



HORIZON 2020: BLUE GROWTH

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March 2014



Some Facts and Figures for the Blue Growth Potential

- Oceans cover over 70% of the Planet
- Oceans bio-resources -15% of animal protein consumed globally
- Blue economy employs 5.4m people - could grow to 7m by 2020
- Blue biotech - yearly growth potential 5-10%
- Offshore wind power expanding rapidly - could meet 4% of electricity demand by 2020 – 14% by 2030
- Deep-sea minerals extraction could represent up to 10% of the world's minerals - from virtually zero to € 10 billion/year by 2030

Blue Growth Potential

Ocean energy

(Offshore wind,
marine energies...)

Aquaculture

(biomass
production)

Biotech

(high added
value products
from marine
bioresources)

Deep sea resources

(minerals, methane
hydrates, biodiversity)

Ocean observation technologies

Maritime technologies / offshore platforms / special vessels

Climate / Ocean interactions – Environment (MSFD / GES)



1. Health, demographic change and wellbeing

2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy €3.85 billion (FP7X2)

3. Secure, clean and efficient energy

4. Smart, green and integrated transport

5. Climate action, resource efficiency and raw materials

6. Inclusive, innovative and reflective societies

7. 6. Inclusive, innovative and reflective societies



Objective:

- Secure supply of safe and high-quality food/other bio-based products
- Develop productive and resource-efficient primary production & related ecosystem services
- Ensure competitive and low carbon supply chains
→ accelerate transition to a sustainable European bioeconomy

Activities:

- (1) Sustainable agriculture and forestry
- (2) Sustainable and competitive agri-food sector for a safe and healthy diet
- (3) Unlocking the potential of aquatic living resources**
- (4) Sustainable and competitive bio-based industries and supporting the development of a European bioeconomy
- (5) Cross-cutting marine and maritime research**

Three calls



European
Commission

Sustainable Food Security

- **Sustainable food production systems**
- **Safe food and healthy diets and sustainable consumption**
- **Global drivers of food security**

Blue Growth

- **Sustainably exploiting the diversity of marine life**
- **New offshore challenges**
- **Ocean observation technologies/ systems**
- **Socio-economic dimension - engagement with society**

Innovative, Sustainable and Inclusive Bioeconomy

- **Sustainable agriculture and forestry**
- **Sustainable and competitive bio-based industries**
- **Cross-cutting actions covering all the activities**



Why a Blue Growth Focus Area in H2020?

- A strategic approach to research to underpin Integrated Maritime Policy and Blue Growth Strategy
- Catalyse efforts of different Societal Challenges or H2020 priorities to address complex cross-cutting marine and maritime research questions that could not be tackled by a single Societal Challenge
- Go further the FP7 experience "The Ocean of Tomorrow" (31 projects, € 195m) on cross-thematic marine and maritime research

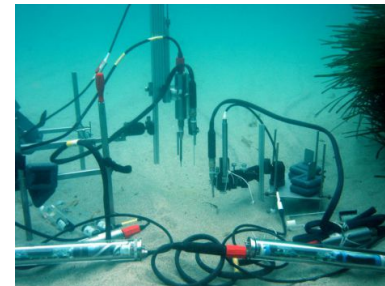
Example of FP7 success stories:



- Arctic governance and policy
- **ACCESS** – Arctic Climate Change, Economy and Society

- Multi-use ocean platforms
- **TROPOS** – Modular Multi-use Deep Water Offshore Platform
Harnessing and Servicing Mediterranean, Subtropical and Tropical
Marine and Maritime Resources

- Sub-seabed CO₂ storage
- **ECO2** – Sub-seabed CO₂ Storage:
Impact on Marine Ecosystems





What is the Blue Growth Focus Area in H2020 ?

- Five priority areas:
 1. Sustainably exploiting the diversity of marine life
 2. New offshore challenges
 3. Exploitation of deep sea resources – (deep sea mining not covered in 2014-2015)
 4. Ocean observation technologies/systems
 5. Socio-economic aspects



Blue Growth Call 2014-2015

- First Blue Growth Call just launched
 - € 145m for 2014-2015
- 10 topics in 2014 and 6 topics in 2015
 - Each topic set out ITO: Specific challenge, Scope, Expected impact, Type of action
- Involvement of SC2 (Sustainable Food Security), SC5 (Climate Action), SC4 (Transport) and SC3 (Energy)
- Emphasis on international Cooperation



International cooperation: The Transatlantic Ocean Research Alliance



Launched in May 2013 (Galway Statement) under Irish Presidency with Commissioners Geoghegan-Quinn & Damanaki

Goal: To better understand the Atlantic Ocean and to promote the sustainable management of its resources. The work will also study the interplay of the Atlantic Ocean with the Arctic Ocean, particularly with regards to climate change.

In WP 2014-2015: Several topics are identified as relevant for the Galway Statement.



AREA 1 : Sustainably exploiting the diversity of marine life



What is it about?

Focusing on the understanding of marine ecosystems and the limits for their sustainable exploitation, unlocking the biotechnological potential of marine organisms and understanding how marine life can cope with environmental change.



AREA 1: Sustainably exploiting the diversity of marine life (56 M€)

**BG 3 – 2014: Novel marine biomolecules
(Research & Innovation action – 20 M€)**



**BG 4 – 2014: Potential of marine-derived enzymes
(Innovation Action – 6 M€)**

**BG 1 – 2015: Atlantic marine ecosystems
(Research & Innovation action – 20 M€)**



**BG 2 – 2015: Effects of climate change on
fisheries and aquaculture (Research & Innovation action – 10 M€)**



AREA 2: The new offshore challenge



What is it about?

- ✓ Economic activities are expected to intensify and diversify
-marine renewable energy, aquaculture, deep sea resources exploitation
- ✓ Increasing lack of space
- ✓ Access to deeper and further sea spaces
- ✓ Impact on the environment



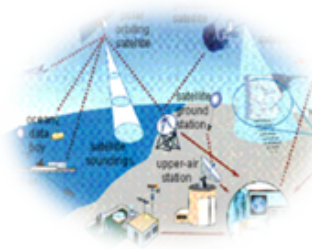
AREA 2: The new offshore challenge (26 M€)

**BG 5 – 2014: Innovative offshore economy
(Coordination and Support Action - 2 M€)**

**BG 6 – 2014: Sub-sea technologies
(Research and Innovation action - 16 M€)**

**BG 7 – 2015 : Response capacities to oil spills and marine pollutions
(Research and Innovation action- 8M€)**





AREA 3: Ocean observation systems and technologies

What is it about?

- Improving the understanding of the complex interrelations between EO applications and the marine environment
- Monitoring the **state of the Environment** of the Atlantic Ocean,
- Enhancing **sectoral and cross-sectoral** cooperation by building on major international, regional and national initiatives
- The creation of this knowledge-base and predictive capacity **requires systematic collection of ocean observations** recorded remotely using EO satellites and in-situ stations

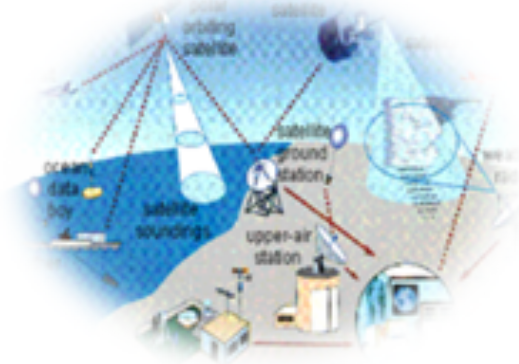


AREA 3: Ocean observations systems and technologies (30 M€)

**BG 8 – 2014 Atlantic Ocean Observations
(Research and Innovation action- 20M€)**



**BG 9 – 2014: Acoustic and Imaging Technologies
(Research and Innovation action- 10M€)**





AREA 4 :Horizontal aspects (33M€)

What is it about?

Socio-economic aspects, innovation, engagement with society across the blue growth focus area

Support Blue Growth in the EU as well as cooperation with international partners

All support measures that will help unlock the Blue Growth potential – the toolbox!



AREA 4 : Horizontal aspects (33M€)

**BG 10 -2014 : Competitiveness of seafood markets
(Research and Innovation action-10M€)**

**BG 11 – 2014 Monitoring, disseminating and
valorising research outputs (Coordination and
Support Action - 4 M€)**

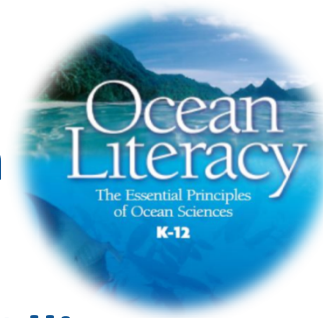
**BG 12 – 2014/2015 : Supporting SMEs efforts for the
Blue Growth : marine biotechnologies, aquaculture
and related technologies (SME instrument - 8 M€)**





AREA 4 : Horizontal aspects

**BG 13 – 2014 : Ocean Literacy: Oceans and human health
(Coordination and Support Action-3,5M€)**



**BG 14 – 2014 :Transatlantic Ocean Cooperation research Alliance
(Coordination and Support Action Action-3,5M€)**



**BG 15 – 2014 : European polar research Cooperation
(Coordination and Support Action-2M€)**



**BG 16: 2015 : Support to the Joint Programming Initiative on
"Healthy and Productive Seas and Oceans" (Coordination and
Support Action-2M€)**



Marine & Maritime Research in other parts of H2020

Societal Challenges:

SC2: Sustainable Food Security call (SFS): Aquaculture & Fisheries (3 topics - discards, diseases, Ecosystem approach)

SC3 (Energy): Competitive Low Carbon Energy (LCE) : 4 topics can cover ocean energy/offshore wind

SC4 (Transport) Mobility for Growth transport (MG) : 3 topics

SC5 (Climate): raw materials/deep-sea mining (2 topics), Earth Observation: (2 topics)

LEIT:

KET biotechnology, materials

Excellent Science:

Infrastructure, ERC, MCSA

Coordination with MS:

JPI Ocean and relevant ERANETs



Examples of Maritime research in other parts of Horizon 2020*

Sustainable Food Security in Societal Challenge 2

- SFS-9-2014: Towards a gradual elimination of discards in European fisheries (€ 10 million)
- SFS-10-2014/2015: Tackling disease related challenges and threats faced by European farmed aquatic animals
€ 7 million for 2014 (fish parasites), € 4 million for 2015 (mollusc diseases)
- SFS-11-2014/2015: Implementation of an Ecosystem-based approach for European aquaculture
€ 3 million for 2014 (spatial planning), € 7,5 million for 2015 (aquaculture/environment)



Examples of Maritime research in other parts of Horizon 2020*

SC3: Secure, clean and efficient energy

⇒ *Competitive Low-Carbon Energy*

- LCE-01-2014 New knowledge and technologies
- LCE-02-2014/2015 Developing the next generation technologies of renewable electricity and heating/cooling
-> items "Wind energy" and "Ocean energy"
- LCE-03-2014/2015 Demonstration of renewable electricity and heating/cooling technologies
-> items "Wind energy" and "Ocean energy"
- LCE-04-2014/2015 Market uptake of existing and emerging renewable electricity, heating and cooling technologies



Examples of Maritime research in other parts of Horizon 2020*

SC4: Smart, green and integrated transport

⇒ *Mobility for Growth* ⇒ *Waterborne transport*

- MG-4.1-2014 Towards the energy efficient and very-low emission vessel (*no limitation to transport vessels*)
- MG-4.2-2014 Safer and more efficient waterborne operations through new technologies and smarter traffic management (*safety part with focus on the Arctic, traffic management part not exclusive to transport services*)
- MG-4.3-2015 System modelling and life-cycle cost and performance optimisation for waterborne assets (*structures explicitly included*)

*this list is not exhaustive



Examples of Maritime research in other parts of Horizon 2020*

SC5: Climate Action, Environment, Resource Efficiency and Raw Materials

⇒ *Growing a low carbon, resource efficient economy with a sustainable supply of raw materials*

- SC5-11a-2014 Mining of small and complex deposits and alternative mining
- SC5-11c-2015 **Deep mining on continent and in sea-bed**
- SC5-15-2015 Strengthening the European Research Area in the domain of Earth Observation
- SC5-18a-2014 Coordinating European Observation Networks to reinforce the knowledge base for climate, natural resources and raw materials



Examples of Maritime research in other parts of Horizon 2020*

LEIT¹: ii. Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing

⇒ *Biotechnology-based industrial processes driving competitiveness and sustainability*

- BIOTEC-5-2014-2015 SME-boosting biotechnology-based industrial processes driving competitiveness and sustainability

⇒ *Innovative and competitive platform technologies*

- BIOTEC-6-2015 Metagenomics as innovation driver

¹ *Leadership in Enabling and Industrial Technologies*

*this list is not exhaustive



Modalities:

Research and Innovation Actions

Innovation Actions

Coordination and Support actions

Two-stage evaluations

First deadline:

12/03/2014

Second deadline:

26/06/2014

Single-stage evaluation

Deadline: 26/06/14

Find out more and get support : <http://ec.europa.eu/research/participants/portal/desktop/en/home.html>



More INFO:

What has been funded under FP7?

Check the NEW brochure on "The Ocean of Tomorrow" projects (2010-2013)

http://ec.europa.eu/research/bioeconomy/pdf/ocean-of-tomorrow-2014_en.pdf

**1st "*Ocean of Tomorrow*" Projects' Conference: 26 March 2014
Brussels**



Thank you for your attention!

Find out more:

www.ec.europa.eu/research/horizon2020

Official documents:

[**http://ec.europa.eu/programmes/horizon2020/en/
how-get-funding**](http://ec.europa.eu/programmes/horizon2020/en/how-get-funding)