HARVEST
ATLANTIC

Maritime Economy
in the Atlantic Area Policy Toolkit

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Introductory Note

Harvest Atlantic is a project developed under the INTERREG IVB Atlantic Area Programme that seeks to identify and exchange good practices and sustainable solutions based on innovation, diversification and marketing for the maritime economy and resources to leverage improvements in the socioeconomic situation of the Atlantic seaside territories through transnational cooperation. This document is a key output of Harvest and provides a policy toolkit to support regions in developing maritime policies and strategies.

Methodology

The review of Harvest Atlantic regions' maritime policies highlighted the following areas of common need in relation to maritime policy and strategy:

▶ Sustainable policies that reduce complexity and uncertainty for marine sector companies investing in business growth are needed.

▶ A need for more de-centralised and simplified decision-making processes for support measures.

▶ A need for support measures to meet the specific needs of companies.

▶ A need for an integrated and coherent eco-system based approach to address the needs of the marine sector as a whole and exploit the assets of the sea in a sustainable manner.

▶ A need for marine spatial planning tools that can help to plan for and manage competing uses of marine assets by different sub-sectors.

These findings are also supported by the EU's Integrated Maritime Policy and the Maritime Strategy for the Atlantic Ocean Area.

The policy toolkit addresses four major topics of concern for the maritime sectors in the Atlantic Area. The four areas are:

1. Achieving an Integrated Maritime Policy and Strategy.

2. Using Cross Cutting Tools (Marine Spatial Planning (MSP) and Integrated Coastal Zone Management (ICM)) in planning and implementing integrated maritime policies and strategies.

3. Taking an Eco-system Approach to maritime planning and policy development.

4. Gaps in Support Measures for Companies operating in the maritime economy.

Within each section, the Toolkit presents a policy context for the topic, stakeholders' perspectives on each topic (gleaned from a series of stakeholder interviews in four Atlantic Area Regions across four Member States) and good practice examples of the use of tools and approaches and support measures. The Toolkit also contains a set of policy recommendations for other Governments or regions to consider when preparing their own integrated maritime policies and strategies.

The following steps summarise the methodological approach adopted in creating the policy toolkit:

Step 1: Policy Mapping and Gap Analysis were undertaken in all four regions.

Step 2: Policy gaps and recurring themes were identified.

Step 3: An analysis of Support Measures for maritime companies in all four regions was undertaken using an agreed enterprise support framework model.

Step 4: Gaps in support measures were identified.

Step 5: The definition and scope of the policy toolkit was agreed amongst the partners.

Step 6: A policy interview framework was designed.

Step 7: Policy interviews were undertaken in all four regions (3 to 5 per region). Interview results were returned to SWRA as the Policy Toolkit coordinating partner. A list of policy interviewees is presented in the Annex.

Step 8: The findings were analysed and a draft policy toolkit was prepared using the interview findings.

Fisheries is one of the strategic sectors for economic development in Portugal. The photo shows a commercial fishing boat entering at the port in Algarve.

Seafood Innovation Centre, Clonakilty, Cork

1 Integrated Maritime Policy & Stragedy

1.1. Policy Context

In its Integrated Maritime Policy, the European Commission (EC) recognises the complexity of the oceans and seas and the fact that many activities, interests and policies influence them. The expertise and powers to address the challenges of maritime affairs are spread widely across several stakeholders from both the public and private sectors. These Stakeholders can range from small coastal communities to the United Nations. (CEC, 2007[1])

The interlinked nature of the oceans and seas is a significant factor; a policy or activity in one sea may have an impact on another sea or policy area which can be positive or negative, intended or unintended.

These factors highlight the inextricable interdependence across the maritime environment and calls for a holistic and integrated approach in planning and managing maritime affairs.

In preparing its guidelines for an integrated approach to Maritime Strategy[2] the EC highlighted the USA, Australia, Canada, Japan and Norway as examples of countries who have built policy frameworks for sustainable use of the oceans and seas that embrace all aspects of maritime affairs by taking an inter-sector and cross-cutting approach. The EC identified some common lessons to be learned from each of these countries' approach:

- Each country recognised the major contribution of sea-based activities to their economy.
- Each country acknowledged that intensive development of seas based activities potentially poses a challenge to sustainable development and use of their sea resources.
- Each country decided to develop an overall policy that facilitated a comprehensive, co-ordinated approach ensuring sustainable development of sea resources and activities. (CEC, 2008)

The Maritime Strategy for the Atlantic Ocean Area (CEC 2011[3]) is part of the EU Integrated Maritime Policy. The Atlantic Strategy is focused on promoting increased use of sea resources to create jobs whilst ensuring that the growth is sustainable.


1.2. Stakeholder Perspectives on Steps Required for an Integrated Maritime Policy

Maritime stakeholders in four Atlantic Area Regions across four Member States were invited to share their views on what steps are required to achieve an integrated approach to maritime policy. The following sections summarise their suggestions:

Steps to address Governance requirements

- Policies should be clear and simple to avoid ambiguity and unnecessary complexity.
- Policies should not be overly prescriptive; the needs and concerns of SMEs in particular need to be listened to.
- Strategic Areas need to be defined at the national and regional levels; groups can be integrated based on similar activities and objectives.
- A spatial perspective of maritime policies is needed before focusing on the needs of vertical industries; for example the coast needs consideration in developing an integrated strategy. There is a sense that the coast can sometimes be neglected when developing policies.
- The sustainability of public policies needs consideration; unsustainable policies will impact on companies' long term strategic planning.
- Major and systemic challenges need to be defined at the national and regional levels.
- National programmes need to be defined to address systemic challenges at the national level.
- Dialogue and coordination between the national, regional and local levels needs to take place to facilitate national programmes being adapted to address regional and local peculiarities and challenges. Intelligence needs to be shared and results discussed; clear and effective communication and information sharing is essential.
- Focus should be placed on regional strengths matched to the policy level; a regional response is needed to reflect National / Member State policy. Proliferation of regional policies needs to be avoided.
- Projects need to be defined and supported in the regions as the most appropriate level for implementation.
- Coordination among regions in the Atlantic Arc and delivery of joint projects and policy implementation should be considered.

The following figure summarises the key governance requirements for an integrated maritime policy:
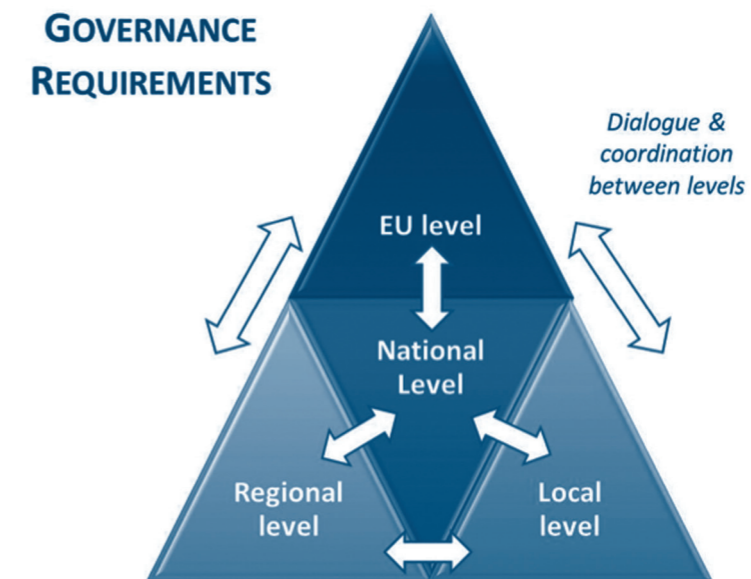
Steps to achieve effective Stakeholder Participation

- In the first instance the Stakeholders need to be identified and their different objectives understood; different stakeholders operate in a vacuum due to limited resources. An inclusive database of relevant stakeholders should be created; commercial and industrial stakeholders need to be engaged.

- A two pronged approach is necessary:
  - Legislation should take account of different stakeholder needs; certainty of legislation frameworks is essential for companies developing longer term strategic plans.
  - Local participation should be encouraged and incentivised.

- The value of stakeholders' participation should be clearly articulated and publicised as well as the potential impact of an integrated strategy on them. The benefits of an integrated strategy should be highlighted.

- A set of common objectives needs to be defined to ensure the commitment of stakeholders.

- Offering information transparency, on both positive and negative aspects of an integrated strategy, across all relevant stakeholders is essential to building trust and ensuring everyone is aware of what is going on.

- A medium to long term perspective needs to be taken when considering the potentially competing interests of different groups such as the fisheries sectors versus the marine energy sectors. A process for sustainable planning in such instances is necessary.

- Business support structures should offer sufficient flexibility for multi-stakeholder collaborative initiatives; support measures should dovetail without overlapping.

- Effective R&D linkages between research organisations and enterprises should be encouraged.

- Integrated, multidisciplinary projects should be encouraged to link and promote collaboration between stakeholders; the timeframe for project funding can be problematic in terms of sustaining stakeholder participation. Achieving tangible results is essential.

Steps to achieve Transparent Decision-Making

- Information needs to be shared openly and transparently as far as possible; opportunities for public presentation, debate and feedback should be considered.

- The means by which stakeholders' interests and sectors are represented needs to be clearly communicated to ensure stakeholders are clear on how they can influence policy decision making.

- Clear protocols and responsibilities for all stakeholders should be agreed and signed up to ensuring the integrity of each stakeholder's participation; trust, communication, reciprocity and collaboration are key to achieving effective and transparent decision-making.

- Companies operating in maritime sectors should be engaged in an open and transparent manner.

- Stakeholders need to be very open and clear about what they are trying to achieve (for example the marine energy sector) so other stakeholders can understand their ultimate objectives and make their own judgement.

- Commercial issues need to be handled sensitively and with as much openness as possible.

- Rules and regulations should be implemented clearly and consistently across all areas.

- Decision-making processes should be fair, fully transparent and unambiguous so stakeholders are clear about how a given policy position was arrived at.

- Decision making needs to be inclusive; some maritime decisions can appear to be taken from a terrestrial perspective – all factors of the maritime economy should be considered.

1.3. Good Practice Example of Developing an Integrated Maritime Policy

In Ireland an Inter-Departmental Marine Coordination Group was established by the Prime Minister's (Taoiseach's) office with representation from 9 Government Departments with an interest in the maritime economy. The group is chaired by the Minister for Agriculture, Food and the Marine. The group worked collectively to develop 'Harnessing Our Ocean Wealth - An Integrated marine Plan for Ireland'[4].

1.4. Policy Recommendations on Developing an Integrated Maritime Policy and Strategy

- A spatial perspective is essential when developing an integrated maritime policy and strategy; there is a potential risk in focusing on vertical industries and sectors without taking account of the larger maritime picture. All aspects of the maritime economy both on land and at sea should be considered when developing an integrated policy and strategy to ensure that longer-term sustainability for all stakeholders is taken into consideration.

- Policy implementation will most likely take place at the regional and local levels, therefore mechanisms to facilitate ongoing dialogue and coordination between the local, regional, national and EU levels need to be put in place. Facilitating collaboration amongst regions and projects in the Atlantic Arc will allow for sharing of ideas and encourage greater innovation. This could be further extended to a wider international reach.

- Stakeholders (enterprises, research organisations, R&D players, public bodies etc.) in the region need to be identified and an understanding of their respective objectives and activities achieved to be able to engage them in maritime policy development and planning. The benefit of engaging and taking a seat at the policy and strategy development table needs to be clearly communicated to motivate participation.

- Clear protocols and rules of engagement need to be established to facilitate open and transparent sharing of information between stakeholders in a secure and mutually respectful environment. Stakeholders need to be very clear on their commitment and obligations to their fellow stakeholders.

Fish processing facility in Santoña, Cantabria, Spain

2

Ecosystem Approach to Integrated Marine Planning and Policy Development

2.1. Policy Context

The Convention on Biological Diversity (CBD) defines the ecosystem approach as "a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way"[5]. The International Council for the Exploration of the Sea (ICES) defines it as "the comprehensive integrated management of human activities based on best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of the marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity"[6].

UNESCO suggests 5 features to consider in Ecosystem-Based Management[7]:

- Focus should be placed on the ability of the ecosystem to support human well-being.
- Natural boundaries are most relevant to the conservation of ecosystem services.
- Various sectors of human activity interact so management should be integrated.
- Impacts of human activities on an ecosystem are often cumulative across both time and space.
- Trade-offs in services among sectors must be made and should be explicit.

The US Department of Commerce defines an ecosystem approach to management as "management that is adaptive, geographically specified, takes account of ecosystem knowledge and uncertainties, considers multiple external influences, and strives to balance diverse social objectives."[8]

In a European context the PISCES project[9] (Partnerships involving Stakeholders in the Celtic Sea Ecosystem) has produced a practical guide for implementing the ecosystem approach through marine policy (2012), with a particular focus on the Marine Strategy Framework Directive.

2.2. Stakeholder Perspectives on How an Ecosystem Approach Could Be Adopted

Maritime stakeholders in four Atlantic Area Regions across four Member States were invited to share their views on what steps are required to adopt an ecosystem approach to marine planning and policy development. The following sections summarise their suggestions:

Steps to Adopting an Ecosystems Approach:

- Awareness of the importance of the interactions between marine resources and the ecosystems within which they exist needs to be generated.
- An ecosystem model needs to be constructed to reflect the biological, environmental and human components in the ecosystem as well as the ecosystem structure, function and management.
- Recognition needs to be given to the wide range of social objectives for marine resources and ecosystems within the context of sustainable development.
- Ecological relationships between harvested, dependent and associated species need to be maintained.
- Jurisdiction and flexible management plans need to be developed.
- Responsibility for developing and executing the ecosystems approach needs to be allocated to an existing or specifically created Government Department.
- Operational objectives need to be set.
- Indicators and reference points need to be developed.
- Performance needs to be monitored and evaluated.
- Local communities need to be engaged to identify, understand and take into account their needs.

Some key steps are also put forward by the PISCES project:

- The ecosystem approach should be used to help make decisions to manage our activities in a more sustainable way.
- A range of new governance mechanisms are required to fully implement the ecosystem approach in the marine environment, particularly marine spatial planning.
- Collaborative, effective stakeholder participation is essential and should begin early.
- Stakeholders can play an important role in Marine Strategy Framework Directive implementation.
- Governments should engage proactively with stakeholders early in the process.
- Stakeholders need to be assertive and organised to maximise participation opportunities.
- Multi-sector, regional stakeholder forums should be established.
- Stakeholders should continue to seek new ways to implement voluntary measures to improve sustainability of their activities.

EMEC Test Site

2.3. Good Practice Examples of Deploying an Ecosystem Approach

The Integrated Coastal Zone Management (ICZM) for Bantry Bay Project was initiated to address the challenge of implementing coastal zone management around Bantry Bay, Cork (South West Ireland). The key aim was to achieve a consensus based approach to coastal management, with participation of all of the relevant stakeholders. The project successfully delivered the Bantry Bay Charter (http://bantrybaycharter.ucc.ie), but failed to ensure the subsequent implementation of the Charter objectives.

PISCES - Partnerships Involving Stakeholders in the Celtic Sea Eco-System (http://www.projectpisces.eu/) The Celtic Sea marine ecosystem is an area of diverse wildlife and important ecological activity. It is also one of the most heavily used bodies of water in the world with multiple sectors competing for space and resources. Like oceans and seas globally, this region is experiencing pressures due to increasing human activity. In response to this growing problem, the European Commission LIFE+ programme funded an international project called PISCES. The primary aims of PISCES are to:

- find new and innovative ways to engage stakeholders to work together on sustainable solutions for the region;
- develop stakeholder understanding of the ecosystem-based approach to marine management;
- produce a set of stakeholder-led, practical guidelines for an ecosystem approach to management of activities in the Celtic Sea.

COEXIST - Interaction in Coastal Waters: A Roadmap to Sustainable Integration of Aquaculture and Fisheries (http://www.coexistproject.eu/) Coastal areas are subject to ever increasing competition for space as a result of commercial and leisure activities and the desire to protect environmentally sensitive locations (for example, under Natura 2000). Small scale fisheries and aquaculture operations rely on access to appropriate sites but the extent of coastal waters available may be restricted due to the creation of Marine Protected Areas (MPA) or may also be of interest to other sectors such as tourism and offshore energy. This can lead to issues with spatial management of the coastal resource and can potentially lead to conflict between competing interests. COEXIST is a broad, multidisciplinary approach to evaluate these interactions with the ultimate goal to provide a roadmap to better integration, sustainability and synergies among different activities in the coastal zone.

CIESM - the Mediterranean Science Commission (http://www.ciesm.org/) integrates a broad spectrum of marine disciplines, encompassing geo-physical, chemical and biological processes, along with high-resolution mapping of the sea-bottom. Today, changes are occurring at a fast, unprecedented pace in the Mediterranean Sea. CIESM tracks and analyses these changes at the scale of the whole Basin, from the impact of global warming on sea-level and water masses to changes in marine biodiversity; from morphological changes in coastlines to the accumulation of trace metals in marine food chains. CIESM is dedicated to research at the frontiers of marine science. Understanding the processes and changes that govern the functioning of the Mediterranean Sea and affect its interaction with growing coastal populations is one of its primary missions.

2.4. Policy Recommendations on Adopting an Ecosystem Approach

- A mechanism to bring all stakeholders (both marine and land based) around one table should be put in place.
- An ecosystem model that maps all the interactions and relationships between all stakeholders should be constructed taking into account environmental, biological and human perspectives; an ecosystems management approach can then be discussed from a position of clarity.

Aerial View Cork Harbour

3 Marine Spatial Planning and Integrated Coastal Zone Management

3.1. Policy Context

UNESCO defines Marine spatial planning (MSP) as a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process.[10]

UNESCO puts forward six key characteristics of MSP (ibid.):

- Ecosystem-based, balancing ecological, economic, and social goals and objectives toward sustainable development.
- Integrated, across sectors and agencies, and among levels of government.
- Place-based or area-based.
- Adaptive, capable of learning from experience.
- Strategic and anticipatory, focused on the long-term.
- Participatory, stakeholders actively involved in the process.

The European Commission defines Integrated Coastal Management (ICM) as aiming for the coordinated application of the different policies affecting the coastal zone and related to activities such as nature protection, aquaculture, fisheries, agriculture, industry, off shore wind energy, shipping, tourism, development of infrastructure and mitigation and adaptation to climate change. It will contribute to sustainable development of coastal zones by the application of an approach that respects the limits of natural resources and ecosystems, the so-called 'ecosystem based approach'. [11]

From a European perspective the European Commission launched on 12th March 2013 a new joint initiative on integrated coastal management and maritime spatial planning. The proposal, which takes the form of a draft Directive, aims to establish a framework maritime spatial planning and integrated coastal management in EU Member States with a view to promote the sustainable growth of maritime and coastal activities and the sustainable use of coastal and marine resources.[12]

The proposal will require Member States to map human activities at sea and identify their most effective future spatial development in maritime spatial plans and to coordinate relevant policies affecting coastal areas in integrated coastal management strategies. To ensure the sustainability and environmental health of the various uses in marine and coastal areas, maritime spatial planning and coastal management will have to employ an approach that respects the limits of ecosystems.

Marine Spatial Planning and Integrated Coastal Management can support the planning and implementation of integrated maritime policies and strategies. Stakeholders were asked how they thought MSP and ICM could be used to best effect in the Atlantic Area.

3.2. Stakeholder Perspectives on How an ICM Could be used in the Atlantic Area

- MSP and ICM are seen as tools to help provide a long-term perspective of maritime areas involving different stakeholders and establishing authority. ICM will have implications for Local Authority functions in terms of land use planning.
- MSP provides a neutral tool to bring different interests together to plan effectively by carrying out a diagnostic on existing activities and defining and analysing future conditions.
- MSP and ICM can facilitate co-ordinating stakeholder needs by defining their vision, values and future perspectives. Both MSP and ICM are processes that require ongoing dialogue; they have fluid boundaries.
- MSP and ICM facilitate balancing market needs, environmental protection and ecosystem cycles.
- MSP and ICM provide means of monitoring and evaluating performance during the implementation of integrated marine strategies.
- MSP and ICM could be used to address the challenge of tackling foreshore licencing within the confines for current and future legislation.
- MSP and ICM could be used to address maritime traffic issues and lead to increased security.
- Integrated enterprise opportunities can be identified in existing and emerging sectors.

Steps Involved in MPS or ICM (Adapted from UNESCO, 2009)

- Identifying need and establishing authority.
- Obtaining financial support; identifying financing mechanisms, reviewing the feasibility of alternative financing mechanisms.
- Pre-planning – organising the process; creating a team, developing and work plan, defining boundaries and timeframe.
- Organising stakeholder participation; defining who should be involved, when they should be involved and how they should be involved.
- Defining and analysing existing conditions; collecting and mapping information about human activities and ecological environmental and oceanographic conditions, identifying current conflicts and compatibilities.
- Defining and analysing future conditions; projecting current trends in the spatial and temporal needs of human activities, estimating the spatial and temporal requirements for new demands of ocean space, identifying possible alternative futures for the planning area and selecting the preferred spatial sea use scenario.
- Planning and approving the spatial management plan; identifying alternative management measures, incentives and institutional arrangements, specifying selection criteria, developing the zoning plan, evaluation and approving the spatial management plan.
- Implementing the spatial management plan; implementing the plan, ensuring compliance.
- Monitoring and evaluating performance; developing a performance monitoring programme, evaluating performance, reporting results.
- Adapting the marine spatial management process; ongoing review of the programme, identifying research needs, beginning the next phase of marine spatial planning.

Offshore renewable wind installation Scotland

3.3. Policy Context

The MESMA (Monitoring and Evaluation for Spatially Managed Areas) project (http://www.mesma.org/) has focused on marine spatial planning and aimed to produce integrated management tools (concepts, models and guidelines) for monitoring, evaluation and implementation of spatially managed marine areas based on European collaboration. MESMA has supplied innovative methods and integrated strategies for governments, local authorities, stakeholders, and other managerial bodies for planning and decision making at different local, national, and European scales, for sustainable development of European seas.

The Eastern Scotian Shelf Integrated Management (ESSIM) Initiative (http://www.dfo-mpo.gc.ca/oceans/publications/essim-giepne-eng.asp) was a collaborative ocean management and planning process led and facilitated by Fisheries and Oceans Canada (DFO) under Canada's Oceans Act. The primary aim of the Initiative was to develop and implement an Integrated Ocean Management Plan for this large marine region.

The Coastal Resilience Long Island project (http://csc.noaa.gov/digitalcoast/inundation/longisland) addressed the needs of Long Island, New York; the shores of Long Island have highly developed lands in the coastal zone, much of it only inches above sea level. Long Island stakeholders have indicated a need to visualise and understand how they can make informed planning, zoning, acquisition, and permitting decisions that will increase the area's resilience to coastal hazards in the short and long terms. These issues were addressed by compiling social and natural resource data, inundation scenarios, and spatial analysis results in an interactive Web mapping tool.

CCDR Algarve has developed an online tool to manage the national reserves. The Spatial Data Infrastructure of the Algarve (IDEAlg) (http://idealg.ccdr-alg.pt/) has the ambition to be a project of regional benchmark in geographic information systems (GIS). The technology platform available aims to allow public entities to share and promote the use of geographic information by the respective services and the majority of citizens and businesses.

Belgium Marine Spatial Planning; Belgium was among the first countries to implement an operational, multiple-use marine spatial planning system that covers its territorial sea and exclusive economic zone, (http://www.unesco-ioc-marinesp.be/spatial_management_practice/belgium). Belgium uses zoning in a 'Master Plan' to allocate marine space for specific maritime uses. A second planning phase will determine sites for marine protected areas. The plan allows permits and licenses for a given type of activity to be granted only within the identified zones and is subject to monitoring and evaluation.

The Coastal Research and Policy Integration (COREPOINT) project led to the development of a strategy for Cork Harbour (South West Ireland). (http://www.corkharbour.ie/pages/cork_harbour_strategy.pdf). The aim of the Strategy is to bring all those involved in the development, management and use of Cork Harbour together in a framework which encourages the integration of their interests and responsibilities to achieve common objectives in a sustainable manner.

The BaltSeaPlan project (http://www.baltseaplan.eu/) has facilitated a set of closely interlinked activities covering all elements of the maritime spatial planning cycle. All of them were designed with the intention to support relevant institutions and actors throughout the Baltic Sea Region to turn maritime spatial planning into reality. The results of these activities have been documented in a series of 31 separate reports as well as various publications.

3.4. Policy Recommendations on MSP and ICM

MSP and ICM tools should be used to assess:

- Existing uses of marine resources should be mapped to form a picture of current activities.
- A future perspective of how marine resources will be used needs to be developed to address the question of sustainability of marine resources in the longer term.

4 Support Measures for Companies Operating in the Maritime Economy

4.1. Policy Context

The Action Plan for a Maritime Strategy in the Atlantic Area identifies the need for targeted investment to provide infrastructure, support innovation, technological capability and smart specialisation strategies for SMEs in particular. This need was also identified in the Harvest Atlantic regions' policy review.

Developing clusters and networks with maritime companies, research centres and other stakeholders are perceived as useful mechanisms to address research needs, develop skills and share resources.

Promoting Entrepreneurship and Innovation is a priority within the Action Plan for a Maritime Strategy in the Atlantic Area as well as an identified need from the Harvest Atlantic regions' policy review. Increasing co-operative research, transferring knowledge, insights and skills and increasing competitiveness are key objectives of this priority.

Support mechanisms for maritime companies wishing to break into new overseas markets were highlighted as a need in the Harvest Atlantic regions' policy review.

Portugal has, all along its coastline, excellent climate and navigability conditions. This allows for the annual attraction of thousands of recreational sailors to the Portuguese waters.
The photo shows the marina of Faro, a marina specialised in recreational nautical activities.

4.2. Stakeholder Perspectives on Support Measures Needed for Marimite Economy Companies

Stakeholders were asked for their view on the gaps existing in support measures for maritime companies across four areas:

- Targeted investment.
- Clustering and networking.
- Entrepreneurship and innovation.
- Internationalisation.

The following is a summary of the key gaps and concerns identified:

Targeted Investment

- In an Irish context there is a feeling that Ireland suffers from a 'sea-blindness' having evolved as a nation traditionally focused on agriculture.
- There is often a disconnect between marine policy makers and enterprise policy makers; both policies are generally developed in isolation.
- In some instances national support agencies tasked with developing indigenous companies do not have the expertise and understanding of the marine sectors and their business case to be able to offer the necessary support; this forces marine companies to seek support through secondary means, e.g. if a marine project has an ICT angle support will be sought through ICT support measures.
- Indigenous companies need support as well as multi-nationals.
- There can be an excessive number of vertical sectoral strategies; there is a need for horizontal support measures that can cut across sectors and look at the sea economy as a whole rather than just vertical supports; a coherent and integrated support strategy is needed.
- Growing sectors such as renewable energy, geosciences and earth observation which are identified as priority sectors can access more extensive support measures.
- Decision-making can be overly centralised and operational programmes can be overly bureaucratic; having multiple layers of decision making causes issues for companies. Regional needs must be taken into account.
- There is a lack of support for traditional sectors such as ship-building and infrastructure maintenance.
- Alterative finance options such as microfinance, philanthropy and international finance need to be explored fully.

Clustering and Networking

- Clusters and networks to facilitate sharing of expertise and experience would be beneficial for sectors and topics such as maritime transport, shipping, fisheries, maritime security, ecosystem modelling, intermodal dry ports, tourism and leisure, energy and agro-food.
- Linkages between companies in the maritime sectors and third level institutes could be promoted to reduce the gap between third level institute research centres offers and the market needs and realities of maritime companies.

Promoting Entrepreneurship and Innovation

- Maritime sectors can be seen as a risk for some support agencies, which makes accessing support measures difficult.
- The EU Horizon 2020 programme and Joint Programme Initiatives (Ocean) will undoubtedly offer opportunities to marine sector companies; there will be a need for support to build capacity so marine companies will be ready to avail of the opportunities; they need to be informed, build networks and build the capacity to compete.
- Collaboration between research organisations and maritime SMEs is needed to promote technological developments and innovation.
- Support to start-up projects and spin-offs with a technological base and/or in sectors with a strong cognitive intensity is needed.
- Extending the incubation capacity of universities, through extension and requalification of universities infrastructure for this purpose is needed.
- There is a need to define strategic lines and areas to invest in the smart specialisation for regions;
- Financing and risk sharing for innovation.
- Networks and collaborative initiatives for business development are needed.
- There is a need or renew and qualify the business model in order to achieve a more innovative business fabric.
- Stimulate qualified entrepreneurship and structural investment in new areas with growth potential.
- More control over the value chain is required to address the increasing need for seafood traceability. This control in harvesting, processing and distribution activities allows companies to address traceability, legality and sustainability concerns with respect to seafood. Industry players need to meet the changing demands of customers/retailers because there is a growing need for industry players to adapt to the changing demand for different seafood products.

Internationalisation

- There is a need for support with business missions and participation in international events and networks.
- There is a need for commercial exploitation support and brand building for marine services and products.
- There is a need for collective market studies.
- Create and strengthen commercial credit lines with public guarantee for countries outside of the European Union, guaranteeing exporting companies greater ability to do business;
- Support the creation and development of innovative and export market oriented companies, combining public aid with complementary use of venture capital mechanisms.
- Offer technical assistance for the development and implementation of international projects.
- Strengthening the tax incentives to internationalise, in particular for SMEs; increase the number of countries with conventions for the avoidance of double taxation.
- Encourage, the emergence of associative models, to utilise the national supply flow, especially in traditional sectors.

An aerial view of the town of Santoña a major canning port in Cantabria, Spain

4.3. Good Practice Examples of Support Measures for Maritime Economy Companies

The Nordic Marine Innovation Programme (http://www.nordicinnovation.org/projects/marine-innovation-projects/marine-innovation-projects) aims to strengthen innovation ability in order to increase profit and competitiveness in the Nordic marine sector.

The Irish Maritime and Energy Resource Cluster (IMERC) (http://www.imerc.ie) aims to harness and integrate diverse research and industry expertise through the development of an innovation cluster. The IMERC vision is to promote Ireland as a world-renowned research and development location that unlocks Ireland's maritime and energy potential.

The Marine Renewable Energy Ireland (MaREI) centre in Ireland (http://www.marei.ie/) is founded on well-established Marine Renewable Energy research entities bringing together expert groups who have established themselves as international authorities in different aspects of Marine Renewable Energy. It will bring together research teams from National University of Ireland Galway, National University of Ireland Maynooth, University College Cork, University College Dublin, University of Limerick and Cork Institute of Technology to develop an economically successful MRE industry in Ireland.

The Portuguese Operational Programme for Fisheries (PROMAR) (http://www.promar.gov.pt) focuses on 4 axis: promoting the competitiveness of the fisheries sector in a context of adaptation to the availability of fish resources; to strengthen, innovate and diversify aquaculture production; create more value and diversification in manufacturing production; ensure the sustainable development of coastal areas most dependent on fishing.

KIMERAA - Knowledge transfer to Improve Marine Economy in Regions of the Atlantic Area (http://www.kimeraa.eu) is a project that aims to develop niches of economic excellence in the marine sector through the creation of bridges and links between specialist knowledge providers and firms engaged in maritime activity. To achieve this aim, it will be necessary to identify and develop channels for efficient knowledge transfer in the Atlantic Area regions, mobilising and linking the different institutional actors that can support innovative firms in the Marine Economy.

The Danish Maritime Cluster (http://www.dkmk.dk/) seeks to heighten the level of competence in the maritime business sector. The cluster focuses on maintaining positive growth, as well as securing maritime jobs, regionally and nationally. The overall aim is to improve the ability of the Danish maritime cluster to compete in the international markets.

The Technological Institute Foundation for the Development of Maritime Industries (INNOVAMAR) (http://www.innovamar.org) is a private, non-for-profit, organisation that seeks to encourage, promote and perform actions related to the competitiveness of the maritime sector, encourage and promote research, technological development and innovation especially in the shipbuilding industry and its ancillary industry and promote training.

4.4. Policy Context

- Support agencies tasked with developing indigenous companies should be offered support from maritime experts to provide insight and knowledge on marine related companies and their particular business issues, models and concerns; this will facilitate support agencies in understanding and responding more effectively to the needs of maritime related companies.
- Maritime support organisations should seek earmarked funds from support agencies to support marine strategies and address the specific needs of maritime related companies.

Classification of Policy Recommendations

This policy toolkit is putting forwars the following series of policy recommendatios:

Policy Recommendations on Developing an Integrated Maritime Policy and Strategy

- A spatial perspective is essential when developing an integrated maritime policy and strategy; there is a potential risk in focusing on vertical industries and sectors without taking account of the larger maritime picture. All aspects of the maritime economy both on land and at sea should be considered when developing an integrated policy and strategy to ensure that longer-term sustainability for all stakeholders is taken into consideration.

- Policy implementation will most likely take place at the regional and local levels, therefore mechanisms to facilitate ongoing dialogue and coordination between the local, regional, national and EU levels need to be put in place. Facilitating collaboration amongst regions and projects in the Atlantic Arc will allow for sharing of ideas and encourage greater innovation. This could be further extended to a wider international reach.

- Stakeholders (enterprises, research organisations, R&D players, public bodies etc.) in the region need to be identified and an understanding of their respective objectives and activities achieved to be able to engage them in maritime policy development and planning. The benefit of engaging and taking a seat at the policy and strategy development table needs to be clearly communicated to motivate participation.

- Clear protocols and rules of engagement need to be established to facilitate open and transparent sharing of information between stakeholders in a secure and mutually respectful environment. Stakeholders need to be very clear on their commitment and obligations to their fellow stakeholders.

Policy Recommendations on Adopting an Ecosystems Approach

- **A mechanism to bring all stakeholders (both marine and land based) around one table should be put in place.**

- **An ecosystem model that maps all the interactions and relationships between all stakeholders should be constructed taking into account environmental, biological and human perspectives; an ecosystems management approach can then be discussed from a position of clarity.**

Policy Recommendations on MSP and ICM

MSP and ICM tools should be used to assess:

- Existing uses of marine resources should be mapped to form a picture of current activities.

- A future perspective of how marine resources will be used needs to be developed to address the question of sustainability of marine resources in the longer term.

Policy Recommendations on Support Measures for Companies

- Support agencies tasked with developing indigenous companies should be offered support from maritime experts to provide insight and knowledge on marine related companies and their particular business issues, models and concerns; this will facilitate support agencies in understanding and responding more effectively to the needs of maritime related companies.

- Maritime support organisations should seek earmarked funds from support agencies to support marine strategies and address the specific needs of maritime related companies.

These policy recommendations have been classified against the 3 key objectives of the Harvest Atlantic project, the 4 target groups of policy makers and the 3 levels of policy development. The following table maps the key features of the policy recommendations against these criteria:

Objetive 1 Adding value to existing resources

Categories		Target Groups of Policy Makers			
		Local	Regional	National	EU
Policy Development Level	Political Objectives			• Spartial perspective of larguer maritime picture	• Spartial perspective of larguer maritime picture
	Executive Measures	• Mechanisms for ongoing dialogue	• Mechanisms for ongoing dialogue	• Mechanisms for ongoing dialogue	• Mechanisms for ongoing dialogue
	Legislative Policies			• Protocols for information sharing	• Protocols for information sharing

Objetive 2 Adapting traditional processes to introduce innovation

| Categories		Target Groups of Policy Makers			
		Local	Regional	National	EU
Policy Development Level	Political Objectives	• Earmarked funds for supports for maritime sectors	• Earmarked funds for supports for maritime sectors	• Earmarked funds for supports for maritime sectors	• Earmarked funds for supports for maritime sectors
	Executive Measures	• Map Stakeholder activities	• Map Stakeholder activities	• Map Stakeholder activities	• Map Stakeholder activities
	Legislative Policies			• Protocols for information sharing	• Protocols for information sharing

Objetive 2 Diversifying the industrial base to innovation based activities

Categories		Target Groups of Policy Makers			
		Local	Regional	National	EU
Policy Development Level	Political Objectives	• Ecosystem Model • Earmarked funds for supports for maritime sectors • Provide maritime expertise to Support Agencies	• Ecosystem Model • Earmarked funds for supports for maritime sectors • Provide maritime expertise to Support Agencies	• Ecosystem Model • Earmarked funds for supports for maritime sectors • Provide maritime expertise to Support Agencies	• Ecosystem Model • Earmarked funds for supports for maritime sectors • Provide maritime expertise to Support Agencies
	Executive Measures	• Map existing uses of marine resources • Map anticipated future uses of marine resources	• Map existing uses of marine resources • Map anticipated future uses of marine resources	• Map existing uses of marine resources • Map anticipated future uses of marine resources	• Map existing uses of marine resources • Map anticipated future uses of marine resources
	Legislative Policies			• Protocols for information sharing	• Protocols for information sharing

Objetive 1 Adding value to existing resources

Region	Interviewee	Role	Organisation
Algarve, PT	· Joao Guerreiro · Flavio Martins · David Santos · Pedro Monteiro · Hugo Barros	· Rector · President · President · Coordinator · Coordinator	· University of Algarve · Plataforma do Mar Algarve · CCDR Algarve · PROMAR Fisheries Operational Program · CRIA

South West, IE
Ireland (Nat´l)
	· Cllr Paul O´Donoghue
	
	· Dr Jeremy Gault
	· Cormac Gebreuers
	· Robert Collins
	· Dr Peter Heffernan
		· Councillor & CoR Atlantic
		  Forum Leader´s Group
		· Director
		· Head of Centre
		· Head of Office
		· Chief Executive Officer
			· Kerry County Council, SWRA &
			  Committee of the Regions (CoR)
			· Coastal & Marine Research Centre
			· Halpin Centre for Research & Innovation
			· Irish Regions Office, Brussels
			· Marine Institute

Cantabria, ES	· Julián Camus Bergarche
	· Carlos Lalinde Pérez
	· José Luis Arteche García
	· Alicia Lavín Montero
	· Pilar Pereda
		· Maritime Rescue Manager
		· Inspector
		· Regional Delegate
		· Research Manager
		· Director General de Pesca
		  y Alimentación
			· Maritime Recue (SASEMAR)
			· Santander Maritime Authority
			· Spanish Meteorological Agency
			· Spanish Institute of Oceanography
			· Gobierno de Cantabria
			  (Government of Cantabria)

Scotland, GB	· Dr Sheila Heymans · Jennifer Norris · Matthew Finn	· Principal Investigator · Research Director · Project Coordinator	· Scottish Association of Marine Science · European Marine Energy Centre · European Marine Energy Centre

1 (p. 8):   http://ec.europa.eu/maritimeaffairs/policy/

2 (p. 8):   http://tinyurl.com/IntPolicyGuidelines

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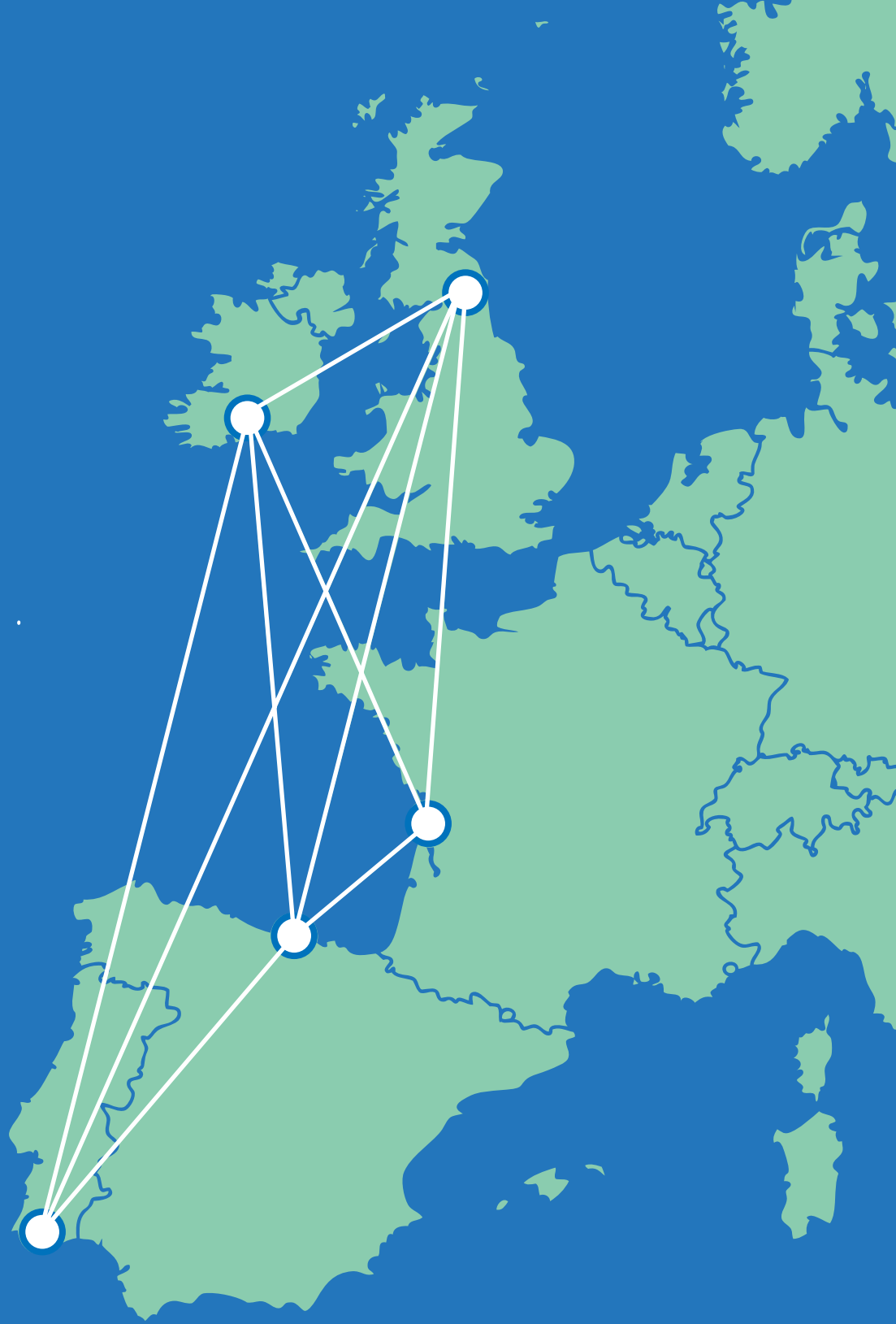
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