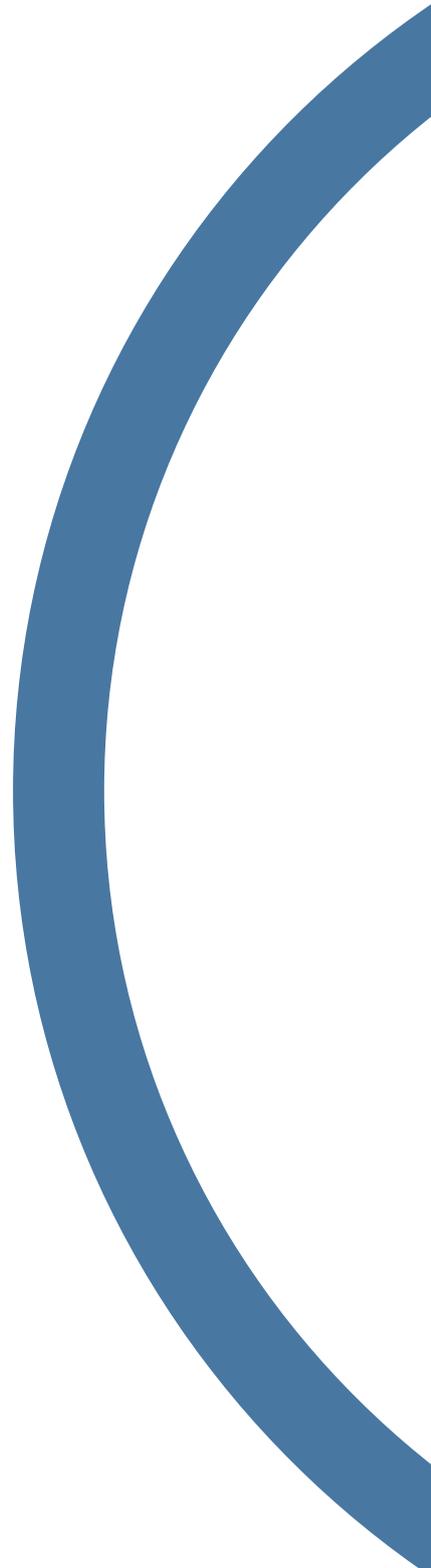


The cover features a large, circular graphic on the left side. The graphic is composed of two concentric rings. The outer ring is a dark, textured blue, resembling water or a satellite view of the ocean. The inner ring is a lighter, more vibrant blue, also with a textured appearance. The space between the two rings is white. The title text is centered within this white space. The background of the entire page is white, with a vertical strip of blue and white sky visible on the far left edge.

OUR OCEAN WEALTH DEVELOPMENT TASK FORCE

REPORT TO THE INTER-DEPARTMENTAL
MARINE COORDINATION GROUP



Marine / Maritime

In keeping with the practice established under *Harnessing Our Ocean Wealth*, in this document we use 'marine' to reflect both maritime and marine.

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Harnessing Our Ocean Wealth Vision

Our ocean wealth will be a key element of our economic recovery and sustainable growth, generating benefits for all our citizens, supported by coherent policy, planning and regulation, and managed in an integrated manner.





CHAIRMAN'S FOREWORD

**Robert Dix**

DEVELOPMENT TASK FORCE CHAIR

This report of the Development Task Force, which it has been my honour to chair, represents the culmination of a significant body of work carried out by the members of the task force over the past 16 months. This work was undertaken at an exciting time in the development of the Irish marine economy. The State has set itself ambitious targets in its integrated marine plan, *Harnessing our Ocean Wealth*. Government is attaching great importance to improving its regulatory processes so as to at once both protect our precious marine resource and yet realise its potential to contribute to Ireland's economic recovery. Significant progress has been made in this regard. All the while, our capacity to understand and harness our ocean resource is growing through and emerging and energetic marine research community.

During our work, I have been energised by the extraordinarily wide range of economic activities identified by the members of the task force. All of these stem from our extensive marine territories. Yet despite this tremendous resource, and the increased national awareness of its value, the scale of the challenge associated with the *Harnessing Our Ocean Wealth* ambition of doubling the size of the marine economy should not be underestimated.

It is clear that transformative actions are required across government departments, public agencies, as well as business, regional and local organisations. Without these transformational changes, the targets in *Harnessing Our Ocean Wealth* will not be met. This report presents an integrated suite of eight actions that the members of the task force believe are required to produce such change. In arriving at these recommendations, the task force engaged in detailed consideration of the many facets of our ocean economy. Through this work, a common framework for action has emerged. The task force has identified five thematic areas for action, and three types of intervention that are required for existing marine industries, emerging resources and potential marine markets that are available to the wider national economy.

Success will depend on the removal of key obstacles to growth and the provision of core infrastructure. An equally important ingredient is the demonstration of capability and confidence in our national marine ability. Every success provides evidence of the value of investment and will lead to further achievement. The task force believe that there exists a wide range of projects with the potential to demonstrate our national capability. These arise both in 'traditional' areas, such as tourism in marine and coastal areas, shipping, fishing, aquaculture, manufacturing and engineering, as well as from new activities

like marine renewable energy, information and communications technology focused on marine applications, and marine biotechnology. The martialling of the various enterprise, research and development mechanisms of the state, matched by private investment and project promoters, can set Ireland firmly on course to realise the opportunities available.

An improved collective national consciousness of our marine asset, bolstered by incremental success, will lead to Ireland achieving a place as a leading marine society. Such change requires collective effort starting with our education systems through to positive and meaningful engagement by government, industry and community based organisations with all aspects of the sea.

In conclusion, I would like to thank the members, and all those who contributed to the work of the Task Force, particularly the Chairs of the sub-groups who contributed so much time from already demanding schedules. I would also like to acknowledge the challenging work done by the support team, assembled by the Marine Institute, for their work in synthesising a wide variety of inputs and other source material, and thank them for their efforts.

I now commend this Report to the Government and the Marine Co-ordination Group in the belief that it lays the foundations for a significant, sustainable and measurable growth in jobs and GDP, in this decade and beyond.

Robert Dix
DEVELOPMENT TASK FORCE CHAIR



Photograph courtesy of Port of Cork.



INTRODUCTION CHALLENGE & OPPORTUNITIES

Harnessing Our Ocean Wealth – An Integrated Marine Plan for Ireland identifies Ireland's vast marine assets as a key element of economic recovery and sustainable growth for the country. To support the implementation of *Harnessing Our Ocean Wealth*, the Task Forces were established to strengthen the work of the Marine Coordination Group (MCG) and progress a number of the actions.

In December 2013, the Development Task Force was set up by the Minister and the MCG with participants across a range of organisations, encompassing public, private and the NGO sectors. The DTF was tasked with addressing four specific actions, namely:

- **Integrated Enterprise Strategy** - Develop an integrated enterprise strategy to generate momentum in specific emerging market opportunities (*Harnessing Our Ocean Wealth Action #1*)
- **Business Development, Marketing & Promotion** - Give a clear message to investors that Ireland is 'open for, and a good place to do, marine business' domestically and internationally (*Harnessing Our Ocean Wealth Action #17*)
- **Research, Knowledge, Technology & Innovation** - Support existing and new test-beds/facilities for demonstration and commercialization purposes – (*Harnessing Our Ocean Wealth Action #25*)
- **International Education & Training** - Establish Ireland as an international marine training destination, maximising the capacity and potential of existing marine training facilities/programmes. (*Harnessing Our Ocean Wealth Action #28*)



FIGURE 1 - *HARNESSING OUR OCEAN WEALTH* GOALS

The purpose of this report is to galvanise and effectively mobilise a range of State supports, enabling investment required to reach the

economic goal of a *Thriving Maritime Economy*, and associated targets set out in *Harnessing Our Ocean Wealth*.

HARNESSING OUR OCEAN WEALTH TARGETS:
Double the value of Our Ocean Wealth to 2.4% of GDP by 2030
Increase the turnover from our ocean economy to exceed €6.4billion by 2020.



FIGURE 2 - HARNESSING OUR OCEAN WEALTH ECONOMIC TARGETS

These ambitious targets require a very fundamental shift in Ireland's efforts if they are to be achieved. Drawing on the rich experience of the members of the DTF, and the research and consultations undertaken by it, a set of robust recommendations have emerged. The recommendations should not be considered individually, but are best viewed as an integrated package.

The DTF's work and the report's outputs were informed by the following perspectives:

- That business as usual is not an option. Past performance will not deliver the targets;
- That the current level of private sector investment in Ireland's ocean economy – both domestic and international – is well short of what is required to deliver the economic goal;
- That creating the necessary investment environment needs priming investment and strong actions by Government and the State to demonstrate visibility on the commitment to the sector;
- That historically, Ireland has underperformed in the area of environmentally sustainable practices and legislation;
- That internationally, Ireland's value proposition to investors is not competitive and needs significant strengthening;
- The complexity of the sector need not be an impediment to its development. To address these complexities a strategic framework, supported by a clear implementation plan for success, is required;
- Implementation requires a coordinated set of interventions supported with a commitment of the human and capital resources necessary; and
- That Ireland needs to create more marine success stories by supporting demonstrator projects, to provide the platform for Ireland to demonstrate its strategic intent for the sector.





Schaper





SEIZING OPPORTUNITIES A STRATEGIC FRAMEWORK FOR DELIVERY

The DTF have developed a strategic framework that, it is hoped, will become embedded in national thinking and our overall approach to the marine sector. This will facilitate the identification of opportunities and inform enterprise strategies and investment priorities. It will also ensure that the enabling operating environment is investor ready.

Implicit in the strategic framework is the requirement for capital investment by the State. This investment will act as a primer for attracting private sector investment, as part of the overall longer term investment strategy for the sector.

STRATEGIC FRAMEWORK COMPONENT #1: FIVE THEMATIC AREAS

The first component of the strategic framework is a definition of the marine sector around five national agreed thematic areas, which are set out below with an explanation of what each theme embraces.



FIGURE 3 - THEMATIC AREAS

STRATEGIC FRAMEWORK COMPONENT #2: THREE INTERVENTION CATEGORIES

The strategic framework recognises that a number of specific interventions and stimuli are required to support and drive investment. These interventions need to create near to medium term economic impact, providing the employment necessary to positively affect GDP. To achieve this growth the DTF consider that there are three broad categories of intervention.

INTERVENTION 1 – ‘MARINISING’ EXISTING ENTERPRISE SECTORS

Ireland is one of the best countries in the world in which to do business, a position that has been independently validated by many international studies. Ireland’s success in attracting Foreign Direct Investment is a function, inter alia, of its international competitiveness, the quality and resourcefulness of the workforce, its membership of the EU and Eurozone, and the Irish Government’s determination to make Ireland the best small country in the world in which to do business.

This involves existing enterprise sectors, such as Energy, Clean/Green, Food, ICT, Finance and others, extending their businesses into a range of new marine-related markets e.g. ICT for the Sea, marine biotechnology and maritime commerce. This is built on Ireland’s already recognised international competence and capacity across indigenous and Foreign Direct Investment (FDI) enterprises, which represent a significant national asset.

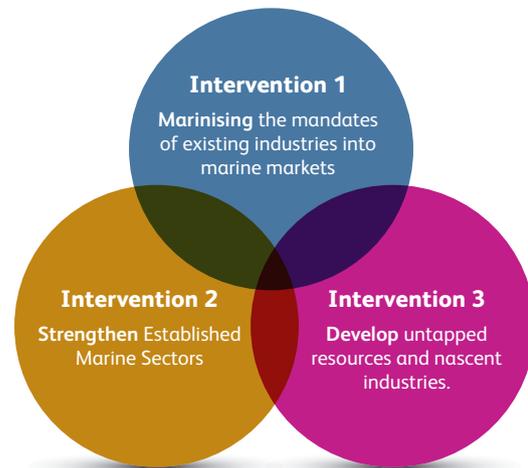


FIGURE 4 - INTERVENTION CATEGORIES

INTERVENTION 2- STRENGTHEN ESTABLISHED MARINE INDUSTRIES

This requires interventions that are designed to strengthen established marine resource-based industries, adding value to their products and services. In effect these supports focus on moving what are often regarded as ‘traditional’ marine industries, such as aquaculture, fisheries, and tourism, further up the value chain while sustaining existing activity in a competitive global environment.

INTERVENTION 3 – DEVELOPING NASCENT MARINE INDUSTRIES

These are industries which utilise untapped natural resources or existing resources in new ways. It also includes developing new services exploiting investments in infrastructure, skills and knowledge. Examples include marine renewable energy and marine manufacturing, engineering and other offshore supply chain services.

STRATEGIC FRAMEWORK COMPONENT #3: THE OPPORTUNITY MATRIX

| | | MARINISING | | STRENGTHENING | | | DEVELOPING | | |
|---|--|-------------------|----------------------------|---------------|--------------------|-------------------------|---|---------------------------|-------------------------|
| | | Maritime Commerce | Marine ICT & Biotechnology | Seafood | Offshore Oil & Gas | Tourism in Marine Areas | Maritime Manufacturing & Engineering Services | Ports & Maritime Services | Marine Renewable Energy |
|  | Food from the Sea | | | | | | | | |
|  | Energy from the Ocean | | | | | | | | |
|  | Tourism & Business in Marine & Coastal Areas | | | | | | | | |
|  | Enterprise & Industry | | | | | | | | |
|  | Integrated Marine Capacity and Capability | | | | | | | | |

FIGURE 5 - INTERDEPENDENCIES IN THE MARINE SECTOR - GRID OF OPPORTUNITY

The figure above illustrates the interdependencies, and opportunities, that exist across the sectors. Interventions which achieve impact in one thematic area represent opportunities to maximize investment returns. Identifying these synergies, and bringing investors, promoters and relevant state entities together, is key to realising the true economic growth in the marine sector.

The DTF believe that this will require a significant state-led industry investment programme capable of leveraging European Union and private

investment. An initial focus of the programme should be the creation and support of initiatives that are designed to:

- demonstrate the readiness of specific sectors;
- clearly indicate the national capacity to achieve the outcomes set out in *Harnessing Our Ocean Wealth* and;
- impact on several sectors, thereby increasing strategic and economic impact, as illustrated in the figure above.

STRATEGIC FRAMEWORK COMPONENT #4: LEVERAGING INVESTMENT

The DTF believe that Ireland must establish an expectation of success from its marine sector, achieved through a series of incremental successes that demonstrate capability. Such successes will be fundamental to Ireland being viewed in a positive light by sources of investment funds.

A long-term investment strategy for Ireland’s marine sector will require a level of private investment commensurate with the expected doubling by €3bn of GDP contribution expected by 2030, as set out in *Harnessing Our Ocean Wealth*. Given the specific challenges associated with the development of ocean resources, and

assuming a threefold investment to return ratio, an investment of up to €1bn may be required in the period to 2030.

To ensure that Ireland is in a position to attract and utilise such levels of investment, the DTF believe that a priming investment will be required. This should take the form of investment primarily in marine infrastructure and coordinated calls in each of the intervention categories outlined in Section 2, “Seizing Opportunities – A Strategic Framework for Delivery”.

The funding should be directed at projects based on criteria such as:

- Ability to Build capacity
- Leveraging research activity (existing and planned)
- Deployment of new technologies and processes
- Catalytic effect
- Establishment of benchmarks for future projects

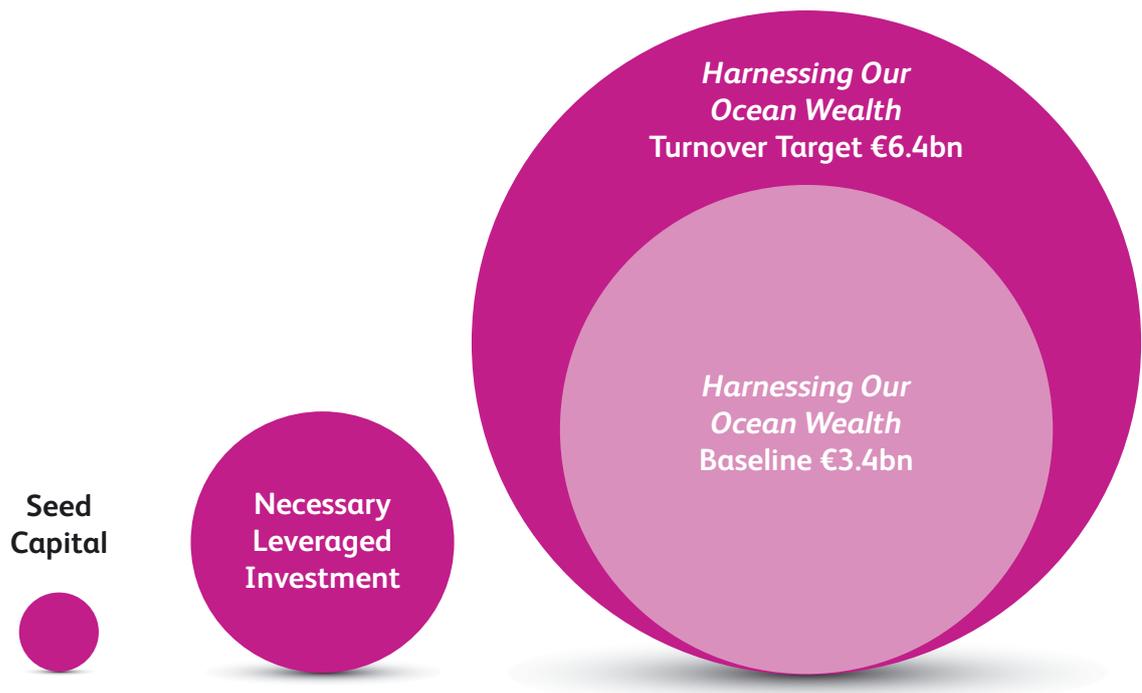


FIGURE 6 - SCALE OF INVESTMENTS REQUIRED TO ACHIEVE *HARNESSING OUR OCEAN WEALTH* GOALS

In order to ensure the availability of such investment funds, a Marine Investment Programme (MIP) should be scoped and prepared.

This should be in place for 2017 utilising leveraged investment from national and EU investment funds. In parallel the opportunities, of varying scale and maturity, should be promoted to existing lenders in the domestic lending market.





**IRELAND &
MARINE BUSINESS
CREATING AN
INTERNATIONALLY
COMPETITIVE
OFFERING FOR
INVESTORS**

One of the key terms of reference to the Development Task Force was to address the Business Development, Marketing & Promotion agenda that will send a clear message to investors that Ireland is open for, and a good place to do, marine business.

A WINNING VALUE PROPOSITION FOR MARINE BUSINESS – FOR IRELAND

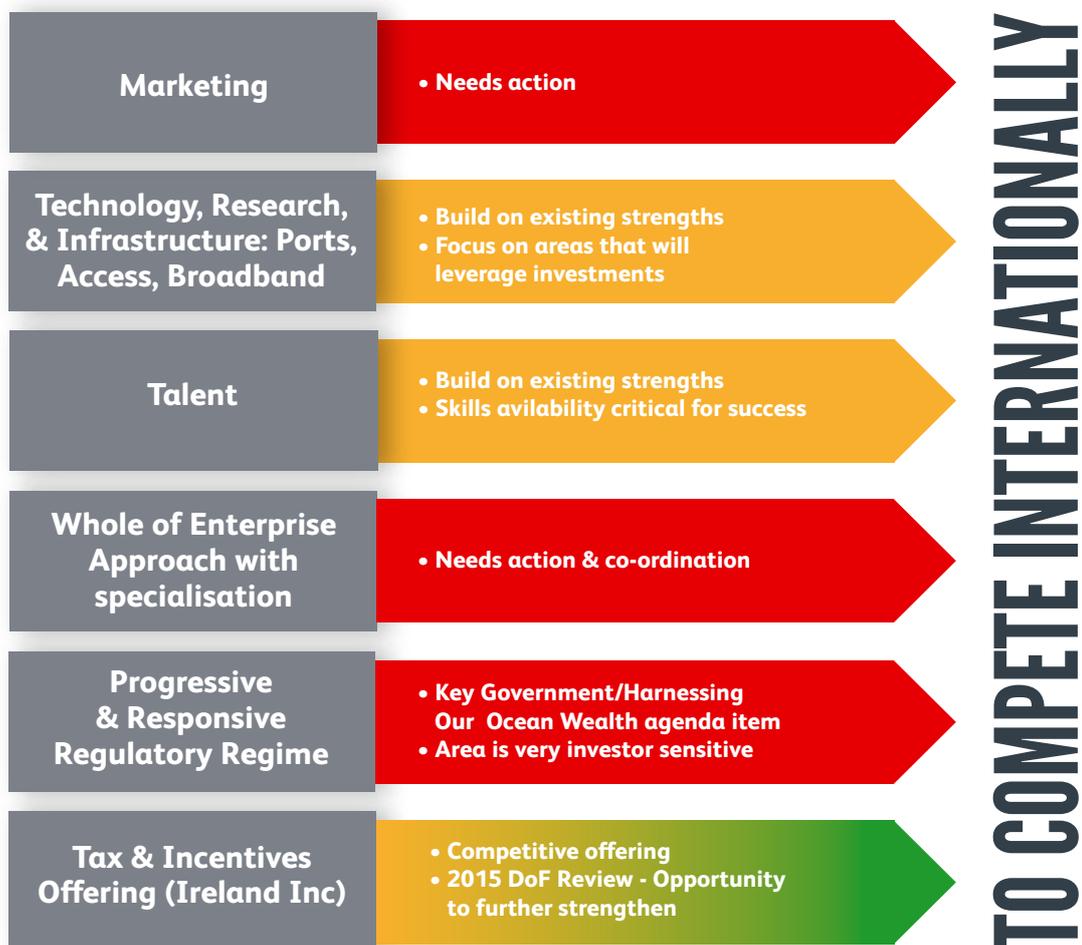


FIGURE 7 - COMPONENTS OF A GLOBALLY COMPETITIVE VALUE PROPOSITION

In response, the DTF has assessed a number of countries with marine economies that provide a strong GDP contribution. This benchmark exercise included countries such as Norway, the UK, Singapore & Canada's maritime province of Nova Scotia and provided clear evidence to inform the response required by Ireland to compete and win. Cognisance was also taken by the DTF of the strength of Ireland's value proposition in other sectors, such as ICT, Life Sciences and Financial

Services, which have created the investment environment that has, and continues to, deliver jobs and a significant contribution to GDP.

It is clear that Ireland has some strengths that compare favorably in an international context. Figure 7 indicates both current strengths and areas the DTF recommend require action to attract foreign investment and promote a dynamic domestic marine sector.

MARKETING – COORDINATION OF PURPOSE

Responsibility and governance of Ireland’s marine sector is spread across a number of government departments and agencies. Coordination from a policy perspective is achieved through the Interdepartmental Marine Coordination Group. The DTF recommend that within government departments, spending on marine related activities be clearly identified.

Beyond policy formulation, implementation often rests with agencies that, more often than not, operate within a single or limited mandate. The DTF believe that inter-agency cooperation is crucial to the achievement of the goals set out in *Harnessing Our Ocean Wealth*. While there are examples of such cooperation today, a step change is required to ensure success. To achieve this change, the DTF propose the establishment of an ‘Integrated Marine Development Team’ as part of its overall recommendations. This is in keeping with the improved cross government communication and implementing mechanisms highlighted in *Harnessing Our Ocean Wealth*. The team is not intended to lead to a duplication of efforts or

reporting structures, but will have the principal purpose of establishing an informed awareness and focus on the marine sector within existing agencies. For the duration of its establishment the Team will work with agencies such as those shown in Figure 8, to:

- Coordinate branding and marketing;
- Establish overseas market intelligence and industry contacts;
- Build a network of existing and potential marine enterprises, in Ireland and overseas;
- Develop knowledge about emerging technology-based industry opportunities;
- Build industry consortia and broker investment projects;
- Demonstrate intent by conducting calls for demonstrator projects; and
- Act as a broker for investment funding streams for the marine sector.

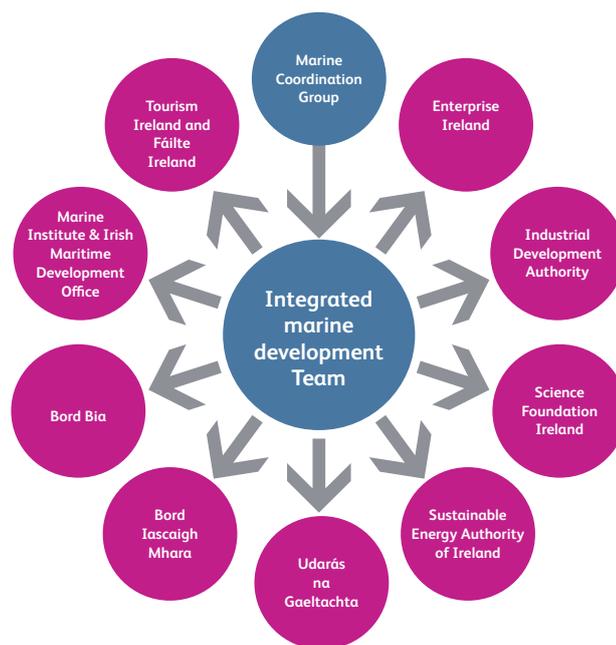


FIGURE 8 - THE ROLE OF AN 'INTEGRATED MARINE DEVELOPMENT TEAM'

MARINE TECHNOLOGY & RESEARCH AND INNOVATION

As already identified, three broad categories of intervention ('marinising', strengthening, and developing) exist that can usefully capitalise on existing state assets and capabilities and act as industry investment categories. One particular such set of assets is the recent investment by the state in *research infrastructure* (including non-marine related infrastructures) and capacity. A second are the current funding mechanisms, in a number of Irish state agencies, that can support these interventions¹. The DTF recommend that the new National Marine Research & Innovation Strategy², called for under *Harnessing Our Ocean Wealth*, utilise these assets as follows:

- In the *short term*, increase the talent pool available so as to attract Foreign Direct Investment and strengthen existing industry, whilst strengthening environmental, technological and governance capacity

- In the *medium term*, investment, coupled with existing research infrastructures, can be used to demonstrate the application of products and services in new marine markets.
- In the *long term*, generate new products and services, in particular in the emerging fields of Marine ICT, Marine Bio-Resources and Offshore Renewable energy.

Such a research agenda needs to be selective, targeted and focussed - directing support to enterprises seeking to develop and improve new and existing products – in line with Ireland's Research Prioritisation Strategy and associated plans. Research priority must also be afforded to understanding the interactions between marine industry activities and the natural environment and also developing fit-for-purpose predictive modelling and forecasting capabilities.

INFRASTRUCTURE: PORTS & ACCESS + BROADBAND

In a context of declining world trade market shares in most OECD countries, Ireland has shown a resilient export performance which has formed the basis for stabilisation of the economy³. This reliance on exports points to a requirement for adequate infrastructure, particularly in relation to ports facilities. There is a clear strategy for the development of Ireland's ports infrastructure in the form of the National Ports Policy published in 2013. Continued growth in the sector is reflected in recent and planned future investment in Tier I ports (Dublin, Cork and Shannon Foynes) as outlined in their respective Masterplans⁴.

Beyond supporting Ireland's trading status, Ireland's ports and harbours are multi-use facilities e.g. supporting tourism, leisure, engineering and manufacturing services, and the broader economic development of the regions. Given the peripheral location of much of Ireland's marine industry sectors it is important that these ports and harbours, both at national and regional level, benefit from the whole of enterprise approach outlined below. In particular, the further development of Irish ports and harbours must be supported by enterprise development support and continued integration into other national

1 These agencies include, but are not limited to, Enterprise Ireland, the Marine Institute, Science Foundation Ireland, the Sustainable Energy Authority of Ireland, the Geological Survey of Ireland etc.

2 A National Marine Research & Innovation agenda is currently in preparation by the Marine Institute.

3 OECD (2013), "OECD Economic Surveys – Ireland 2013"

4 The National Ports Policy (2013) outlines the position in relation to ports investment. Ports fund their infrastructural developments in a number of ways, most notably through reserves, borrowing, EU grants, private sector investment and joint ventures with other investors.

infrastructure programmes e.g the provision of adequate road and rail connectivity to Irish ports, as this enables Ireland to continue to trade internationally.

In addition to physical infrastructure, the peripheral nature of marine based industries has the effect of placing them at a disadvantage in terms of access

to telecommunications infrastructure. The DTF advocate the development of coastal broadband facilities as part of the wider rural broadband initiative. Such facilities will enable export-orientated competition on the part of Irish marine enterprises, supporting rural coastal communities and businesses and will also enhance the utilisation of marine based research infrastructures.

TALENT – A SKILLS DEVELOPMENT AGENDA

An available workforce with appropriate knowledge, skills and talent is well recognised as a vital component of Ireland’s marine ‘offering’. A skills development agenda is a pre-requisite for achieving the economic targets set out in *Harnessing Our Ocean Wealth*, ensuring that the right skills base and talent is available to existing and new indigenous and international enterprises throughout the wider Marine sector, both seagoing and shore based.

Under the Action Plan for Jobs 2014, the Expert Group on Future Skills Needs (EGFSN), have completed an assessment of the future skills needs, labour market supply and demand trends across Ireland’s existing and emerging marine sectors, based on the growth scenarios and targets outlined in *Harnessing Our Ocean Wealth*. The study concluded that:

- There is a lack of awareness of careers in the Marine Economy;
- No specific skills shortage exists at present, though there is a need for the ongoing monitoring of skills needs as ‘trigger points’ for growth are reached, e.g. aquaculture licensing, ISSC, exploration drilling;
- In the new and emerging sectors (e.g. finance and ICT), there is a need to ‘marinise’ the workforce;
- A mentoring programme for the seafood sector is required to ensure that experience is passed onto the next generation; and

- IT training for those living in coastal communities and working in the marine economy would be beneficial.

In addition to educating and training the domestic market and labour force, Ireland also has tapped into a number of distinct international markets in the area of marine/maritime education and training services.

- Ireland’s rich ‘Marine’ offerings by Higher Education Institutes to international students and researchers from across the globe are already evident with international students increasingly choosing Ireland to undertake marine related undergraduate and postgraduate education/training.
- Ireland has also gained a global reputation and track record in the provision of tailored seafarer/offshore training, for example through the National Maritime College of Ireland (NMCI), attracting international businesses and students and targeting growing and new markets.

Building on its track record and co-ordinating its efforts, Ireland can package, brand and target the growing global international marine/maritime education and training market. While this will in its own right generate revenue, the development of global relationships will also deliver business value to “Marine Ireland”.

A "WHOLE OF ENTERPRISE" APPROACH

The new integrated Marine Development Team will adapt a whole of *enterprise approach*⁵ at company level as a part of a broader *whole of government* agenda. A particular focus would include such actions:

- *Marketing* the Irish Marine opportunity through branding and the provision of appropriate marketing material;
- building an Irish Marine industry network and strengthening maritime cluster initiatives;
- collating and selling the Irish Marine narrative and other actions in support of FDI;
- Initiating actions that support existing industry, including horizon scanning, introduction of a marine-specific SBIR⁶ scheme or series of schemes, focussed marketing and tailoring of existing company development funds and schemes, and development and promotion of a sub-supply base; and

- Actions supporting new businesses, e.g. that flush out new start-ups through national competitive feasibility fund calls in targeted marine subsectors and availability and use of dedicated incubation/acceleration facilities

There are diverse stakeholder and governance interests associated with the marine at present, and a whole of enterprise approach will require, for a period, a concerted response from Government and the wider public service. In order to ensure that marine is established at the heart of the government enterprise development process, the DTF proposes that an integrated Marine Development Team be established (a requirement also outlined in section 3: Ireland and Marine Business). The Team would consist of a small number of people with the necessary experience, and combine additional capacity with appropriate secondments from the implementing departments and agencies.

⁵ Defined in "Making it Happen Growing Enterprise for Ireland" (Forfás, July 2010) as an approach that encompasses firms that trade internationally, those that currently serve local markets with potential to internationalise and those that will continue to play a key role in serving local demand, together with the enterprise supports provided by government to these. The report places this approach in the context of a "whole of government" endeavour to provide a supportive business environment through continued and focused investments and effective policies across a wide range of areas including, for example, education and training, tax and finance, competition and regulation and physical infrastructures .

⁶ Small Business Innovation Research (SBIR) falls under the category of pre commercial procurement (PCP). PCP, as defined by the European Union, involves the purchase of research by a Government entity which is undertaken with the objective of stimulating innovation that the contracting authority or some other party may benefit from at a later stage when goods or services not currently available are developed from the outcomes of the research.

A PROGRESSIVE AND RESPONSIVE REGULATORY REGIME

The DTF has identified the need for Ireland to have a *Progressive & Responsive* approach to regulation in support of the sustainable development of the marine sector. The regulatory environment needs to be efficient and responsive while also maintaining a responsible regime. The DTF recognise that a number of actions are already underway, including the streamlining of processes, as committed to in *Harnessing Our Ocean Wealth*. The DTF strongly emphasises that these actions represent a precondition to success while recognising the complexity of national and European legislative requirements.

Beyond such regulatory actions, a reform agenda is required to enable a “*Whole of Enterprise*” approach. This is to ensure that:

- strategic investment decisions are not impeded by unintended consequences of regulation
- meaningful interdepartmental, interagency and system-wide collaboration is achieved;
- a leadership agenda with focus, stamina and resources is in place.

TAX & INCENTIVES OFFERING

A key component to Ireland’s enterprise offering is its low and transparent corporate tax rate, regime & reputation. In the marine sector, this includes the Irish Tonnage Tax system, aimed at attracting international shipping services to Ireland and, in 2014, a revised taxation regime for offshore petroleum exploration and production was announced.

The announcement of this Review and commitment by Government is a positive and necessary development to ensure that Ireland’s offering is competitive and attractive.

This review provides the opportunity to potentially further strengthen Ireland’s competitive offer to the marine sector.

Building on these taxation measures, and in recognition of the potential of Ireland’s ocean economy, the Department of Finance are undertaking a review of the financial and taxation supports and opportunities available to the marine sector.





DEMONSTRATING
INTENT AND
CAPABILITY
IRELAND IS OPEN
FOR MARINE
BUSINESS

The DTF are very strongly of the view that recommendations to drive the economic agenda for the sector, must include a set of projects that can demonstrate Ireland's intent for the sector. Consequently, and central to the DTF report, is the proposition that action is required to create more marine successes by supporting demonstrator projects that fit within the report's **'Marinising / Strengthening / Developing'** Strategic Framework, linked to the **five thematic areas** already articulated in this report.

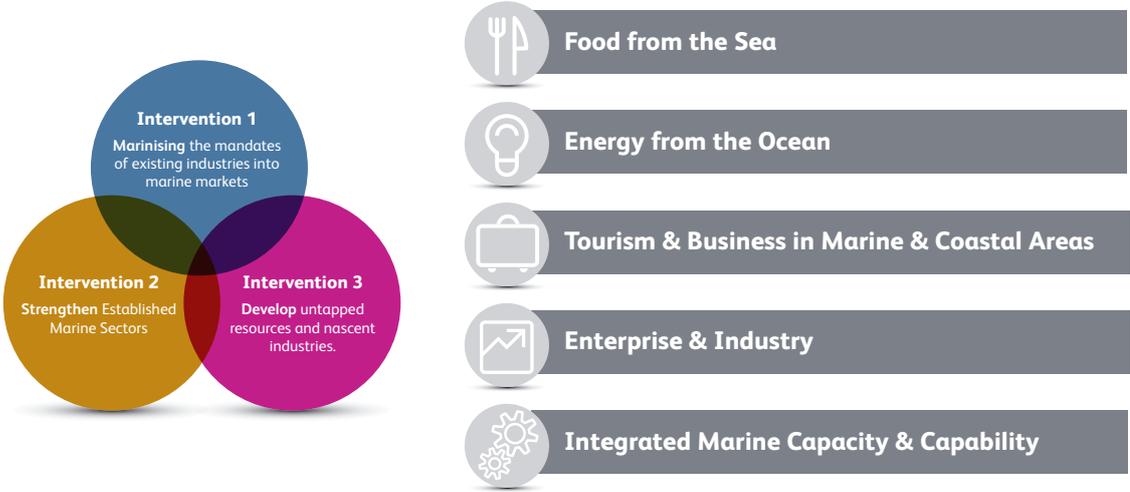


FIGURE 9 - INTERVENTIONS & THEMES

The integrated Marine Development Team, proposed in section 3: Ireland and Marine Business, should work with all relevant agencies to identify development projects in each of the three categories of intervention in the marine sector, marinising, strengthening and developing. Projects should be selected on a competitive basis, using existing call mechanisms available to the State, with coordination being provided by the Marine Development Team.

The DTF believes that the projects within the thematic areas, with illustrative projects listed below, represent a pipeline of investment opportunities of varying scale and maturity that can attract significant funding from the private sector. Combined, such projects have the ability to drive revenue and GDP growth and promote confidence in Ireland's marine sector.



Food From the Sea

The harvesting and utilisation of Ireland’s marine living resources, through fishing, aquaculture, seafood processing and seaweed harvesting, is already a significant component of the marine economy and the subject of ambitious targets under Food Harvest 2020 and *Harnessing Our Ocean Wealth*. Growth prospects will be sought in the expansion of aquaculture, in particular in frontier locations. Further added -value will be sought in the utilisation of wild fish stocks, the application of biotechnology, and the development of engineered structures and technologies associated with fisheries and aquaculture.

| | |
|-----------------------------|---|
| Frontier Aquaculture | Develop, build and operate aquaculture activity of scale in frontier environments to, develop novel engineering, husbandry, and animal health techniques. Such a facility will form a part of a multi-purpose test and demonstration platform. |
| Ocean Bio Resources | Develop, build and operate a research-driven cluster in the field of Marine Bio-resources to enhance utilisation of marine biomass and the development of novel processes. This will leverage existing capability and capacity built in the area of marine functional foods and biodiscovery. |



Energy from the Ocean

It is accepted that utilisation of our marine renewable energy resources depends upon developments in the wider environment e.g. establishment of a single European Electricity market, agreement on measures to achieve carbon-free electricity generation and roll-out of offshore grid infrastructure. However, early initiatives to establish Ireland as a test-bed for early stage prototype development and pilot array deployments, will create the cluster of SME and FDI industrial and service capabilities.

| | |
|---------------------------------|--|
| MRE Devices & Arrays | Build and operate pre-commercial test sites to demonstrate marine renewable energy potential while increasing understanding of the physical environmental and potential ecological impact. |
| Offshore Oil & Gas | Continue to invest in baseline data collection to ensure that Ireland’s natural resources are managed in compliance with European and Irish environmental law, whilst supporting the exploration and discovery of oil and gas in Irish waters and related infrastructure and knowledge development |
| Marine Engineering | Maintain, grow and leverage Ireland’s capability and marine assets, including dry-docks, as part of marketing Ireland’s capability and also supporting a range of demonstrator projects and supply chain opportunities. |



Tourism & Business in Marine & Coastal Areas

Marine tourism is estimated to represent 10% of our overall tourism sector. Significant opportunities exist to develop a world- leading destination brand to increase awareness, visitor numbers and revenues from international markets, supporting the national tourism sustainable growth strategy.

| | |
|--|--|
| Tourism in Marine and Coastal Areas | Provide integrated marine- based tourism products and services to grow revenues in coastal areas, leveraging and building on the success of the 'Wild Atlantic Way initiative' |
| Cruise Tourism | Build shared infrastructure to provide destinations for Cruise ships in Ireland. |



Enterprise & Industry

The development of new marine services in areas such as finance and training/education, together with targeting new niche activities, such as an ocean racing yacht platform, expertise in oil & gas platform end-of-life services, ICT for the Sea and marine biotechnology, both builds on existing initiatives and opens new growth opportunities.

| | |
|--|---|
| International Shipping Services Centre | Establish a hub for maritime commerce, building on the success of the International Financial Services Centre (IFSC), with a target to attract 5% of the global shipping fleet into Ireland's tonnage tax regime. |
| International Education & Training | Strengthen and build on Ireland's Marine Training and Education offering, attracting international students to Ireland and exporting services abroad. |
| Ocean Racing Yacht Platform | Establish a site & attract an International Yacht Racing Team, generating business opportunities in the technology, engineering and services sectors and increased tourism numbers |
| Offshore Platforms End-of-life Services | Win new business for Irish knowledge based companies from the multi-billion market associated with decommissioning oil and gas platforms in the North Sea. |
| Incubator Capacity | Develop new, and enhance existing, national and regional facilities, targeting global growth areas and market opportunities for emerging products and services. |



Integrated Marine Capacity and Capability

Ireland has significant strengths in Research, Technology, Development and Innovation (RTDI) and a growing international industry base centred on ICT and Life Sciences. These, coupled with an indigenous strength in marine science and technology, provide the means to enable smart, knowledge-based enterprises to target globally traded products and services in existing and new markets.

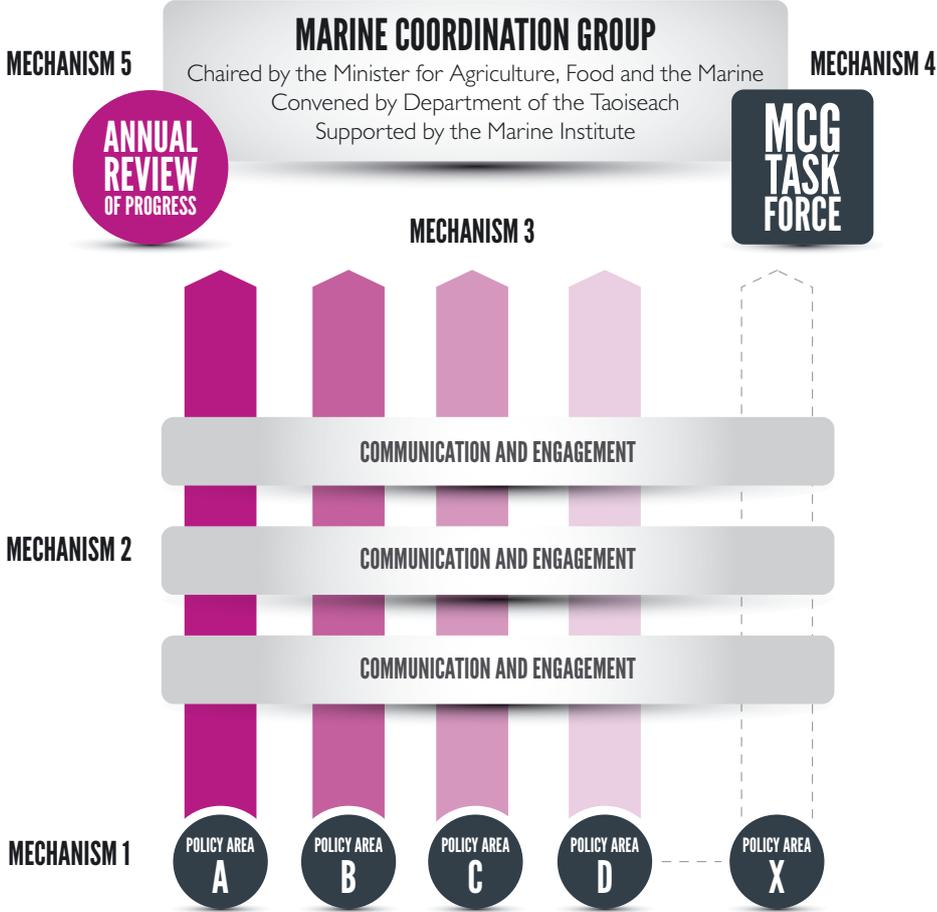
| | |
|--|--|
| Integrated Digital Ocean | Build an end-to-end system for Ocean Observation to aid in the understanding of our oceans. The constituent parts will consist of new and existing infrastructure from a variety of providers such as research performers, public bodies and private enterprises and will provide a multi-purpose test and demonstration platform. |
| Marine Technologies for Security & Safety | Exploit the trend towards marine robotics and autonomous usage in marine operations, for safety security & surveillance by developing software and hardware solutions. |
| Marine Clusters | Establish and develop clusters of expertise and capacity to deliver innovation networks across research, training, enterprise and end user communities |





AN INTEGRATED APPROACH TO IMPLEMENTATION COORDINATION & INTEGRATION

The HOOW Strategy document included a high level integrated plan for Ireland, which is captured in the graphic below. The DTF considered, in its deliberations, how best to operationalise that plan and the totality of our report provides the framework and sets the agenda for implementation.



This schematic represents the five implementing mechanisms for *Harnessing Our Ocean Wealth*

- MECHANISM 1** – Individual departments implementing relevant policy and strategy programmes;
- MECHANISM 2** – Improved cross government communication and engagement across sectors;
- MECHANISM 3** – Ongoing updates to MCG
- MECHANISM 4** – Focused Task Forces that address specific actions; and
- MECHANISM 5** – Annual review of progress by MCG

FIGURE 10 - HARNESSING OUR OCEAN WEALTH IMPLEMENTATION MECHANISMS

The DTF believes that further private sector investment and business activity are required to meet the *Harnessing Our Ocean Wealth* targets.

Creating the appropriate business environment needs seed capital and strong actions by Government to demonstrate visibility on its commitment to the sector.

This is the rationale for an investment strategy and programme that recognizes where Ireland is starting and wants to go. There are four steps to this implementation plan:

PRIMING

To get the output desired under HOOW, priming inputs are required. The DTF believes that the key primers involve provision of seed capital and resources & the creation of an operating environment that will give Ireland a differentiating ‘value proposition’. Such an offering is necessary to compete for and attract private sector investment – from both the indigenous and FDI enterprise sectors. The State has a key role in this priming activity is through investment in necessary infrastructure, skills and research.

COORDINATING

The priming activity described above will require coordinated effort and clarity of purpose. The capital investment required on the part of the State must be clearly identifiable. The DTF recommend that each government department with marine governance ensure that spending on the marine sector can be tracked.

The requirement for a coordinated effort will also extend into delivering the enabling environment actions set out in section 3 of this report – ‘Creating an internationally competitive offering for investment & investors’.

DEMONSTRATING

The DTF also believes that, in order to attract the level of investment to achieve the economic goal set out in *Harnessing Our Ocean Wealth*, it will be necessary to demonstrate that the enablers identified earlier in “Ireland & Marine Business” have been put in place. Through the use of existing and new funds and mechanisms, such as SBIR procurement, the DTF recommend that a series of demonstrator projects be brought to implementation phase quickly.

LEVERAGING

As ‘the demonstrator projects’ are implemented, and the enabling environment for investment improves, the DTF believe that there will be an opportunity to establish a marine investment fund. This fund will effectively leverage the state investment with new private sector funds to further projects within the five thematic areas.

Ensuring such investment will require interventions by the State. These include financial, structural and regulatory actions that are designed to promote the success of marine industries and enterprises. In financial terms, the DTF recommends that, in the short term, existing supports be utilized to make a seeding investment by the state. These include development of SBIR schemes, innovation programmes such as those currently provided by Enterprise Ireland, research programmes currently provided by Science Foundation Ireland and the Marine Institute, and FDI incentives such as those provided by the Industrial Development Agency.

The scale of investment required by the State will require a detailed analysis of each of the thematic areas, including consideration of existing sectoral plans that are contributing to the targets in *Harnessing Our Ocean Wealth*. Such an analysis is a key implementation task. In advance of this analysis, the DTF has considered the *Harnessing*

Our Ocean Wealth target of increasing turnover from the marine economy of €3bn in order to give an indication of the likely seeding investment requirement. Assuming a threefold return on investment, leveraged investment funds of the order of €1bn will be required. Further assuming a three to one private to public contribution to investment funds, indicative seed funding of €250m over 5 years is estimated.

The interventions required, to ensure that these projects secure investment, differ based on the nature of resource and opportunity, as illustrated below.

| | | MARINISING the mandates of other sectors to marine markets | STRENGTHEN established marine sectors | DEVELOP untapped resources and nascent industries |
|---|--|--|--|---|
|  | Enterprise & Industry | • | • | • |
|  | Integrated Marine Capacity and Capability | • | • | • |
|  | Tourism & Business in Marine & Coastal Areas | | • | • |
|  | Food from the Sea | | • | • |
|  | Energy from the Ocean | | | • |

FIGURE 11 - INTERVENTIONS REQUIRED BY THEMATIC AREA

Certain interventions will support a wide range of opportunity projects. Other interventions, for instance those supporting the extension of businesses to marine markets, are foundational in nature and will feed into the strengthening and development of marine sectors. The DTF believes that there is an opportunity to achieve a synergistic effect across the marine sector through such interventions.

Following on from the analysis of required state investment referred to above, and in order to ensure the availability of such investment funds, a Marine Investment Programme (MIP) should be scoped and prepared.





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RECOMMENDATIONS



The DTF recommendations below, taken together, represent the cultural, structural and economic changes required to realise Ireland's ocean wealth goals in the medium (2020) and long term (2030).

These are a cohesive set of recommendations. As pointed out in the introduction, the DTF have been informed by the knowledge that past performance, existing structures and the current operating environment cannot, on their own, deliver the

targets in *Harnessing Our Ocean Wealth*. The DTF process, which has involved inputs from across the marine sector has informed the consensus that all of these recommendations are necessary and inter-dependent.

I. CREATE AN OPEN, ENTERPRISING AND ACTION-ORIENTED CULTURE

Ireland needs to act now to embrace and manage the change required to deliver a strong Ocean economy

The actions proposed in *Harnessing Our Ocean Wealth* require a new approach to the development of the sector. To realise Ireland's ambition to grow its ocean economy to 2.4% of GDP, all actors and organisations must embark on a process of transformation of attitudes to our ocean wealth. An open, enterprising and action-oriented culture must be embraced to bring together the public and private stakeholders and deliver challenging and significant strategic and economic outcomes.

The DTF believe that Government support of the quality and depth envisaged in this report will provide the necessary levels of incentive and opportunity for private and public bodies to respond to and make a *National Marine Development Challenge* a reality.

This challenge will be for leaders of private and public bodies to bring forward viable investment propositions that are market-led, of strategic importance, and capable of assisting economic step-change in the marine sector.

In order to ensure that Ireland can compete more effectively in international marine markets for the future, the Government needs to re-invigorate the organisational, structural and investment opportunity to create the conditions for success. Integrating the recommendations of the DTF in the 2016 Action Plan for Jobs will help ensure that the marine sector will become a sector of 'disruptive/transformative change'.



II. INTEGRATED MARINE DEVELOPMENT TEAM

An Integrated Marine Development Team is necessary to drive the implementation of the HOOW ambition and instigate & support private sector investment.

The investment from the private sector required in the longer term to double the contribution of the Ocean economy to GDP will need to be primed through funding from capital budgets and it will be necessary to a) find enterprise opportunities, b) assess and mitigate risk, c) assure investors, d) broker large investment, and e) support enterprise in implementing cost-effective developments.

As projects are identified and brought forward, it will be necessary to utilise the National Strategic Investment Fund and leverage EU funding sources.

This will require the establishment of an experienced, enterprising, and action-oriented team, established within an agency that can provide a governance structure and accountability mechanism. Members of the team must be carefully selected to balance experience, have the

requisite business, technical and soft skills to suit the role, and have the personal initiative, tenacity and enthusiasm to meet the challenges of the role.

This team will rely on support, experience and effective action from the wider public service, providing coordination and enabling integration, and not duplication of effort. The careful selection of credible individuals with appropriate mandate from, and contacts within, enterprise agencies and other government bodies will be a crucial factor for success the active participation and engagement of existing agencies will be essential.

The members of the directorate team must focus on the creation and successful implementation of market-led investment initiatives. Their success will ensure the successful realisation of the *Harnessing Our Ocean Wealth* targets.

III. A PROGRESSIVE AND RESPONSIVE REGULATORY ENVIRONMENT

The regulatory environment needs to be efficient and responsive while also maintaining a responsible regime

The most significant risk to maximizing the impact of the investment in business, development and marketing proposed by the DTF will be an inability by the State to demonstrate progress on initiatives underway that are aimed at ensuring Ireland is viewed as a good place to do marine business.

A feature of the marine resource in Ireland is that its regulation and governance is complex by its nature, and is distributed across a number of government departments and agencies. As a consequence, effective management of the risks

will require continued strong cross-government coordination and cooperation, including the evolution of new structures and solutions when and where appropriate.

In support of this, the DTF advocate that the regulatory framework be regularly scanned for unintended consequences, and that these be highlighted to the MCG to ensure that we maintain competitiveness and the ability to pursue existing and new market opportunities.

IV. ENVIRONMENTAL AWARENESS AND A DRIVE FOR SUSTAINABILITY

Value our environment and ensure that Ireland is equipped with knowledge to develop sustainably

Ireland enjoys a unique reputation worldwide for its un-spoilt environment. This reputation is an invaluable asset in our tourism and food production sectors, as highlighted by the Bord Bia Origin Green Sustainability Programme. This reputation also underpins opportunities for growth in marine sector industries, and is reflected in the three goals of *Harnessing Our Ocean Wealth*.

Poor performance in this area has the potential to lead to reputational damage to Ireland's brand, can result in business opportunities being lost, and consequently provides opportunities to international competitors.

We must learn from the past in this regard. Cultural change is required in all parts of the marine economy to ensure that environmental considerations are regarded as part of normal sustainable development, and not impediments. Furthermore, Ireland must ensure that it has adequate scientific knowledge to make informed decisions during consenting processes, and must invest in appropriate technical capability and background data collection, in respect to industries in the thematic areas.

V. DEMONSTRATING INTENT – AN INITIAL INVESTMENT PROGRAMME

Prime growth and commence the process of meeting the national marine challenge across the five thematic areas

Within the five thematic areas specified by the DTF, investment using the interventions identified in this report can deliver economic return, and provides an opportunity for the public sector, private enterprise and community and voluntary organizations to respond to the challenge that these areas represent.

The DTF recommends that a number of projects be supported, on a competitive basis and including a robust cost benefit analysis, in the near-term to generate confidence and initiate growth in each of the thematic areas. The DTF envisages that this will require state investment/seed capital as discussed in Chapter 4 “Demonstrating Intent”,

as a first phase to the implementation of a larger-scale marine investment programme.

The projects identified across the 5 thematic areas have the potential to be brought to “investment ready” stage within the next two to three years, and will demonstrate the viability of the recommendations of the DTF. Initially, the Marine Development Team should work with relevant agencies to bring forward a pipeline of proposals and conduct a series of competitive calls in each of the three categories:

- Developing Untapped Resources & Nascent Industries

- ‘Marinising’ other sectors by extending into marine markets
- Strengthening Established Marine Sectors

A range of investment supports will be required for these initiatives, including Public Sector supports to stimulate and attract new and existing enterprises to the Marine industries sector.

The selection process for these calls should be based on criteria that will result in projects that can act as showcases for the marine sector.

VI. CONTINUED INVESTMENT IN INFRASTRUCTURE

Support investment in the essential enablers for international trade – infrastructure to transport goods and services to the world, and to participate in global markets

Ireland is a trading nation, with an open economy that depends on our ability to find markets, and to provide them with goods and services.

Similarly trade in the current era requires access to broadband capability. Population densities in coastal locations are three times those in other rural areas ensuring that coastal broadband coverage represents an opportunity for increasing broadband penetration. Consequently, the DTF recommends that the state enables our marine industries to participate in the global market establishing a working group on Coastal Broadband.

Our national transport infrastructure, in particular our ports and the transport connections to and from them, are critical to our marine economy. The DTF highlights the ongoing need for an environment which ensures that such infrastructure can continue to attract investment. This will provide direct support to the marine economy, and also as centers for fostering the development of marine related services.

VII. REGIONAL DEVELOPMENT

Recognise the unique contribution and impact the marine economy can make to coastal development and regional growth

While it may appear too obvious, a vital ingredient for many aspects of the marine economy is proximity to the sea. The benefit to coastal areas from economic development is of higher impact than to urban areas as a result of the low employment base. The recently published IDA strategy for regional development is based on the

European Union “NUTS3” classification, and the DTF note that seven of the eight such regions in Ireland have a coastal component. It is important that marine opportunities are embedded in the regional plans.

There are many examples of the impact of industry clusters on employment in parts of Ireland. The DTF recommend that attention is focused on the development of clusters, featuring incubator facilities and provision of the specific infrastructures mentioned in the previous recommendation.

To ensure that this regional development translates into national capacity, and to avoid duplication of effort, the DTF further recommend that attention is given to the provision of infrastructural links between Ireland's existing marine industry centers.

VIII. RESEARCH & SKILLS DEVELOPMENT

Ensure that there is a pipeline of skills and intellectual property to sustain the growth of Ireland's marine economy.

Ireland is a knowledge economy. The DTF, through its work, has concluded that Ireland has an excellent base in both skills and research capacity. However, in common with the general low level of 'marine awareness', this capacity is frequently blind to the possibilities that the marine sectors provides.

The DTF recommends that the agencies charged with research and development work closely with those agencies with a more marine-specific mandate, to ensure the 'marinisation' of Ireland's research capacity.

Similarly, it is vital that this 'marinisation' also takes place in the skills and education sphere. A range of actions are required. These extend from sail training to the development of marine 'modules' for in the primary and secondary education sectors, to fourth level graduate training for those that wish to apply their specialist skills in the marine and offshore sectors.



AVOID
MAGNIFIER & CLOSE COVER
WHEN NOT IN USE







APPENDIX

MEMBERSHIP OF THE DEVELOPMENT TASK FORCE

The DTF is comprised of 24 members, as shown in the Table below, drawn from the industry, state and NGO sectors.

ROBERT DIX

DEVELOPMENT TASK FORCE CHAIR

PETER HEFFERNAN

DEVELOPMENT TASK FORCE VICE CHAIR

| SUB-GROUP 1 Integrated Enterprise Strategy (Emerging Sectors) | SUB-GROUP 2 Business Development, Marketing & Promotion | SUB-GROUP 3 Research, Knowledge, Technology & Innovation: Test Beds | SUB-GROUP 4 International Education & Training |
|---|---|---|--|
| GEAROID MOONEY EI (Chair) | DERMOT CLOHESSY IDA (Chair) | STEPHEN O'DRISCOLL SFI (Chair) | YVONNE SHIELDS CIL (Chair) |
| JOHN CONROY Irish Offshore Operators Association rep (IOAA) | DONAL MAGUIRE BIM | DECLAN MEALLY SEAI | MICHAEL DELANEY/ CONOR MOWLDS NMCI |
| PETER COYLE MRIA | RICHIE FLYNN IFA Aquaculture | JOHN TONER ICS | JOHN CONNAUGHTON BIM |
| BRIAN MOTHERWAY SEAI | VAL CUMMINS IMERC | SIOBHAN EGAN/ SINEAD CUMMINS Birdwatch Ireland | HARRY HERMON ISA |
| BRENDAN KEATING IBEC | MEADBH SEOIGHE/ MAIRÉAD NÍ OISTÍN UnaG | | |
| SHAY POWER IDA | MARY STACK/ FIONA BUCKLEY Fáilte Ireland | | |
| KAREN CONROY EI | PAT SHANNON Irish Offshore Operators Association | | |
| | PAT KEATING Irish Ports Association | | |
| | KAREN DEVEREUX Bord Bia | | |
| | LIAM LACEY IMDO | | |
| | SEAN O'DONOGHUE Federation of Irish Fishermen | | |
| | BRIAN O'SULLIVAN Irish Marine Federation | | |
| | JOHN TONER Irish Chamber of Shipping (also on SG3) | | |

DTF Support Team:

Eoin Sweeney, Paul Brewster, Mike Devane, Edel O'Connor, Jenny O'Leary (MI), John Evans (MI), Geoffrey O'Sullivan (MI)

