policy may have unintended and contradictory impacts on other maritime goals in the overall context of sustainable development. Where such impacts can be identified the Commission believes that amendments to Community legislation in question should be considered. To avoid a theoretical, bureaucratic exercise, the Commission appeals to stakeholders to

61
See Background Paper No. 1 on Competitiveness. http://ec.europa.eu/maritimeaffairs/suppdoc_en.html

62
European Community of Shipyards' Associations (CESA), contribution to Green Paper.

63
See footnote 4.

64
http://www.mif-eu.org/

65
Council Directives 98/59/EC (OJ L 225, 12.7.1998) and 2001/23/EC (OJ L 082, 22.3.2001).

identify such cases, in order to propose changes based on an integrated analysis.

The enforcement of rules on the immense vastness of the world's oceans must rely not solely on government activity but also on the acceptance of the rules by those to whom they apply. This places a particular premium on participation by stakeholders in the rule-making process. The Community has already recognized this in the fisheries sector through the creation of Regional Advisory Councils under the reformed Common Fisheries Policy, which are consulted by the Commission on future legislation affecting their area and may propose their own ideas for the development of fisheries policy.

Self regulation, despite its limits, and Corporate Social Responsibility (CSR) may have important and complementary roles to play. The adoption of CSR strategies and the disclosure of performance in relation to announced goals represent an alternative to regulation. CSR can contribute to sustainable development, while enhancing Europe's innovative potential and competitiveness. It can bring direct benefits to companies, allowing them to operate in full symbiosis with their environment, having positive effects namely on insurance premiums or access to finance.

An efficient regulatory system will also ensure that the economic signals given to the market reinforce its rules. As the European Association of Classification Societies (EurACS) stated "*future success will depend both on incentives for quality performance and a certain degree of penalties for unsatisfactory performance*"[66]. Appropriate incentive mechanisms should be promoted for ship-owners with a good track record, for example by offering lower costs in ports and fewer security checks. "*Targeted Port State inspections have proven to be a valuable tactic in eliminating sub-standard shipping from the world's oceans and in raising the overall safety standards of the international shipping industry*"[67]. Mandatory insurance and a bonus-malus system as used in other transport modes should

be implemented. Protection and Indemnity (P&I) clubs should ensure that their operations provide incentives for quality shipping and penalize sub-standard ships. A comprehensive review of the regulatory and structural framework should identify how economic incentives can be further improved across the maritime sectors, including shipping.

Competition is the key mechanism for providing rational market incentives. Shipowners traditionally cooperate in consortia, alliances, pools or liner conferences. The Commission recently found that liner conferences have a negative impact on competition and proposed to the Council to abolish them. In order to help smooth the transition to a more competitive environment, the Commission intends to issue guidelines on the application of competition rules to all remaining forms of cooperation in the maritime transport sector[68].

Under the rules of UNCLOS, it is the country in which the ship is registered which is primarily responsible for their enforcement, the so-called flag state. If the flag state is lax in the application or control of international rules, a "flag of convenience", it can become the home register of sub-standard ships or irresponsible owners. In contrast, registers which police international rules strictly, and enforce additional constraints, may find that owners transfer their vessels to less onerous registers. This is not a new debate and the dilemma for governments will remain.

But three things can be done:

(1) First, the EC and its Member States should put the full weight of their specific powers, combined influence and external policy instruments behind a policy to improve the performance of all flag states.

(2) Second, new instruments to strengthen the monitoring of international rules on the high seas and their control by port states should be urgently developed using state-of-the-art technologies such as global satellite navigation (Galileo)[69].

66
EurACS, contribution to Green Paper.

67
International Association of Classification Societies (IACS), contribution to Green Paper.

68
White Paper on the review of Regulation 4056/86, applying the EC competition rules to maritime transport, Commission programme 2003/COMP/18.

69
http://ec.europa.eu/dgs/energy_transport/galileo/index_en.htm

(3) Third, an in-depth analysis, with the participation of social partners, should be conducted, in order to identify ways to enhance the competitiveness of ships sailing under European flags.

As regards fisheries, one of the results of the World Summit on Sustainable Development at Johannesburg in 2002 was that fish stocks should be maintained or restored to levels that can produce the maximum sustainable yield by 2015. The Commission will shortly adopt a Communication on how to implement the maximum sustainable yield concept in the Common Fisheries Policy. Reducing over-fishing will increase profitability, reduce environmental impact and decrease discards of fish. Larger and higher value fish can be caught, often in larger amounts. There are advantages in market supply and considerable competitive advantages to be gained. The risk of fish stock collapses is greatly reduced.

More generally, fisheries will benefit from more integrated policies due to the interaction of fisheries with other policies. Decisions on spatial planning, or regulations on toxins and nutrients as well as port and infrastructure planning, impact on fisheries, while fisheries can impact on sensitive habitats and non-target species, including mammals and sea birds. Establishing linkages between these policy areas should reduce the often-expressed concern of the fisheries sector that it bears an unfair share of responsibility for improvement of the marine environment because it is easier to identify and to regulate than many other contributors to environmental damage.

How could the regulatory framework for the maritime economy be improved to avoid unintended and contradictory impacts on maritime goals?

Which exclusions of the maritime sector from some EU social legislation are still justified? Should further specific legal instruments on employment conditions in the maritime sector be encouraged?

How can EU safety regulation be simplified while maintaining high level standards?

To what extent can economic incentives, self-regulation and corporate social responsibility complement government regulation?

What further EU action is needed to deal with the inadequacies of sub-standard flags and to provide incentives to register under European flags?

Should an optional EU register be made available? What conditions and incentives could be contemplated for such a register?

How should the Common Fisheries Policy be further developed to achieve its aim of sustainable fisheries?

3. MAXIMISING QUALITY OF LIFE IN COASTAL REGIONS

3.1. The Increasing Attraction of Coastal Areas as a Place to Live and Work

The coasts of Europe were once inhabited by communities who made a living from fisheries. As local and international sea transport developed, ports were developed and further activities began to arise around them. Seeking to live beside the sea simply for pleasure is a relatively recent phenomenon. The Conference of Peripheral Maritime Regions of Europe (CPMR) points out that, "*Their natural attractiveness (landscapes, hours of sunshine, health) is furthermore giving rise to strong demographic growth, which shows no sign of slowing*"[70].

Source: John M. Ahern-SouthWestWalks Ireland

Today's more affluent societies, and the increasing number of citizens who are not engaged in active employment, have been important in leading to an increasing demand for maritime leisure services. This has seen a new industry in coastal areas grow to meet these needs. This, in turn, has led to the development of dynamic European suppliers who have established themselves in international markets.

The reach of this industry is difficult to analyse because the statistics are poor. Estimates suggest that close to half the European population lives along or near our coasts, but no estimates are readily available as to the value of these locations, the state of health of the seas off the coasts, the availability of maritime leisure opportunities or the positive effects of the sea on their quality of life. Although GDP is traditionally used as an indicator of economic output, it is now widely recognised that its growth in itself does not reflect social wellbeing. One dimension not recorded by conventional economic indicators based on national output is the "non-market value" of the sea, i.e. the value of services which, without being the subject of a market transaction, may well have a significant impact on wellbeing. Examples are found in recreational activities such as spending time at the beach, and the value of the coast's scenic benefits.

Deterioration of the marine environment, which can lead to widespread algal blooms in the Baltic, or occasional plagues of jellyfish in the Mediterranean, significantly reduces this quality of life.

Without statistics, it is hard to see how planning authorities can give sufficient weight to these elements when taking decisions with respect to the development of economic activities in coastal areas or on coastal waters. The Commission believes that a comprehensive study should be undertaken to make such estimates available. The fact that environmental and socio-economic statistics have not been readily available in a coastal format needs to be addressed. This will provide decision-makers and stakeholders with a comprehensive view of coastal issues and trends across Europe[71].

Development inevitably brings with it pressures on space and the environment. It requires improvements in accessibility to, and internal mobility within, coastal zones, in particular small islands, through transport infrastructure improvements. It also calls for the supply of general interest services (health, education, water and energy supply, telecommunications,

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70
CPMR, contribution to Green Paper.

71
Commission Coastal Zone Policy, http://ec.europa.eu/environment/iczm/home.htm#zone6

"We cannot live with this Pea Soup" – *Swedish Prime Minister Goran Persson*
Algal Bloom in the Baltic, summer 2005. Source: ESA

postal services, waste water and waste treatment) in order to improve the quality of life in coastal zones, in particular during peak tourist seasons. In rural and remote areas, Information and Communication Technologies have a role to play in providing services such as e-health, e-learning, public access to the Internet, e-business, e-assistance to businesses and teleworking[72].

The environmental impact of such development must be factored into its planning if the result is to be sustainable.

How can the quality of life in coastal regions of Europe be maintained, while continuing to develop sustainable income and jobs?

What data need to be made available for planning in coastal regions?

72
See Own-initiative opinion of the Committee of the Regions of 12.10.2005 –
EU maritime policy – a question of sustainable development for local and regional authorities.

3.2. Adapting to Coastal Risks

We need to ask how to protect the oceans, but also how to protect ourselves from them. Serious risks for people and goods are related to the sea. Many of these are connected with natural risks such as erosion, coastal flooding, storms and tsunamis. Some of these are clearly human-induced, such as climate change and require urgent action to avoid serious impacts in the decades ahead. Mitigating climate change is the key to protecting our economy. In view of already unavoidable impacts, comprehensive adaptation strategies are required to manage risks for coastal and off-shore infrastructure, to organise sea defence and protect marine ecosystems sustaining maritime activities. There are also risks of a human nature, especially pollution from human activities like accidental and operational pollution by ships and also those related to illegal activities such as smuggling, illegal migration, piracy and terrorism.

Coastal Defences and Natural Disasters

The increase in the incidence of severe storms and flooding in Europe, generally attributed to global climate change, will have repercussions on coastal infrastructure, shipping, aquaculture and marine engineering projects such as wave and tidal devices. Half of Europe's wetlands are expected to disappear by 2020.

Zwin wetlands in Belgium
(Photo: Kris Struyf)

Public expenditure in the EU dedicated to coastline protection against the risk of erosion and flooding has reached an estimated €3.2 billion, compared to €2.5 billion in 1986, and studies indicate that the cost of coastal erosion will average €5.4 billion a year for the period 1990-2020[73].

© Corbis

The increased costs are a signal that more needs to be done to incorporate risks in planning and investment decisions. The question also arises whether and how part of the risk and financial costs should be transferred to private parties, who either cause the increased risk, or who choose to live or invest in areas at risk. Lack of action to mitigate the risks would lead to higher insurance premiums and increased costs, across the board.

In 2006 the Commission proposed a directive on the assessment and management of floods. Its aim is to reduce and manage the risks posed by floods to human health, the environment, infrastructure and property[74]. European know-how in dealing with these threats is high. In an era in which many of the world's coasts are under similar threat, this represents a growing market for European companies.

The South East Asian and Indian Ocean tsunami of December 2004 provided a reminder of the vulnerability of coastal areas to the destructive power of the ocean. International cooperation in science and engineering to mitigate the impact of natural disasters, upgrading the systematic monitoring of both seismic and sea level characteristics to ensure rapid warning and community response for tsunamis and other natural ocean hazards should be renewed. We should not forget that the

73
European Initiative for Sustainable Coastal Erosion Management, www.eurosion.org

74
Proposal for a Directive of the European Parliament and the Council on the assessment and management of floods – COM(2006) 15 final/2.

Mediterranean, or the Atlantic Ocean off the Iberian Peninsula, like the Indian Ocean, are vulnerable to earthquake activity. The development of early warning systems would help Member States minimise the lead time to respond to natural disasters and enhance the EU's collective ability to react rapidly.

Security and Safety

Sea-related risks and threats also include pollution by ships, and criminal activities, from the trafficking of human beings and smuggling to terrorism. Such risks and threats to Europe's interests require control of compliance with maritime safety rules via port state control, reliable and efficient vessel traffic management and stronger surveillance. This requires harmonisation of disparities in Member States' legislation and the implementation of international instruments such as the ISPS Code[75]. The monitoring of EU waters involves considerable resources: surface, air and satellite surveillance and vessel tracking systems. It would benefit from further integration. The fight against these risks and threats could be made more efficient with
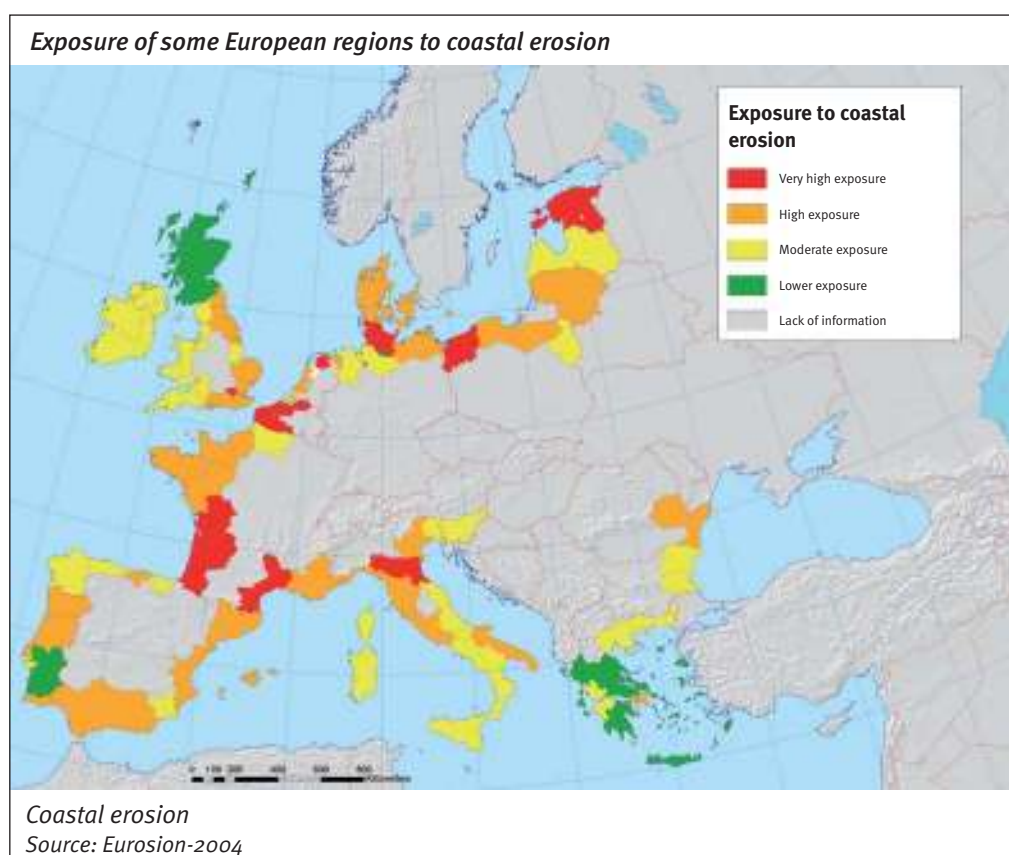
actions to improve the exchange of information between Member States, joint investigation teams[76] and strengthening the protection of critical infrastructures in the EU.

Ensuring safety and security on our seas requires international co-operation. The EU co-operates with the United States of America in the framework of the Container Security Initiative (CSI)[77] launched after the 11 September 2001 terrorist attacks. This approach should be extended to other countries that are strongly involved in maritime traffic with the EU.

Providing the Right Responses

As coastal areas become more attractive to Europeans, increased attention will need to be paid to the attendant risks and how they may be avoided. A preventative approach and innovative planning is required. The work done under the projects "EUROSION"[78] provides a good basis for a better understanding and planning of coastal defences.

To support coordination and promote best practice in risk management, an inventory of

Exposure of some European regions to coastal erosion

Exposure to coastal erosion

- Very high exposure
- High exposure
- Moderate exposure
- Lower exposure
- Lack of information

Coastal erosion
Source: Eurosion-2004

75
http://www.imo.org/Newsroom/mainframe.asp?topic_id=897

76
Council Framework Decision on joint investigation teams – JO L 162, 20.6.2002.

77
Agreement between the EC and the USA on intensifying and broadening the Agreement on customs cooperation and mutual assistance in customs matters to include cooperation on container security and related matters (OJ L 304, 30.9.2004).

78
See footnote 73.

risk reduction policies and responses at EU level is needed, including coastal defence mechanisms and plans that exist in Member States and at EU level. In this respect, the enhancement of civil/military cooperation for disaster relief should be considered. The EU military database, currently used for responding to terrorist attacks by the Community civil protection mechanisms, could be useful in reacting to other types of disasters. In order to improve the response to major emergencies that overwhelm national capacities, the Commission recently adopted two legislative proposals to strengthen the Community Civil Protection Mechanism[79]. The European Maritime Safety Agency assists Member States in the event of pollution incidents. The Commission has also proposed the establishment of a legal framework for the designation by the Member States of the most appropriate places of refuge for ships in distress, with the aim to prevent, and respond to, accidents at sea and risks from pollution[80]. Flood protection will continue to be one element of assistance under existing Community funds.

What must be done to reduce the vulnerability of coastal regions to risks from floods and erosion?

What further cooperation is needed in the EU to respond adequately to natural disasters?

How can our shores and coastal waters be better policed to prevent human threats?

3.3. Developing Coastal Tourism

Coastal areas and islands are important elements of the attractiveness and success of coastal tourism. The sustainable tourism developments of those regions must be supported in order for Europe to remain the No 1 world tourist destination.

Sustainable tourism can contribute to the development of coastal areas and islands by improving the competitiveness of businesses, meeting social needs and enhancing the natural and cultural heritage and local ecosystems. The need to improve or maintain their attractiveness is an incentive to an increasing number of destinations to turn towards more sustainable and environmentally-friendly practices and policies. Several destinations are making genuine efforts to implement an integrated quality management approach. They define strategies with their partners, implement good practice and develop monitoring and evaluation tools to adjust their approach. Their experience can be the basis for recommendations disseminated to all coastal tourist destinations.

The Commission is working on the preparation for a European Agenda 21 for the sustainability of European tourism. This Agenda 21 will contribute to promoting the efforts to promote the sustainability of Europe's coastal areas and islands.

The diversification of tourism products and services can contribute to the competitiveness of coastal and island destinations, especially when tourists are offered the opportunity to enjoy cultural and natural sites on the coast and in the rural or urban hinterland, and diversified sea attractions such as

79
COM(2005) 113 and COM(2006) 29.

80
See footnote 20.

sea mammal watching, diving and underwater archaeology or wellness and thalassotherapy. This diversification produces multiple benefits such as reduced pressure on the beaches, alternative sources of income for former fishermen in coastal communities, and the creation of new activities to support the preservation and development of the area's heritage.

Diversification can help extend the tourism season, creating more growth and employment and reducing the environmental,

economic and social impact caused by concentrating tourism in a few months of the year.

The continued contribution of tourism to the development of coastal regions depends on the availability of infrastructure for leisure activities. According to EURMIG, "*finding an available boat mooring becomes ever more difficult. Yet there is strong, objective evidence that marinas and boat launch ramps are major stimulants to reinvigorating decaying water fronts*"[81].

One important relationship in the context of leisure activities is that between angling and fisheries. The European Anglers Alliance states that Europe has an estimated 8-10 million recreational anglers at sea with a related industry of € 8 to 10 billion. There seems little doubt that the value to the coastal economy of a fish caught by an angler exceeds the value of the same fish caught for commercial purposes by a fishing boat. On the other hand it is understandable that fishermen demand that restrictions on the taking of certain fish for conservation purposes are also applied to sport fishers, particularly when the latter use similar fishing gear to professional fishermen. These issues require further study and consideration.

> *How can innovation in services and products related to coastal tourism be effectively supported?*
>
> *What specific measures promoting the sustainable tourism development of coastal regions and islands should be taken at EU level?*

3.4. Managing the Land/Sea Interface

In order to coordinate the multiple uses of the coastal zones, their impacts and development policies, many coastal authorities are engaging in integrated coastal zone management (ICZM). One of the principles of ICZM is to integrate the sea, the land and their interface areas under a single integrated management, rather than limiting such management to terrestrial areas. In May 2002, the European Parliament and Council adopted

81
EURMIG, contribution to Green Paper.

	Number of coastal Member States	Representing x km of the EU coastline
Development of an ICZM Strategy	9	64.635 (64%)
Development of additional action, to promote ICZM	7	18.332 (18%)
Undecided	1	4.578 (5%)
No reply	3	13.260 (13%)
Total	20	100.805 (100%)

(Commission européenne/Direction générale de l'environnement/ Novembre 2005)

a recommendation[82] whereby Member States should develop ICZM strategies with their regional and local authorities as well as stakeholders. In the course of 2006, the Commission will evaluate progress and assess whether further measures are appropriate.

The coherence of EU policies affecting the coastal zones and the integration of the various levels of governance are a pre-requisite for successful ICZM. Actual solutions to coastal planning and management issues are best found at a regional or local level. Given the interaction of coastal and maritime issues across the land-sea interface, an overall EU maritime policy has a major stake in the success of ICZM. Consideration should therefore be given to an EU-wide mechanism for comparative analysis and an exchange of best practice.

Currently ICZM is under development for around 80% of the EU coastline.

One important link between land and the marine ecosystem is provided by the continuous flow of water from our rivers to the sea. Where it is not biodegradable, the pollution load that it carries accumulates in the oceans. Some of our seas, for example the North Sea, cope with this better than others such as the Baltic, because of their depth and turbulence and semi-closed character.

As ecosystem-based management of coastal waters develops on the basis of the Thematic Strategy for the Marine Environment, it is likely that land-based measures to be taken will be identified if its objectives are to be achieved. Much of the pollution affecting the marine environment comes from land-based sources: nutrients from farming, urban and industrial effluents, pesticides, hydrocarbons and chemicals.

One of the most obvious examples of the role of coastal regions in connecting land- and sea-based activities is that of ports. They are an essential element in the worldwide logistics chain, they are the location of business activities, and they provide residential space and tourist facilities. From being dedicated largely to one activity, they have now become multifunctional settlements.

As the European Seaports Organisation (ESPO) puts it, *"The EU simply cannot function without its seaports. Almost all of the Community's external trade and almost half of its internal trade enters or leaves through the more than 1000 seaports that exist in the 20 maritime Member States of the EU".[83] Moreover, the EU has a policy of promoting a switch from land transport to water transport.* As ECSA points out, *"in those sectors where it competes directly with other means of transport, shipping remains by far the most energy efficient form of transport"*[84]. This is one of the reasons why Short Sea Shipping and Motorways of the Sea will be further promoted within an integrated EU transport system.

82
Recommendation 2002/413/CE (OJ L 148, 6.6.2002).

83
ESPO, contribution to Green Paper.

84
European Community Shipowners' Associations (ECSA), contribution to Green Paper.

Port of Cádiz (Spain)
Source: Bay of Cadiz Port Authority

The development of EU shipping in the context of growing world trade, which has consistently grown faster than the world economy for the last six decades, is dependent on efficient port capacity. The planning process and the public policy framework will have to achieve this against the background of increasing competition for space in and around ports, not least for environmental reasons.

In this context a major issue is the reconciliation of the development of maritime transport and environmental conservation, against the background of the constraints imposed by EU regulations under Natura 2000 and the Birds and Habitats Directives[85] at the same time as accommodating the need to extend ports for further developing intermodal transport services. This subject is related to the question of whether port activities should take place in

a few, very efficient ports connected to Transport European Networks (TEN-T)[86], or be distributed among a larger number, avoiding an excessive concentration of activity, with its attendant problems of congestion and pressure on the environment and the hinterland infrastructure.

Because shipyards or ports cannot be moved in the same way as other industries, a number of regional clusters have developed. Best practice can be spread by connecting them and developing them into true centres of maritime excellence, covering the full range of the maritime sectors. In 2005 a regional maritime cluster with a maritime coordinator was set up in Schleswig-Holstein. The French concept of regional poles of competitiveness is also relevant in this context[87].

How can ICZM be successfully implemented?

How can the EU best ensure the continued sustainable development of ports?

What role can be played by regional centres of maritime excellence?

85

Council Directive on the Conservation of Wild Birds 79/409/EEC (OJ L 103, 25.4.1979) and Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 92/43/EEC (OJ L 206, 22.7.1992).

86

http://www.ten-t.com/

87

See footnote 4.

33

4. PROVIDING THE TOOLS TO MANAGE OUR RELATIONS WITH THE OCEANS

4.1. Data at the Service of Multiple Activities

Marine Data

"Ô mer, nul ne connaît tes richesses intimes", Baudelaire, Les fleurs du mal.

Better understanding of the competing uses of the ocean will require better data and information on maritime activities, be they social, economic or recreational, as well as on their impacts on the resource base. Good data are also of importance for maritime economic operators. However, there are still major problems of harmonisation and reliability of data, as well as insufficient and geographically imbalanced monitoring in EU marine regions. These gaps must be addressed if we are to devise a sound and sustainable EU Maritime Policy.

The EU could consider setting up a European Marine Observation and Data Network which would provide a sustainable focus for improving systematic observation (in situ and from space), interoperability and increasing access to data, based on robust, open and generic ICT solutions. Such a Network would allow for an EU integrated analysis of different types of data and meta-data assembled from various sources. It would aim to provide a source of primary data for implementing in particular forecasting and monitoring services to public authorities, maritime services and related industries and researchers, integrating existing, but fragmented initiatives.

The improvement and dissemination of marine data would also open up opportunities for high-technology commercial companies in the maritime sector and improve the efficiency of activities such as maritime surveillance, management of marine resources and marine research in European laboratories. It would also contribute significantly towards reducing

the current uncertainty about the oceanic system and climate change, bringing accurate seasonal weather forecasting a step closer.

Creating such a network would require the EU to take legislative, institutional and financial steps. Legislation may be needed, for example, to facilitate better access to data from sources such as that of the Common Fisheries Policy and the Framework Programmes for Research. Institutional changes could include the strengthening of existing bodies at a national, regional and European level and the creation of a permanent secretariat with scientific and information technology expertise. Financial support should aim to be sustainable and long-term. Representatives of those who need the data – including Member States, the Commission, the European Environment Agency (EEA)[88], the European Maritime Safety Agency (EMSA), the European Global Navigation Satellite System (GNSS) Supervisory Authority[89], the climate change community, industry and service providers should continually review priorities and set objectives.

In this context, the Global Monitoring for Environment and Security (GMES)[90] initiative will implement a number of public information services in support of European policies, derived from in situ and space observations. Marine services have been identified as a first priority. GMES should thus constitute a major component for the Data Network.

GMES will also contribute to the aims of the initiative for an Infrastructure for Spatial Information in the Community (INSPIRE)[91], a geographical information system necessary for environmental policy making.

Consideration should also be given to setting up European programmes to develop the comprehensive mapping of European coastal waters for purposes of spatial planning, security and safety. The mapping of existing and
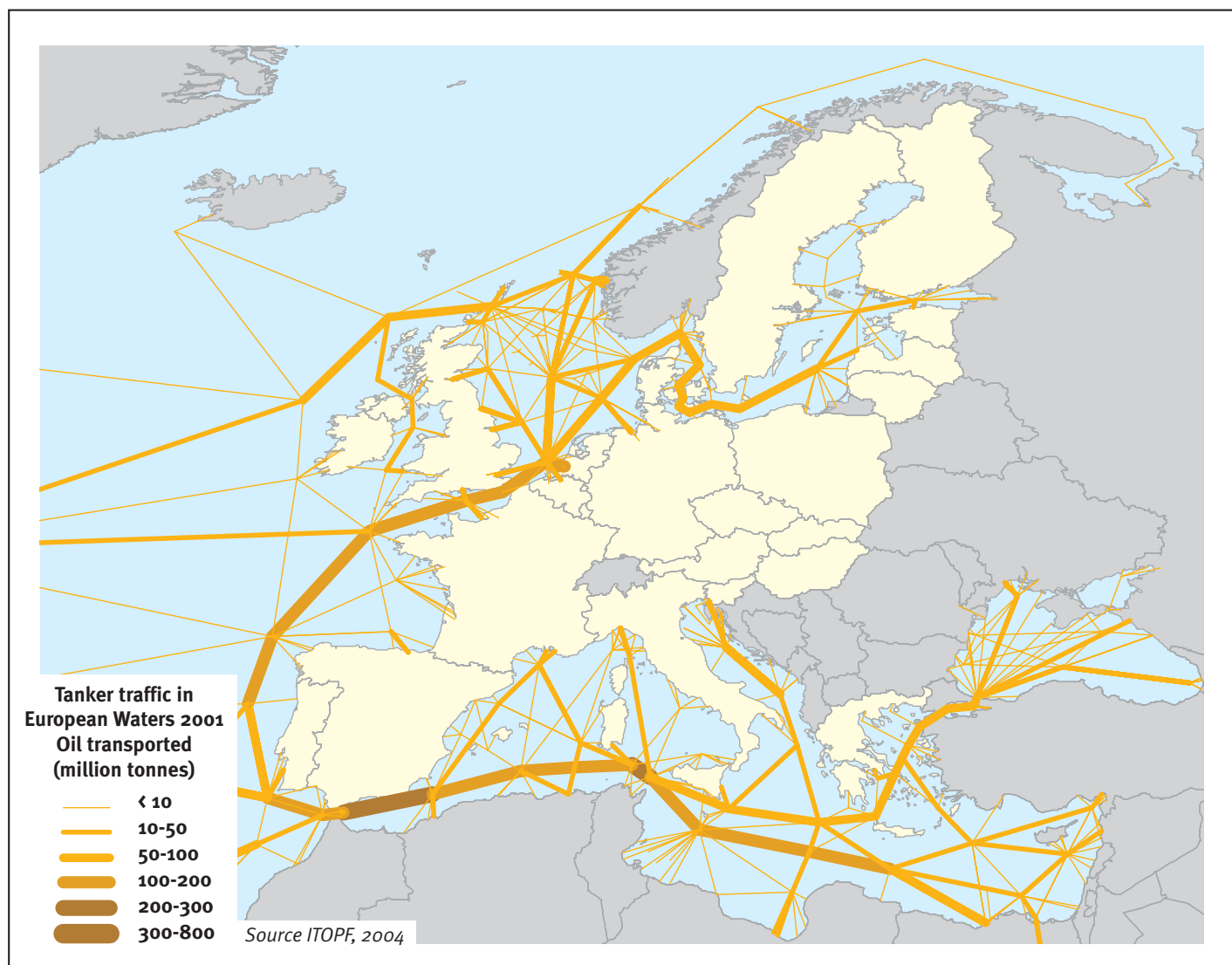
88

http://www.eea.europa.eu

89

The European GNSS Supervisory Authority has been established by the Council Regulation (EC) No 1321/2004 of 12 July 2004 on the establishment of structures for the management of the European satellite radio-navigation programmes (OJ L 246, 20.7.2004).

90

Communication from the Commission to the Council and the European Parliament 'Global Monitoring for Environment and Security (GMES): From Concept to Reality' – COM(2005) 565. GMES is a European contribution to the Global Earth Observation System of Systems (GEOSS). http://www.gmes.info

91

Proposal for a Directive of the European Parliament and of the Council establishing an infrastructure for spatial information in the Community (INSPIRE) – COM(2004) 516.

**Tanker traffic in
European Waters 2001
Oil transported
(million tonnes)**

	< 10
	10-50
	50-100
	100-200
	200-300
	300-800

Source ITOPF, 2004

planned activities in the water and on the seabed is essential. Mapping of the location of marine flora and fauna is needed for ecosystem analysis. Comprehensive mapping of the seabed has multiple uses. To the extent that new data collection programmes are required, the opportunity should be used to give industry the chance to propose the use of more robust, efficient data sensors, in order to reduce the unit cost of data collection.

While several NGOs have indicated their support for acoustic seabed mapping, they point out that the sound of the mapping process itself could negatively impact marine mammals. They suggest that the process be subject to geographic and seasonal restrictions

to protect the mammals during particularly sensitive periods of the year[92]. On the basis of data collected from these various sources, the EU could also develop a veritable Atlas of EU coastal waters which could serve as an instrument for spatial planning. It would be a contribution to the similar UN project[93] and a valuable educational tool to raise the consciousness of Europeans of their maritime heritage.

Data on vessel movements

Better data are also needed for public authorities to monitor human, economic, and other activities in coastal waters. In particular, real time information on the movements of vessels needs to be improved. Such information is not

[92]
International Fund for Animal Welfare (IFAW) – Preliminary comments for the Maritime Policy Task Force.

[93]
http://www.oceansatlas.org

only important to navigation, but can be used to detect illegal behaviour: smuggling, trafficking, terrorist activity, illegal discharges from ships.

A number of vessel tracking systems exist for particular ports, coastlines and sectors such as fisheries, safety, and security. The interchange of safety/security-related information at a European level between competent authorities is achieved through the SafeSeaNet system[94] (developed by the Commission and operated by EMSA). National Fisheries Monitoring Centres routinely send positional information on their own vessels to the monitoring centre of countries in whose waters these vessels are fishing. Coordination between Member States in this regard should improve following the establishment of the Community Fisheries Control Agency in Vigo in 2006.

It was recently agreed at the Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) of the IMO that setting up long range identification and tracking systems

(LRIT) of ships and their position, based on satellites, could be managed by regional data centres. At EU level, such regional system will be built upon the existing SafeSeaNet system. These systems will be increasingly used by both military and civilian users. The idea is to move towards an integration of existing systems that combines information from different in situ sources for a particular stretch of coastline and from new sources such as Galileo and space Earth observation systems[95].

In EU waters an additional requirement would be full interoperability between different Member State systems and sectors. In addition such systems will need to be developed in cooperation with some of the EU's neighbours. Particularly important in this respect will be Russia and our partners in the European Economic Area (EEA), Norway and Iceland. As to the Mediterranean, the European Council of December 2005 has already requested preliminary work to be done relating to a common surveillance system to combat illegal immigration.

On what lines should a European Atlas of the Seas be developed?

How can a European Marine Observation and Data Network be set up, maintained and financed on a sustainable basis?

Should a comprehensive network of existing and future vessel tracking systems be developed for the coastal waters of the EU?

What data sources should it use, how would these be integrated, and to whom would it deliver services?


4.2. Spatial Planning for a Growing Maritime Economy

As maritime activities continue to thrive, there will be increasing competition between them for the use of European coastal waters. Without some form of indicative planning, investment decisions will be hampered by uncertainty with respect to whether the activity

in question will be licensed for a particular site. The Commission believes that a system of spatial planning for maritime activities on the waters under the jurisdiction of or controlled by the Member States should be created. It should build on the ecosystem-

North Sea: Existing and Prospective Uses and Nature Conservation
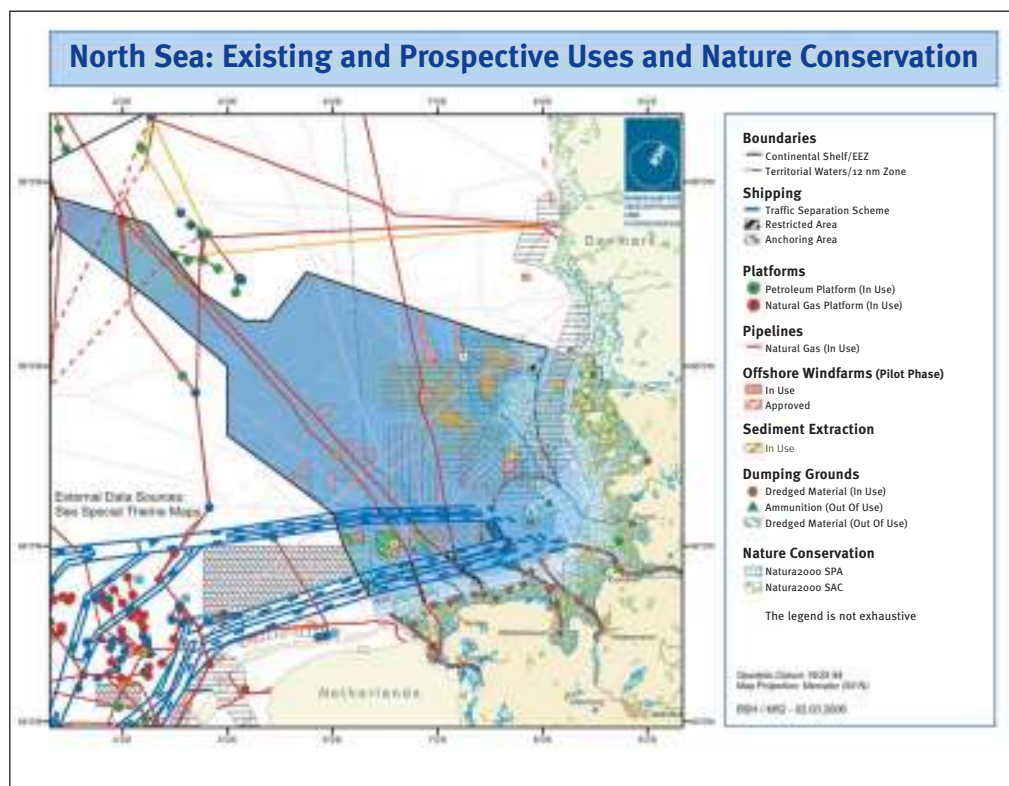
Source: Bundesamt für Seeschifffahrt und Hydrographie, Hamburg and Rostock

based approach laid down in the Thematic Strategy for the Marine Environment, but should also deal with licensing, promoting or placing restrictions on maritime activities.

A broad debate is needed on the principles which should underlie such planning. Some Member States already have some experience in the field. Canada and Australia are implementing such systems. Although individual decisions on activities should be taken at a national or local level, a degree of commonality between the systems will be needed to ensure that decisions affecting the same ecosystem or cross-border activities, such as pipeline and shipping routes, are dealt with in a coherent manner.

The Canadian experience suggests two important lessons. The first is that such planning systems need to be designed with the participation of all relevant stakeholders. The second is that the process is made both politi-

cally easier and economically more efficient by the provision of appropriate management tools. Among these are systems for the provision of extensive spatial data, as outlined above under 4.1, cumulative environmental impact assessments (EIAs) and marine protected areas (MPAs).

A future maritime policy has to build instruments and methods for ensuring consistency between land and marine systems in order to avoid duplication of regulations, or the transfer of unsolved land-planning problems to the sea. One idea would be to associate as closely as possible the same stakeholders in the planning processes of each. A common vision in the form of an overall coastal and marine spatial development plan could provide a coherent set of policy objectives and principles.

As economic activity moves further offshore it will increasingly take place in waters which are subject to the right of innocent passage.

The EU and its Member States will need to take the lead in ensuring that multilateral

rules evolve to allow for reconciling this right with the need for offshore spatial planning.

> *What are the principles and mechanisms that should underpin maritime spatial planning systems?*
>
> *How can systems for planning on land and sea be made compatible?*

4.3. Making the Most of Financial Support for Coastal Regions

Coastal regions receive financial support from several EU policies. The main source is the Cohesion policy, namely the Structural Funds (ERDF, ESF)[96] and the Cohesion Fund, the aim of which is to reduce regional disparities. This assistance can make coastal regions more attractive for businesses, by meeting some basic requirements for improving the living and working conditions and by creating a favourable investment environment.

EU financing on the Ligurian coast
Source: DG REGIO, European Commission

For improving the convergence of regions which are lagging behind as well as boosting competitiveness and employment, ERDF provides assistance with respect to research, innovation, information technologies, financial engineering and clusters as well as transport, energy and environmental infrastructures and services. It also promotes cooperation between regions. TEN-T provides financial support to ports, motorways of the sea and transport links to ports.

This support should be continued and foster the further development of maritime heritage activities and promote the spread of best practice in maritime governance.

It should also reflect the special role played by outermost regions in maritime affairs. These regions need to develop sustainable fisheries, the exploration of biodiversity and the development of new products based on it, sustainable tourism, improvement of links, including telecommunications and

energy, and the development of planning systems through which all these can be brought into harmony.

ERDF and cohesion funds have an important role to play in those areas of the Union which are financially least able to develop new maritime strategies, including several of the new Member States. The new European Fisheries Fund[97] will also stimulate alternative economic activities to fishing, such as "green tourism", as part of its support to the sustainable development of coastal fishing areas. Under the European Neighbourhood and Partnership Instrument[98], cross-border cooperation will help to address challenges shared by countries bordering sea basins (e.g., Baltic Sea, Mediterranean, Black Sea).

Consideration should also be given to whether other EU financial instruments such as funding through the EIB could be made available. This could be for infrastructural investments to facilitate both spatial planning (e.g. the

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96
ERDF = European Regional Development Fund/ESF = European Social Fund.

97
See footnote 58.

98
http://ec.europa.eu/world/enp/funding_en.htm

construction of new vessels dedicated to mapping or to sensor arrays for the accumulation of data) and the implementation of strategies for the development of competitiveness poles in coastal regions or for enhancing grid connections of offshore renewable energy. Other financial tools could also be used such as ESF[99], EAFRD[100], the RTD-Framework Programme[101] and LIFE[102]. To make the best use of and develop synergies between all these financial instruments requires integrated approaches at a regional level.

Data on the overall level of EC or Member State financial assistance and its distribution among different maritime activities in coastal areas could be improved. It may be of considerable interest for the development of maritime policy. Consideration could be given as to how best

to fill this gap. The Green Paper on a European Transparency Initiative[103] raises this issue as an important question to be addressed.

It will be necessary to reflect on how emerging EU Maritime Policy goals can be supported through EU financial instruments. In this context, there is a need to discuss how burdens carried by certain coastal regions or Member States in the common interest should be reflected in the allocation of financing among regions. Such burdens include costs relating to the fight against illegal immigration[104] and crime from the sea, ship safety and security, response to pollution caused by ships, flood protection and the costs for infrastructures serving the imports and exports of the Union through ports.

How can EU financial instruments best contribute to the achievement of maritime policy goals?

Is there a need for better data on coastal regions and on maritime activities?

How should maritime policy be reflected in the discussions relating to the next EU Financial Framework?

99
Regulation (EC) No 1784/1999 of the European Parliament and of the Council of 12 July 1999 on the ESF (OJ L 213, 13.8.1999).

100
Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development.

101
http://cordis.europa.eu

102
http://ec.europa.eu/environment/life

103
COM(2006) 194.

104
See the Commission Proposal for a Decision of the European Parliament and the Council establishing the External Borders Fund for the period 2007-2013 as part of the general programme 'Solidarity and Management of Migration Flows', 2005/0047/COD – COM(2005) 123 final/2, 2.5.2005.

5. MARITIME GOVERNANCE

5.1. Policy Making within the EU

Any form of ocean governance has to take into account the principles set out in the Treaty in relation to policy areas and the distribution of competences between the EU institutions, the Member States, the regions and the local authorities. On this basis and in accordance with the principle of subsidiarity, consideration must be given to sectoral and regional specificities.

An all-embracing maritime policy of the EU should aim at growth and more and better jobs, thus helping to develop a strong, growing, competitive and sustainable maritime economy in harmony with the marine environment. It should assist in avoiding and minimising conflicts of use issues relating to sea space and, where conflicts do arise, should set out clear and agreed paths for their resolution. It should provide increased certainty for industry and other stakeholders and a more effective approach to marine conservation. The European social dialogue in maritime sectors has an increasingly important role to play in this context. The Commission encourages the social partners to work together to achieve positive outcomes such as improved working conditions and career prospects.

All this requires a coordination and integration among sectoral policies. This is supported by the commitments undertaken in the context of the 2002 World Summit on Sustainable Development[105] and the provisions of UNCLOS[106]. Furthermore, the progress of science and technology now makes it possible to better understand interactions and relationships relating to the oceans and their use.

Developing technology, including the monitoring and surveillance of the seas, makes for integration of data services to an extent unheard of in the past. Economies of scale resulting from the development of technology are best realised through integrated policies. In relation to law enforcement on the sea, there are efficiencies to be realised through coordinated use of the scarce, but expensive, assets of Member States.

Some general principles could be agreed for maritime policy making, including spatial planning:

– In view of the complexity of the relationships, procedures should ensure the integration of the best technical and scientific advice available;

– Given the difficulty of policing activities on the seas, and that stakeholders should be fully supportive of the restraints to which they are subjected and in order to understand the side effects on interested parties of actions envisaged, all relevant stakeholders should be consulted;

– Policy making relating to the seas and oceans should be subject to strong coordination, in order to ensure coherence across sectors, policy objectives, geography and our external policies. Institutional competences and means for cooperation, collaboration, coordination, and integration should be identified;

– The consideration of sea related issues, where relevant, should be promoted in EU policies, paying particular attention to the coherence of policy objectives;

– Policy making should include the setting of targets against which to assess performance, and a continuous improvement of policies and their implementation based on these assessments.

105
http://www.un.org/esa/sustdev/
documents/WSSD_POI_PD/English/
POIToc.htm, para 30f.

106
See footnote 45.

In the EU, the principles set out above can be implemented partly through existing institutions, including the Economic and Social Committee and the Committee of the Regions. Sectoral advisory bodies set up by the Council (e.g. Regional Advisory Councils in the Fisheries Sector[107]) or the Commission (Sectoral Industry and Civil Society advisory committees, scientific advisory committees for different sectors[108]) will, however, have to be supplemented by appropriate cross sectoral bodies.

The Commission has already taken steps towards strengthening its internal coordination on ocean and sea affairs and expects this to be reflected in its policy proposals in the future. An example of a structure to further integration of policies can be found at the level of the UN, where the "UN-Oceans"[109] office has been created to better coordinate oceans related policies in twelve different UN organisations.

Work is underway in the EU Military Committee on the maritime dimension of European Security and Defense Policy (ESDP). The Council may also wish to consider the creation of a horizontal working group alongside COMAR,

which deals with international legal questions, to support the work of COREPER in preparing decisions of the Council on maritime subjects which require cross-sectoral discussion. It might consider how best to organise high-level political input into maritime decision-making in the light of the way work was coordinated among seven sectoral Councils for the review of the Sustainable Development Strategy[110]. Similarly the Parliament may wish to consider how to take account of the need for a more integrated approach to maritime decisions in its internal organisation of work.

The Commission intends to conduct a review of existing EC legislation affecting maritime sectors and coastal regions[111], to identify possible policy contradictions or potential synergies. Stakeholders, including social partners, are invited to identify and explain their concerns and suggestions for improvements in this respect.

The Commission has indicated in its Thematic Strategy for the protection of the Marine Environment that marine spatial planning should be introduced in regional ecosystems. It has called upon the Member States to set up

The Steering Group of Commissioners responsible for the Green Paper.

107
Council Decision of 19 July 2004 establishing Regional Advisory Councils under the Common Fisheries Policy, 2004/585/EC and other decisions, http://ec.europa.eu/fisheries/legislation/other/governance_en.htm

108
http://ec.europa.eu/secretariat_general/regexp/index.cfm?lang=EN

109
http://www.oceansatlas.org/ www.un-oceans.org/Index.htm

110
See footnote 1.

111
http://ec.europa.eu/maritimeaffairs/sectoral_en.html

the appropriate planning processes. For this purpose, where appropriate, Member States should use existing regional organisations whose activities impact on maritime activities, such as HELCOM[112] for the Baltic, OSPAR[113] for the North East Atlantic, the UN-MAP[114] and the Barcelona Process[115] for the Mediterranean, as well as regional and international fisheries organisations.

One option would be to task the processes with indicative planning, identifying actions which would then need to be translated into legal form by the competent authorities, whether at EC, national, or local level. The influence of this indicative planning would then depend on its legitimacy, in particular on the extent to which it was based on the consensus of participating states, the extent of stakeholder involvement, the quality of its scientific input, and the transparency of its processes.

The EU's role in such a planning process would be to lay down parameters, define the geographic extent of the regions involved (as

has already been done in the Thematic Strategy), and the elements of planning which are in the common interest. Examples of this are Trans European Networks, definition of zones closed to certain activities under the Common Fisheries Policy or EC environmental law. Perhaps most importantly, the EU would provide the tools to make these processes work. The specific planning would be left entirely to Member States' authorities, as the Commission would limit itself to monitoring compliance with the rules laid down in the common interest. In this process, Member States should also involve third countries concerned.

Maritime governance should make use of the experience gained from regional policy in sectoral policy coordination, cooperation, exchanging good practice and partnership involving all stakeholders.

An annual conference on best practice in maritime governance could be useful in bringing together different layers of government and stakeholders.

> *How can an integrated approach to maritime affairs be implemented in the EU?*
>
> *What principles should underlie it?*
>
> *Should an annual conference on best practice in maritime governance be held?*

5.2. The Offshore Activities of Governments

112
http://www.helcom.fi/

113
http://www.ospar.org/

114
http://www.unepmap.org

115
http://ec.europa.eu/external_relations/euromed/

The degree of integration of government functions relating to territorial waters and EEZs varies between Member States. In some cases, a single authority (coastguard, police or armed forces) is responsible for almost all functions. In others, search and rescue, customs control, border control, fisheries inspection and environmental controls

are entrusted to different authorities using different instruments.

A move towards more coordination between these activities and among Member States might further integration and make for greater efficiency.

Multiple offshore activities

1	Maritime Surveillance Aircraft
2	Maritime pollution prevention and response
3	Search and Rescue
4	EEZ surveillance by drones (HAEUAV or VTOL)
5	Long Range Identificaton and Tracking
6	Offshore platform protection
7	Maritime Patrol Aircraft
8	Collision avoidance
9	Submarine detection
10	Meteorological station
11	Satellite link
12	RHIB intrusion prevention
13	Shipping lane surveillance
14	Harbor protection
15	Port VTS
16	Deballasting of dangerous items
17	Coastal radar
18	Assistance to pleasure crafts
19	Camera
20	AIS station/Direction Finder
21	Prevention of illegal actions (illegal immigration, trafficking, piracy, terrorism)
22	Fishing vessel monitoring

Source: Thales

There are already examples in the EU of a more geographically integrated approach. EU Agencies have been created in areas such as maritime safety (EMSA), the control of the external borders (FRONTEX)[116] and fisheries control. The legislation adopted in these sectors encourages Member States to cooperate on certain control and enforcement activities. Co-operation exists between Member States, and with EU agencies. In the customs area, proposals for an electronic customs environment and a modernised Customs Code will encourage further integration. There are signs of the ever increasing usefulness of cooperation and integration of work undertaken by the EU and Member States across borders and sectors, including in the management of territorial waters and the EEZs. Extension of this approach to other areas (customs and security control of goods brought into the EU) could also be discussed.

Regarding the prevention of marine pollution, the European Parliament and the Council have made reference to the establishment of synergies between enforcement authorities. The Commission was invited to submit by the end of 2006 a feasibility study on a European coastguard service[117].

The trend on the seas seems likewise to be towards a "Common EU maritime space", governed by the same rules on safety, security and environmental protection. This could bring increased efficiency in the management of territorial waters and EEZs by Member States and put Short Sea Shipping in the same situation as transport on land between Member States. This would have implications for cabotage within international trade negotiations.

Member States already have no option but to cooperate with each other in meeting certain EU or cross-border objectives. The economies of scale which become possible by entrusting government agents to carry out multiple duties and use assets for a multitude of purposes are considerable. Some Member States have designated common co-ordination centres or attributed responsibility to a single authority, giving them the possibility to call on the assets held by different authorities. For example, in the French system of maritime prefects, a single authority operating under

the Prime Minister's authority has overall responsibility for all government functions in a defined area of coastal waters.

The Dutch Coastguard is an example of a different type of integration, in which one authority manages expensive assets necessary for the management of coastal waters, such as vessels or aircraft, and makes these assets available or provides services to other authorities on demand. This suggests that there may be useful economies of scale to be made through the common operation and common procurement of assets.

The potential economies at EU level are that much greater. Member States have already recognized this by setting up a range of EU agencies. The growing need to identify, intercept and indict individuals engaging in smuggling, trafficking of human beings, illegal fishing, clandestine immigration and terrorism

suggests some urgency for the coordination of existing national assets and the common procurement of new ones. An evaluation of the FRONTEX Agency will assess whether this agency should be active in enhanced cooperation with customs services and other authorities for goods-related security matters.

The convergence of civil and military technologies, in particular in surveillance of the sea, should also help reduce the duplication of capabilities.

It might also be useful to re-examine the financing made available for the control activities of those Member States which function as key "gateways" to the internal market. The current system does not reflect the disproportionate burden borne by certain Member States for border controls, e.g. in the Mediterranean[118].

> *How can the EU help to stimulate greater coherence, cost efficiency and coordination between the activities of government on EU coastal waters?*
>
> *Should an EU coastguard service be set up? What might be its aim and functions?*
>
> *For what other activities should a "Common European Maritime Space" be developed?*

5.3. International Rules for Global Activities

Much of maritime policy, particularly where it concerns trans-boundary activities is best regulated on the basis of international rules. So if the EU develops new ideas in maritime policy, it will want to share these with the international community. Where it sees the need for new international rules it will contribute to their introduction. To the extent that some third countries lack capacity or effective governance to apply internationally agreed rules it will want to use its external

policy leverage to encourage respect of international standards, including through political dialogue with third countries.

The EC can ensure the speedy ratification of international conventions[119] to which it accedes. For matters falling under its competence, and in particular in the context of mixed agreements, the EC can regulate the arrangements for accession by Member States.

118
See footnote 104.

119
See Background Paper No. 9 on Multilateral and EC Instruments related with the Seas and the Oceans, http://ec.europa.eu/maritimeaffairs/suppdoc_en.html

While the EU can thus contribute towards better implementation of international instruments, it should place particular emphasis on using its external policy to establish an international level playing field, and ensure fair competition for economic operators. The Commission intends to review how it can use the various tools of external policy for this purpose.

European shipyards, subject to the EC state aid discipline[120], have been facing unfair competition from a number of Asian countries, as WTO or OECD rules remain unimplemented. In this regard, it is important to use the anti-dumping rules of the WTO to the fullest extent possible[121].

The current WTO negotiations under the Doha Development Round (DDA) on services (GATS) represent the main instrument for achieving non-discriminatory market access for EU maritime service operators. These negotiations should build on what has already been done in this sector during the Uruguay Round on a model schedule for maritime transport services, covering non-discriminatory market access on international maritime transport and access and provision of maritime auxiliary services as well as non-discriminatory use of port services. This is even more important considering that negotiations on maritime transport were suspended after the Uruguay Round and that a proper solution in the WTO for this sector was not found at that time.

Development and cooperation instruments could help to encourage and assist the adoption in third countries of any best practice in maritime management which is developed within the EU. A good example is progress in flag and port state control systems, which need to be as efficient as possible[122] if international rules for maritime transport and fisheries are to be effective. Integrated coastal zone management and sustainable management of coastal waters are becoming increasingly important for poverty eradication in third countries, and can benefit from European know-how and support.

The application and enforcement of rules agreed in the context of UNCLOS can be strengthened by the systematic introduction in agreements of referrals to the International Tribunal of the Law of the Sea or, where appropriate, to other forms of dispute settlement of any disputes which cannot be resolved by diplomatic consultation.

When it comes to rule-making in a multilateral context, the EU should strive for coherence, transparency, efficiency and simplicity of rules relating to oceans and seas. The European Community and its Member States are contracting parties of UNCLOS. The EU is thus well placed to support broad consensus-building on many important issues. The gradual build-up of the role of the EU makes international agreements and organisations more effective, and must be based on solid support from Member States. The EC and its Member States are already making important contributions to the implementation, both globally and within the EU, of measures agreed within the 12 sub-organisations of the UN and other international fora dealing with ocean and sea affairs. The status of the EC in these fora should reflect this role, which at present is not always the case. The role and status of the EU in international organisations dealing with maritime affairs need to be reviewed, taking into account the fact that in several cases the issues under consideration fall within the exclusive competence of the Community. The issue of Community membership in the IMO has to be addressed on the basis of the relevant Commission recommendation of 2002[123].

The distribution of roles between Commission, Presidency, and Member States needs to be carefully adapted to each context. Best practices developed in relation to fora where the status of the EC is largely coherent with its competences (e.g. WTO, FAO, Regional Fisheries Organisations) should be adopted wherever possible. To provide the basis for further progress in this direction, the Commission intends to carry out an analysis of the present situation and options for the future in respect of international agreements and organisations in the field of maritime policy.

120
http://ec.europa.eu/competition/state_aid/legislation/aid3.html#G

121
CESA, contribution to Green Paper.

122
Proposal for a Directive of the European Parliament and of the Council on Port State Control, part of the third maritime safety package (see footnote 21).

123
SEC(2002) 381, 9.4.2002.

The legal system relating to oceans and seas based on UNCLOS needs to be developed to face new challenges. The UNCLOS regime for EEZ and international straits makes it harder for coastal states to exercise jurisdiction over transiting ships, despite the fact that any pollution incident in these zones presents an imminent risk for them. This makes it difficult to comply with the general obligations (themselves set up by UNCLOS) of coastal states, to protect their marine environment against pollution.

Protecting the marine environment and biodiversity in waters beyond national jurisdiction has become an important priority for the international community. In this context, the relationship between UNCLOS and the Convention on Biological Diversity needs clarification. The EC and its Member States should participate actively in developing the UN global marine assessment[124].

In relation to the exploitation of deep sea genetic resources, the EU will need to take a position on how far it can support an international regulatory regime based on benefit sharing[125].

In the context of the existing ban on the export of hazardous waste to non-OECD countries, the transfer of EU-flagged ships to South Asia for dismantling is of serious concern and could contravene the existing ban on hazardous waste exports. The issue of ship dismantling consequently needs to be addressed. This dismantling currently takes place under poor conditions, involving the contamination of soil and water and endangering the lives and health of workers. A future EU maritime policy should therefore support initiatives at international level to achieve binding minimum standards on ship recycling and promote the establishment of clean recycling facilities.

Shipping remains high on the agenda of multilateral rulemaking, in particular measures encouraging flag states to discharge their duties. There is a clear reference in UNCLOS to the duties of the flag state mentioning the effective exercise of its jurisdiction and control in administrative, technical and social matters over ships flying its flag. However, the 1986 UN Convention on Conditions for Registration of Ships, containing a definition of the "genuine link" between the Flag State and the vessel, has never entered into force. The UN General Assembly invited the IMO to undertake a study in this regard, including the potential consequences of non-compliance with duties and obligations of flag states in relevant international instruments[126]. The Commission is looking forward to the results of this study and should press for its speedy conclusion.

Ways of making exceptions to the principle of the exclusive jurisdiction of the flag state over its vessels, or to alleviate or supplement this principle, should continue to be explored. For example, a mutual delegation or authorisation of control powers is one way of dealing more effectively with the trafficking of drugs, human beings, weapons of mass destruction or polluting activities. Various EU Member States have concluded bilateral ship boarding agreements with third parties. A coordinated approach of EU Member States to such initiatives would seem highly desirable, as well as a coordinated division of labour between Member States, including their navies, in the application of such rules, given the high costs of operations on the sea.

The sensitivity of the "genuine link" debate in the context of shipping should not prevent progress being made on fisheries. The international community has acknowledged that addressing this problem is a key element in the fight against the widespread practice of Illegal, Unregulated and Unreported Fishing (IUU)[127]. The Community is supporting developing countries and regions to combat IUU by funding action both under fisheries agreements and under the Cotonou Agreement[128]. This support needs to be continued.

Important work has been done on this by the High Seas Task Force in Paris[129]. The Commission will continue to support this

124

http://www.un.org/Depts/los/global_reporting/global_reporting.htm

125

See Background Paper No. 12 on Reflections on the management of genetic resources in areas beyond national jurisdiction. http://ec.europa.eu/maritimeaffairs/suppdoc_en.html

126

UNGA, Resolution 58/240, 2003.

127

Report of the 26th session of the FAO Committee on Fisheries, Rome, 7-11.03.2005.

128

http://ec.europa.eu/development/body/cotonou/index_en.htm

129

http://www.high-seas.org/

work, and offers to support the installation of the Monitoring, Control and Surveillance Network for fisheries related activities in the new Community Fisheries Control Agency[130]. In that context tracking of activities and vessel identification systems would be globally strengthened. The coverage of Regional Fisheries Management Organisations (RFMOs) could be extended, both geographically and by species, to eliminate unregulated fisheries.

Other forms of illegal activity, such as piracy, should be addressed. In 2004, almost 20% of all vessels reportedly attacked by pirates and armed robbers were EU-flagged vessels.

Efforts to combat piracy are underway both at international (IMO) and regional level (especially by the littoral States of the Strait of Malacca). Bearing in mind that Europe's dependency on shipping for imports and exports is increasing, and that Europe dominates shipping globally, the reflections on a future strategy for European navies should include their role in preventing and combating piracy. Other instruments, e.g. specific measures of development aid to coastal states to address this problem, should be considered in line with national development strategies agreed with the EU.

> *How can the EU best bring its weight to bear in international maritime fora?*
>
> *Should the European Community become a member of more multilateral maritime organizations?*
>
> *What action should the EU undertake to strengthen international efforts to eliminate IUU fisheries?*
>
> *How can EU external policy be used to promote a level playing field for the global maritime economy and the adoption of sustainable maritime policies and practices by third countries?*

5.4. Taking Account of Geographical Realities

A European maritime policy needs a general framework, as set out in this document, but its implementation will need to take account of the realities of Europe's geographical situation. For example, EU Member States' overseas territories give a worldwide dimension to European Maritime Policy. European Neighbourhood Policy[131] comprises a regular dialogue with partner countries, including maritime issues.

The ecological characteristics of Europe's coastal waters and the structure and intensity of the maritime activities which take place on them vary widely between the Baltic, the Mediterranean, the Atlantic and the North Sea, and the Black Sea. The latter will become an EU coastal water with the accession of Romania and Bulgaria. The Baltic is shallow, with a narrow connection to the Atlantic, and minimal tides. The Mediterranean is much deeper, but also has minimal exchange with the Atlantic. The waters of the Black Sea, which are deep, are, however, largely devoid of the oxygen needed for a vibrant ecosystem. The North Sea and the Atlantic seaboard have strong currents and high tidal variation.

130
http://ec.europa.eu/fisheries/cfp/control_enforcement/control_agency_en.htm

131
http://ec.europa.eu/world/enp/index_en.htm
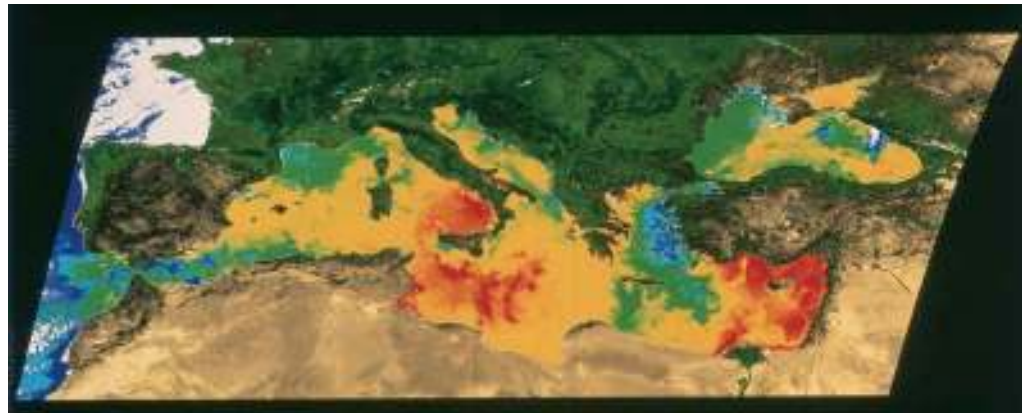
This image from ATSR instrument shows the temperature of the surface waters in the Mediterranean sea in August 1998. Source: ESA

Coastal tourism varies greatly between these areas and the climate is quite different. The Mediterranean contains tuna, the North Sea produces herring. The shallow Baltic is favourable to offshore wind energy, the immense and turbulent Atlantic has a rich deep-sea biodiversity, including cold water coral reefs and hydrothermal vents, and has more wave energy potential. The Mediterranean is part of the great sea route between East and South Asia and Europe, through the Suez Canal. The Baltic is a tanker route for Russian oil and gas to both Europe and North America. The Channel is the major shipping route in the world and a strategic zone for European economies.

For these and more reasons, the Thematic Strategy for the Marine Environment proposes that ecosystem-based management be based on regional planning. For ecological and economic reasons, the sort of spatial planning proposed in Chapter IV also needs to be implemented separately for these regions.

Policy implementation must also take account of political realities. The surveillance of external sea borders against illegal immigration is more needed and more costly in the Mediterranean than elsewhere.

The Mediterranean is shared with a number of countries, the Baltic only with one large country in transition, Russia. The importance of Russian maritime activities and interests should be particularly stressed.

Multilateral co-operation between the Baltic Sea countries takes place in the framework of the Baltic Sea Region Border Control Co-operation. The creation of a Mediterranean Sea Conference following the model in the Baltic Sea region could be considered, as recommended by the feasibility study on the control of the EU's maritime borders[132].

Co-operation with Norway and Iceland, both members of the Schengen area, should embrace maritime activities affecting the North East Atlantic. Norway and the EU also share common interests in regions such as the Barents Sea and the waters around Svalbard.

In the Mediterranean, the situation as regards declarations of EEZs or Fisheries Protection Zones (FPZs) is inconsistent. Nevertheless, it was agreed in the fisheries domain that better marine governance required effective jurisdiction of coastal states over their waters, while calling for a co-ordinated approach[133]. The EU could lead diplomatic efforts to promote such a co-ordinated approach to maritime space in the Mediterranean. Within the Barcelona process and the Neighbourhood Policy for Mediterranean countries, the possibility of a cross-sectoral conference to address these issues should be considered.

132
Council document 11490/1/03 REV 1, 2003.

133
Ministerial conference on the sustainable development of fisheries in the Mediterranean Venice, 25-26.11.2003, http://ec.europa.eu/fisheries/meetings_events/events/archives/events_2003/conference_251103_en.htm

EU development policy instruments will continue to be used as a vehicle to support the sustainable development of the maritime sectors in maritime and insular developing countries. Special attention is and will be given to activities to promote the sound management of fisheries and other marine resources, the protection of sensitive marine habitats and the management of coastal zones (e.g. in support of sustainable tourism).

As an EU maritime policy develops, there will be a need for regional analyses identifying particular initiatives which need to be taken vis-à-vis Europe's neighbours, whether collectively or individually. In doing so, due account should be taken of the work of existing organisations.

What regional specificities need to be taken into account in EU maritime policies?

How should maritime affairs be further integrated into the EU's neighbourhood and development policies?

6. RECLAIMING EUROPE'S MARITIME HERITAGE AND REAFFIRMING EUROPE'S MARITIME IDENTITY

European Maritime Heritage (EMH) members acquire and restore traditional sailing ships.
Source: Thedo Fruithof (EMH)

European citizens have grown up with tales of the great explorers who first helped us to understand that the globe is round, and to locate the continents accurately upon it. Many enjoy their holidays beside the coast, the bustle of fishing ports, seafood meals in a harbour restaurant and walks along a beach beside the surf. Some spend time visiting colonies of nesting seabirds or watching whales, or waiting for the fish to bite. Others spend their leisure time restoring and sailing old wooden boats. Still others may watch documentaries about dolphins or penguins on television or at the cinema. Some may work in marine insurance, others as fishermen, others as harbour masters, others in the tourist office of a coastal city.

But how many realise that these activities are interlinked? How many are conscious that they are citizens of a maritime Europe? The discussions conducted for this Green Paper suggest that they are too few.

This is hardly surprising. Aquariums may provide an insight into the beauty and wonder of life below the waves, but few manage effectively to explain how fragile the oceans are, what activities threaten them and what efforts are underway to safeguard them. Maritime museums may help to understand the achievements of the past, but have more difficulty in passing on a sense of the advanced technology which characterises maritime activities today. Associations dedicated to keeping alive the traditions of the past often do not link them with the commercial reality of the present, never mind the excitement of the future potential of the oceans. The Commission believes that there is much to be

gained by encouraging a sense of common identity among all those who earn their living from maritime activities or whose quality of life is significantly connected to the sea. This can foster the understanding of the relationships involved and of the importance of the seas for human life.

It can also lead to a better understanding of the importance of the oceans and seas and the contribution that maritime activities make to our economy and well-being. The result can be a more favourable perception of maritime activities, an appreciation of their potential, and a greater interest in choosing a career related to them. This is not a minor issue. All the maritime sectors need to continue to attract top quality recruits. Anecdotal evidence suggests that the image of the professional maritime world is diffuse and often negative. Conditions on board fishing boats and cargo ships are perceived as hard.

Overall the image of shipping has been seriously affected by the negative publicity from oil spill accidents. Significant improvements in safety have passed largely unnoticed. There is therefore a need to provide better information to the public on maritime matters.

A sense of common identity may well be one important side effect of bringing stakeholders together to participate in maritime planning processes. But it can also be encouraged by the private sector and government. Sectoral associations which organise annual award ceremonies for best practice can invite representatives from other sectors. Shipping companies can sponsor such activities as the Jubilee Sailing Trust[134]. Marine equipment manufacturers can help museums to relate their exhibits to today's technologies. The traditional culture of fisheries can be linked to the expansion of tourism. The Commission would like to see a multiplication of such links, which it believes are in the interest of all the maritime sectors.

The EU could institute awards for best practice in translating the concept of an integrated vision of maritime activities into reality, with separate categories for companies, NGOs, local authorities, and educational institutions. As European Maritime Heritage (EMH) suggests, the EU should give attention in analysing legislative obstacles to the achievement of maritime objectives to those which hamper activities promoting aspects of maritime heritage and identity[135]. It can use Community funds to help coastal regions build the institutions needed to preserve their maritime heritage.

Part of an "EU Atlas of the Seas" data bank should be an inventory of underwater archaeology sites. The Atlas itself would provide an important educational tool for schools and universities, and private educational initiatives such as ProSea[136], which educates maritime students and professionals about the marine environment. More generally, educational activities can serve multiple purposes, explaining the complexities of the oceans and maritime activities, recalling Europe's leading role in maritime activities, conveying a sense of the importance of the maritime economy and the excitement and professionalism of employment in it, and promoting a sense of stewardship in conserving the vast resources of the oceans.

An action programme should be developed for EU activities in support of synergies between Member State, regional, and private sector activities in this area, as well as with the extensive activities of the Council of Europe. Member States should be encouraged to sign the UNESCO Convention on the Protection of Underwater Cultural Heritage, the European Convention on the Protection of the Archaeological Heritage[137], and to examine their educational curricula to see how the maritime dimension of Europe can be more fully reflected. As the awareness in Europe of

134
http://www.jst.org.uk/

135
European Maritime Heritage (EMH), contribution to Green Paper.

136
www.prosea.info

137
European Convention for the Protection of the Archaeological Heritage (Revised), Valletta, 16.1.1992.

The Jubilee Sailing Trust (JST) offers people with a severe physical handicap the chance to work as crew of a tall ship on equal terms with their able-bodied counterparts. It owns 2 ships: the Lord Nelson and the Tenacious.

The "Tenacious" under sail

the links and interactions between the oceans and seas and many different maritime activities grows, this will not only lead to better policy making and to the identification and exploitation of new, sustainable opportunities, but also to the development of a common vision of the role of the oceans in our lives, the broad heritage on which we can build, and the rich promise of our maritime future.

As Europa Nostra puts it, "*The continuity between the past, present and future needs to guide and inspire European, national and regional strategies, policies and action related to cultural heritage*"[138].

> *What action should the EU take to support maritime education and heritage and to foster a stronger sense of maritime identity?*

138
Europa Nostra, contribution to Green Paper.

7. THE WAY FORWARD – THE CONSULTATION PROCESS

The Commission is aware that this Green Paper addresses a very broad range of what have traditionally been regarded as separate activities and policy areas. The idea of conducting an integrated analysis of maritime activities leading to coordinated actions is new.

It would be a mistake to underestimate the time it takes for important new ideas to be fully understood and accepted. In its own work for this Green Paper, the Commission has become aware of how much new ground needs to be covered and how much new expertise needs to be developed.

The Commission hopes that this Green Paper will launch a broad public debate both on the principle of the EU adopting an overall approach to maritime policy and on the many ideas for action. It wishes to base its further work in this area on the views of stakeholders and it intends to spend the next year listening to what they have to say.

The consultation process will end on 30th June 2007. By the end of 2007 the Commission will address a Communication to the Council and Parliament, summarising the results of the consultation process and proposing the way forward.

There is a tide in the affairs of men
Which taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.

William Shakespeare: Julius Caesar. Act iv. Sc. 3

Green Paper on a future Maritime Policy for the EU

Consultation period: 7 June 2006 – 30 June 2007

Contributions can be sent to

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