



# *The Future Ocean Economy*

*Introductory Talk, MSEAS  
Brest, 30 May, 2016*

*Torgeir Edvardsen  
OECD/DSTI/IFP*



# Outline

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- Aim
- Scope
- Key issues
- Management of the project
- Workshops
- Funding
- Outputs
- The final synthesis report

- OECD
  - Foresight
  - DSTI/IFP
    - Oceans; Space
- The Future of the Ocean Economy Project
- A few insights from the project



# Global Challenges

Humanity are facing increasing global challenges

- such as global warming, increased population and lack of energy, water, food and some say also minerals

We cannot address those challenges properly without the Oceans .....



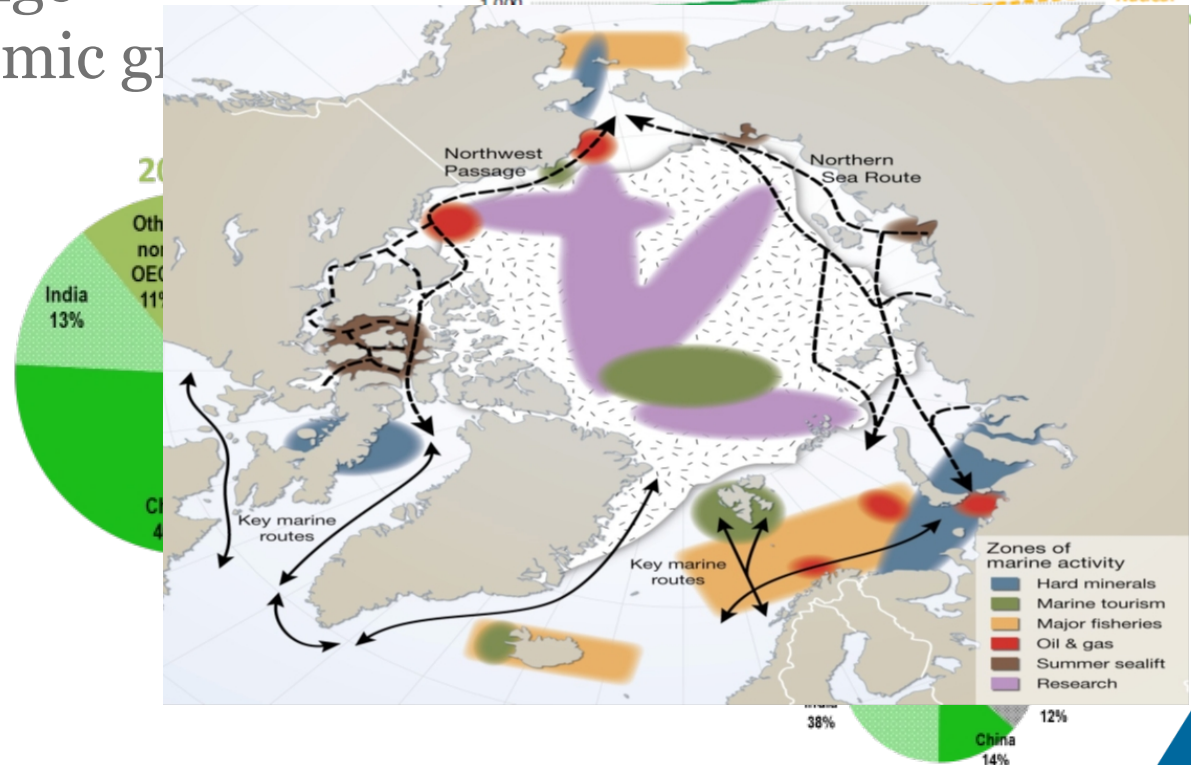
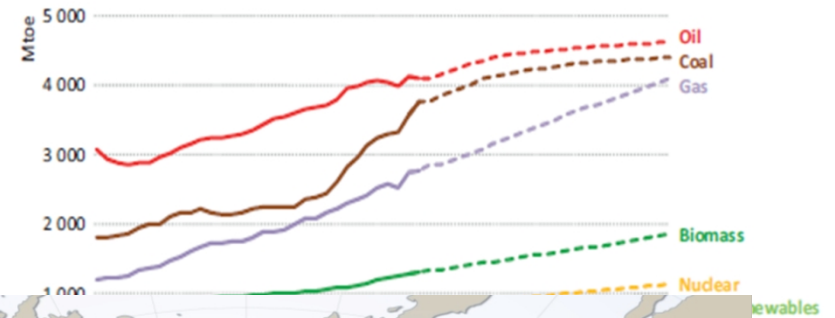
***Fish the Right fish!!***



# Global Long Term Challenges

1. Population Growth
2. Rising energy demand
3. CO<sub>2</sub>
4. Climate change
5. World economic growth

Figure 2.5 ▸ World primary energy demand by fuel in the New Policies Scenario



Source: OECD Economic Outlook 93 long-term database.



# Global Long Term Challenges

1. Population Growth
2. Rising energy demand
3. CO<sub>2</sub>
4. Climate change
5. World economic growth
6. Etc. ....

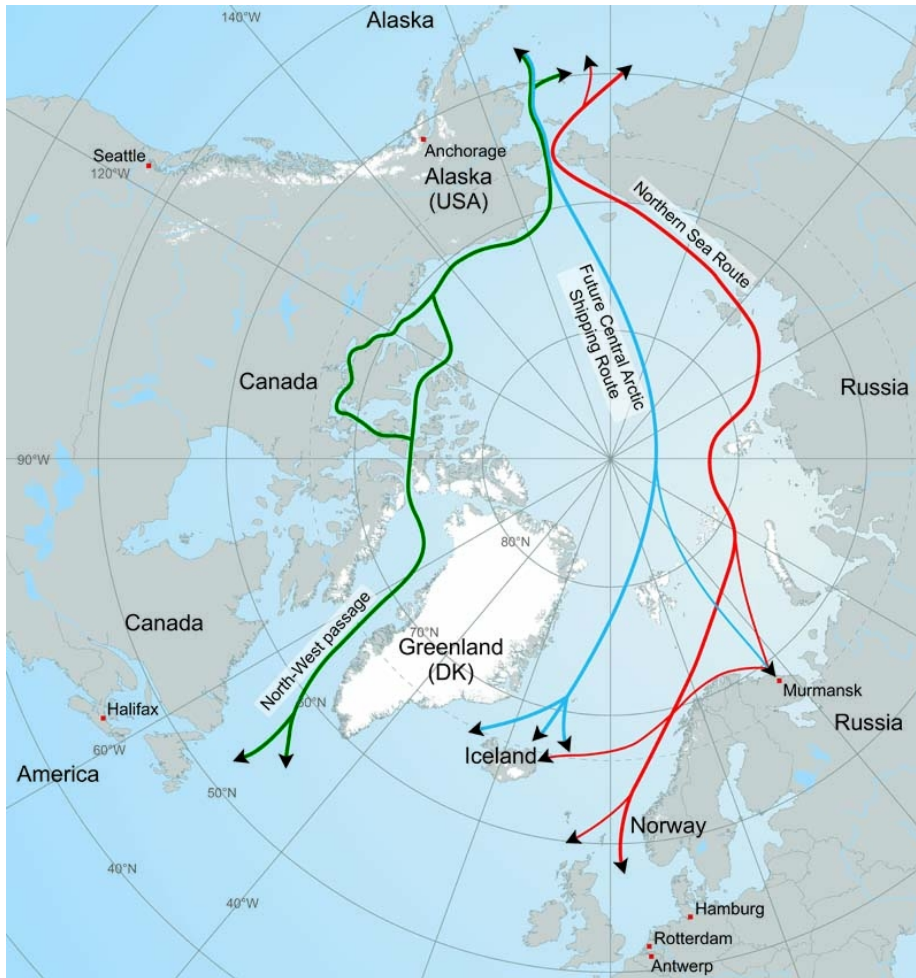
## Drivers

*..... of long-term future demand for ocean-based goods and services*



# Liquid Wind & Waterfall LNG

液态风和瀑布 LNG



Illustrasjon: Kawasaki Heavy Industries



# Uncertainties, eg

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- New energy sources
- Disruptive technologies
- Geopolitical shifts
- Prolonged slow growth worldwide
- Opening of Arctic routes sooner and faster than expected
- Offshore environmental disasters
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# A question of balance

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## The oceans are already under stress:

- Pollution from human activity
- Growing coastline populations
- Over-exploitation of fish stocks
- Declining biodiversity
- Rising sea-levels
- Rising levels of acidity
- .....

**Challenge: how to develop ocean's potential without adding significantly to already existing pressures**

**Rather, diminishing already existing pressures**





# Main Aim of the Project

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Coherent forward assessment of growth potential:

(innovation, economic growth, employment creation)

- **Risks** and uncertainties around future developments;
- Required progress/breakthroughs in **S&T**;
- **Investment** needs, future skill requirements;
- Environmental and **eco-system impacts**;
- **Growing interdependencies** among ocean sectors and users;
- Consequences for ocean management, planning and regulation;
- **Policy options....**



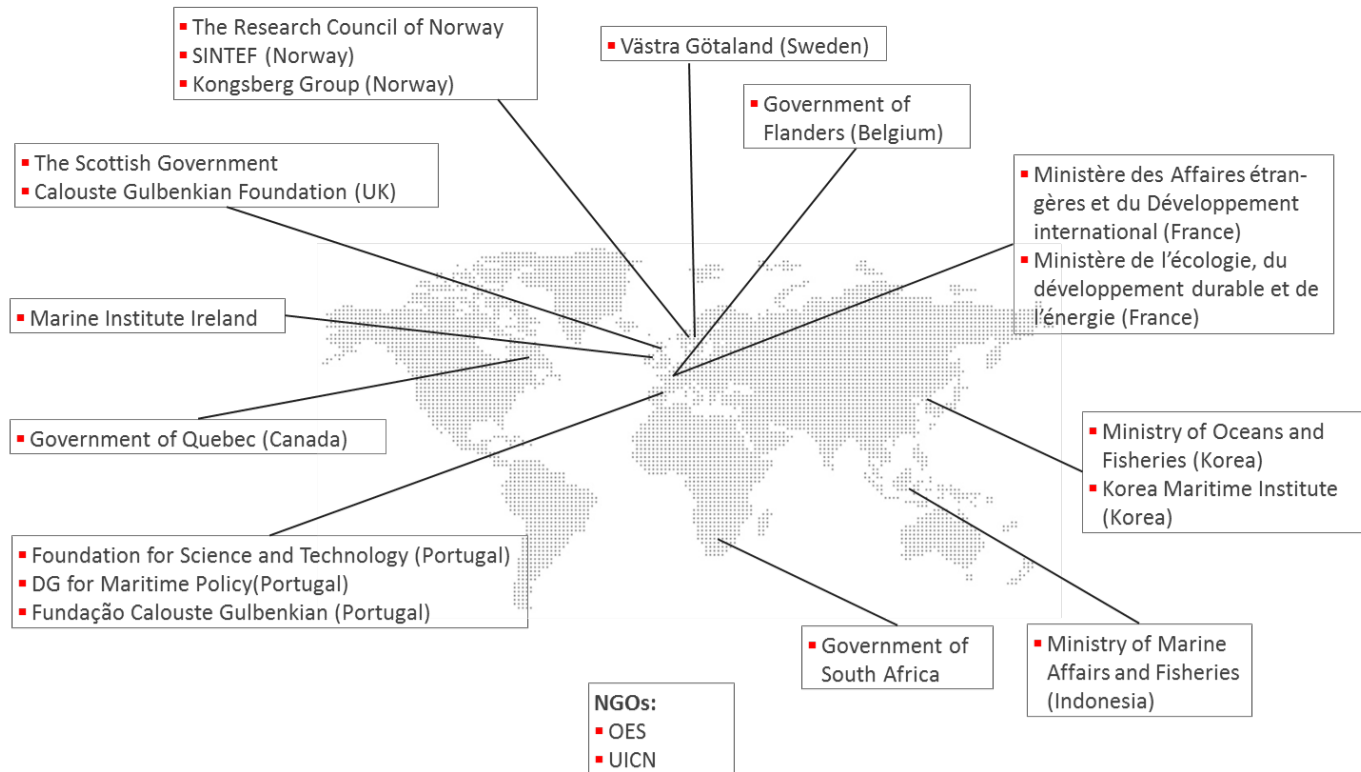
# Goals of the project

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- **Heighten international visibility** of the maritime economy;
- Assess opportunities for **sustainable growth**, jobs, innovation in maritime economy;
- Pay particular attention to **“emerging”** maritime activities through 9-10 in-depth workshops
- Construction of quantitative scenarios to 2030/50 for ocean economy – by sector + valuing the ocean;
- Consider impacts of future growth of maritime activities on ocean environment and coastal communities;
- **Address what role for public policy?**



# Steering Group





# Economic Growth ....

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What is the value of:

The Oceans

The Seas

Aquaculture

Ocean Tourism

– in the Arctic



# What is the value of this shark?

**\$ 2 mill**

In Palau, each one of these reef sharks is worth \$2 million in dive tourist dollars in the course of its lifetime (University of Western Australia, 2010)



...and what about this one .....

## LAKS OG ØRRET



46,2 | +10%

2014



Bilde av laks tatt i Vesterålen i oktober 2009

NPV: 1.155 mrd NOK  
Historisk vekst 7,4% ==>



# The scope of the Ocean Economy

Expert  
workshops

Ocean based energy

Offshore wind

Offshore oil & gas  
extraction

Marine aquaculture

Sea-bed mining

Marine  
biotechnology

Maritime safety

MSP

Ocean tourism

Capture  
Seafood  
Shipping  
Ports  
Shipbu  
Offshore  
Marine  
Maritim  
Marine  
Marine  
Dredging



## Conclusions

*The Ocean Economy in 2030*





# The Ocean Economy in 2030





# The Ocean Economy to 2030:

## Main Report

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General principles of the report:

- Foresight (but not forecasting)
- Global view (“Big Picture”)
- Strong focus
- Implications
- Holistic rather
- Emphasis on ocean-based industries as part of an interconnected “ocean economy” rather than a collection of different economic activities

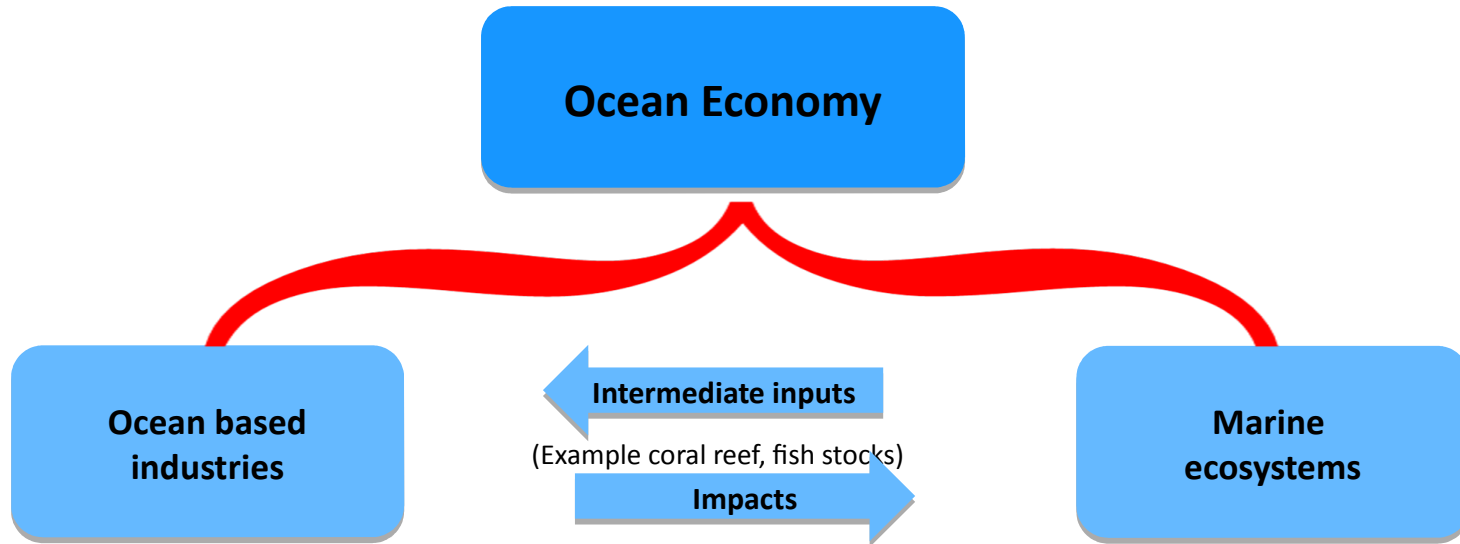
As noun: **foresight** is the ability to foresee or prepare wisely for the future while **forecast** is an estimation of a future condition.



## Huge potential, but

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- Huge potential for the maritime economy, but competing claims on oceans are set to grow (competition for space)
- Increasing pressure on ocean resources in coming years
- Potential increase in tensions among users
- Existing ad-hoc sectoral approaches (in most parts of the world) to the management and regulation of maritime activities





# Industries included in the *OECD* *Ocean Economy Database* - so far

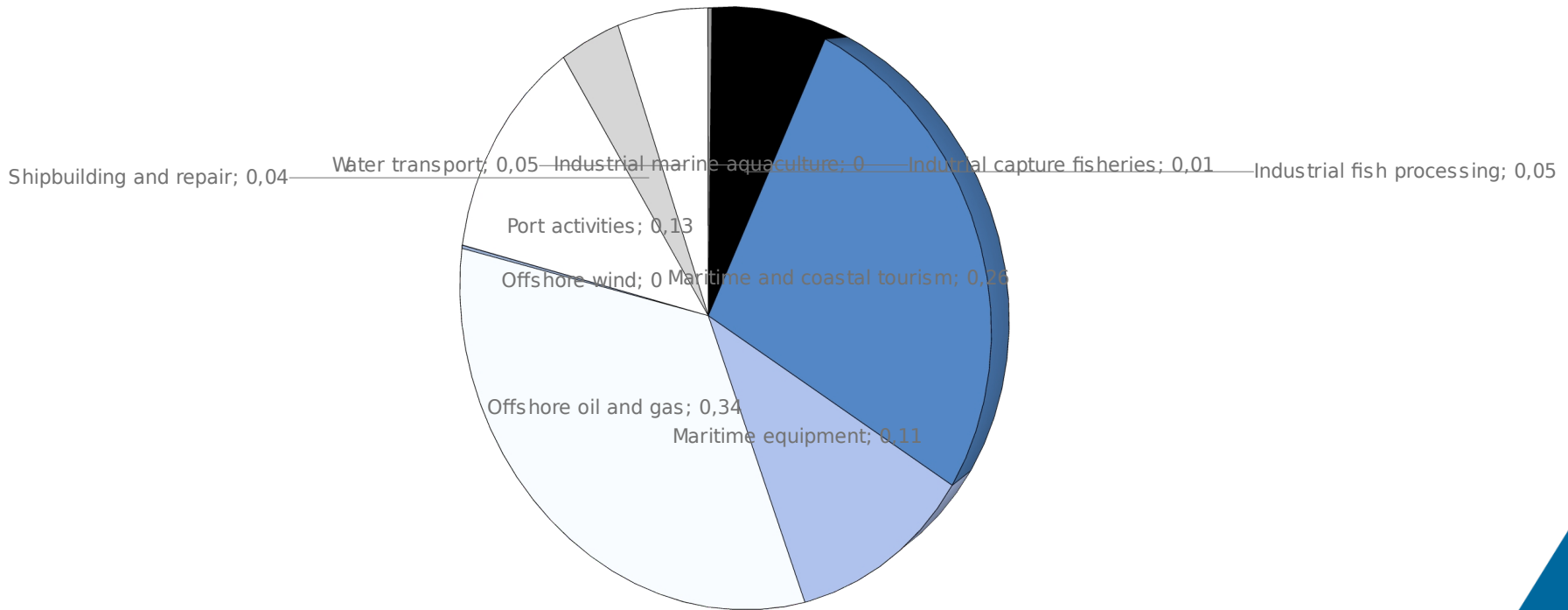
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1. Industrial capture fisheries
2. Industrial marine aquaculture
3. Industrial seafood processing
4. Shipbuilding
5. Maritime equipment
6. Shipping
7. Port activities
8. Offshore oil & gas (shallow and deep-water)
9. Offshore wind energy
10. Maritime and coastal tourism



# Ocean-based industries generated more than USD 1.5 trillion in 2010

## Value-added of ocean-based industries in 2010 by industry



Source: OECD (2016)



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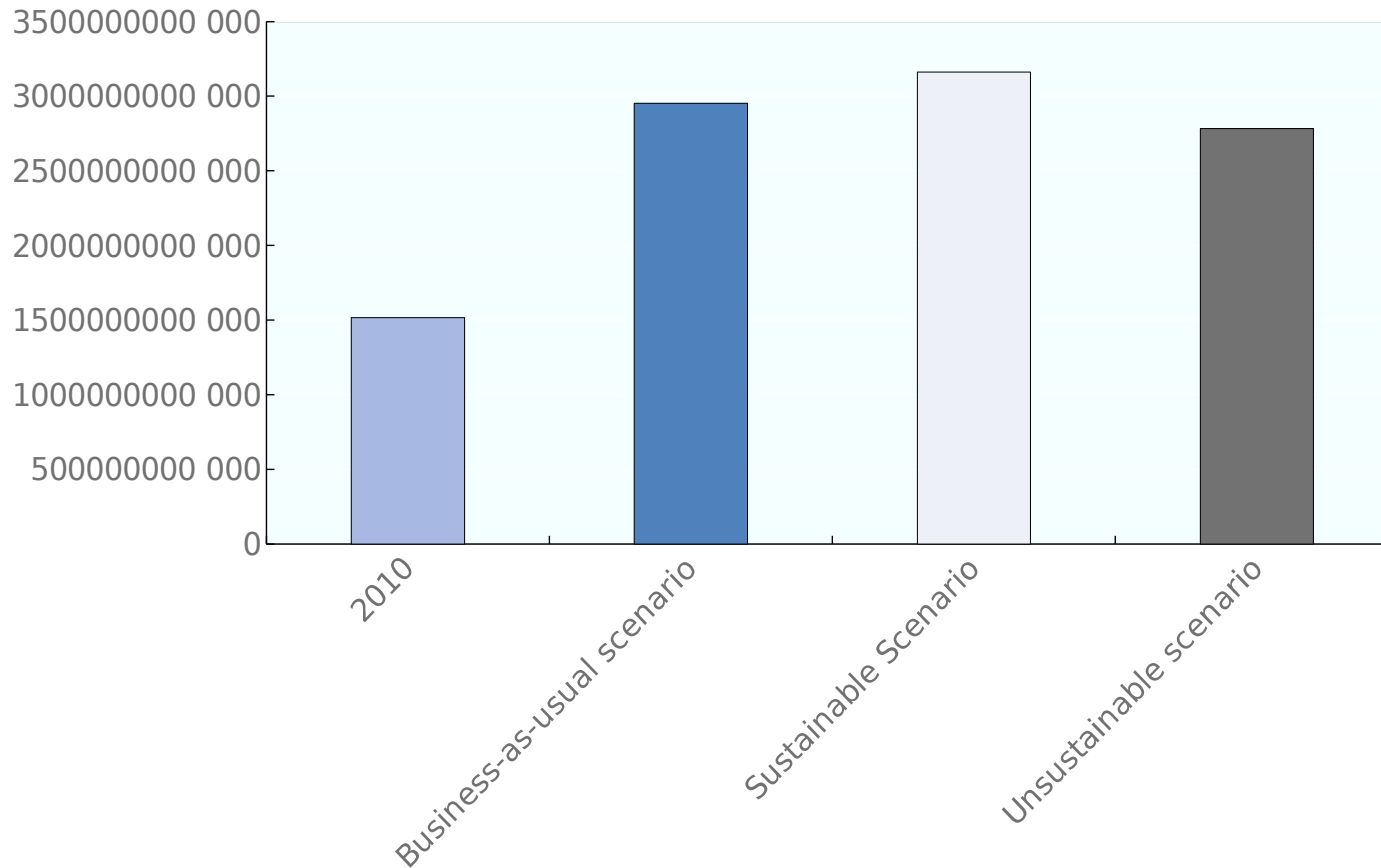
The USD 1.5 trillion in 2010  
will

*More than double in 2030*



# *The sustainable future scenario leads to the highest value-added in 2030*

**Value-added of ocean-based industries by scenario in 2030**



Source: OECD (2016)





# Scenario Conclusions

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- 1) The Ocean Economy makes a very significant contribution to the global economy.
- 2) The Ocean economy, in reality, is larger than current OECD estimates due to only partial sectorial coverage and conservative approach to measurement.
- 3) The majority of ocean-based industries as a whole expected to outpace global economic growth, some by a large margin.
- 4) Employment in ocean-based industries is anticipated to grow faster than in the world economy more generally.
- 5) More sustainable approach to managing the Ocean Economy would achieve even better results.
- 6) Major effort required to improve international data on ocean-based industries.



We noted that there are:

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- Very little incentive for enterprises to invest in some emerging industries/technologies because of level of risk (uncertainty);
- Very little incentive to exploit potential synergies;
- Lost opportunities to improve competitiveness of national maritime sector.

*What's the economic loss of this?*



# What's needed?

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- **A multi-sectorial view and management of the maritime economy** - not a set of individual separate industries, but an interdependent, complex ensemble of economic activities;
- **Coherent long-term strategies** for more integrated patterns of sea and ocean use;
- **Clearer regulation and meaningful allocation of rights** to use ocean space and resources.



# Policy Recommendations

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1. Foster **greater international co-operation** in maritime science and technology – as a means to stimulate innovation and strengthen the sustainable development of the ocean economy.
2. Strengthen **integrated ocean management**.
3. Improve the statistical and **methodological base** at national and international level for measuring the scale and performance of ocean-based industries and their contribution to the overall economy.
4. Build more capacity for ocean industry **foresight**



# The Report & More!

- ❖ The Report
  - ❖ Workshop Reports
  - ❖ Summaries
- in 22 languages!

The screenshot shows the OECD iLibrary website interface. At the top, there is a search bar with the word 'oceans' entered. Below the search bar, there are navigation tabs: 'Browse by Theme', 'Browse by Country', 'Browse by Theme & Country', 'Catalogue', and 'Statistics'. The main content area displays the book 'The Ocean Economy in 2030' by the OECD, published in 2016. It includes a small image of the book cover, the title, author, publication date, page count (256), ISBN, and DOI. A 'Cite this publication' button is visible. Below the book information, there is a 'Table of Contents' section listing chapters from 1 to 9, covering topics like global trends, emerging industries, and future projections. The footer of the page contains the OECD logo and various links for terms and conditions, copyright, and contact information.

[http://www.oecd-ilibrary.org/economics/the-ocean-economy-in-2030\\_9789264251724-en](http://www.oecd-ilibrary.org/economics/the-ocean-economy-in-2030_9789264251724-en)

# *The end*

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Torgeir Edvardsen – Project manager  
*[www.oecd.org/sti/futures](http://www.oecd.org/sti/futures)*