



**THE FUTURE OF THE OCEAN ECONOMY:  
EXPLORING THE PROSPECTS FOR EMERGING  
OCEAN INDUSTRIES TO 2030/50**

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HOOW  
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# Future of the Ocean Economy: Exploring the prospects of emerging ocean industries to 2030/50

Launched: 2013

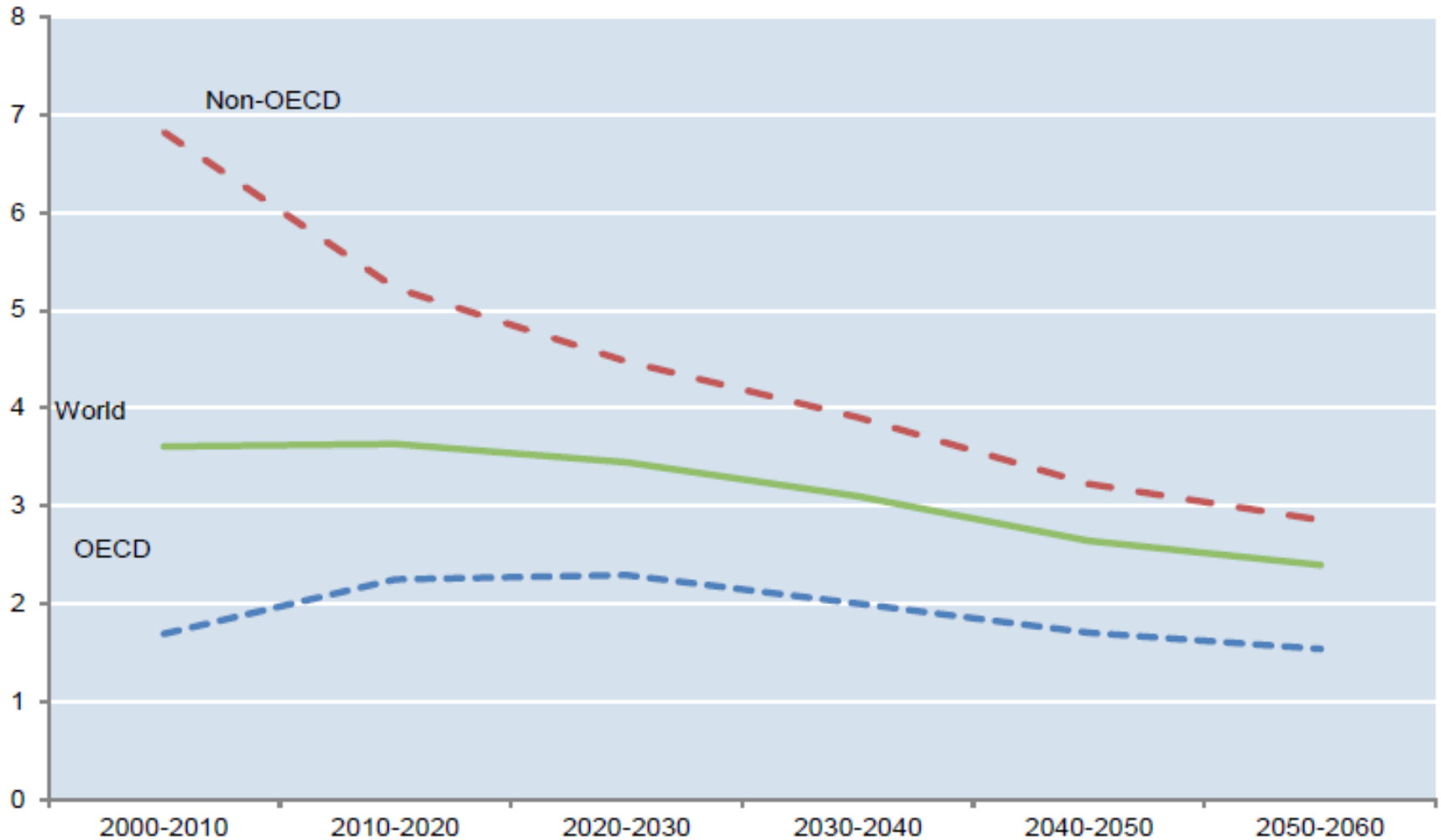




# Growth in real GDP over the next 50 years

Source: OECD 2014

% average annual rate





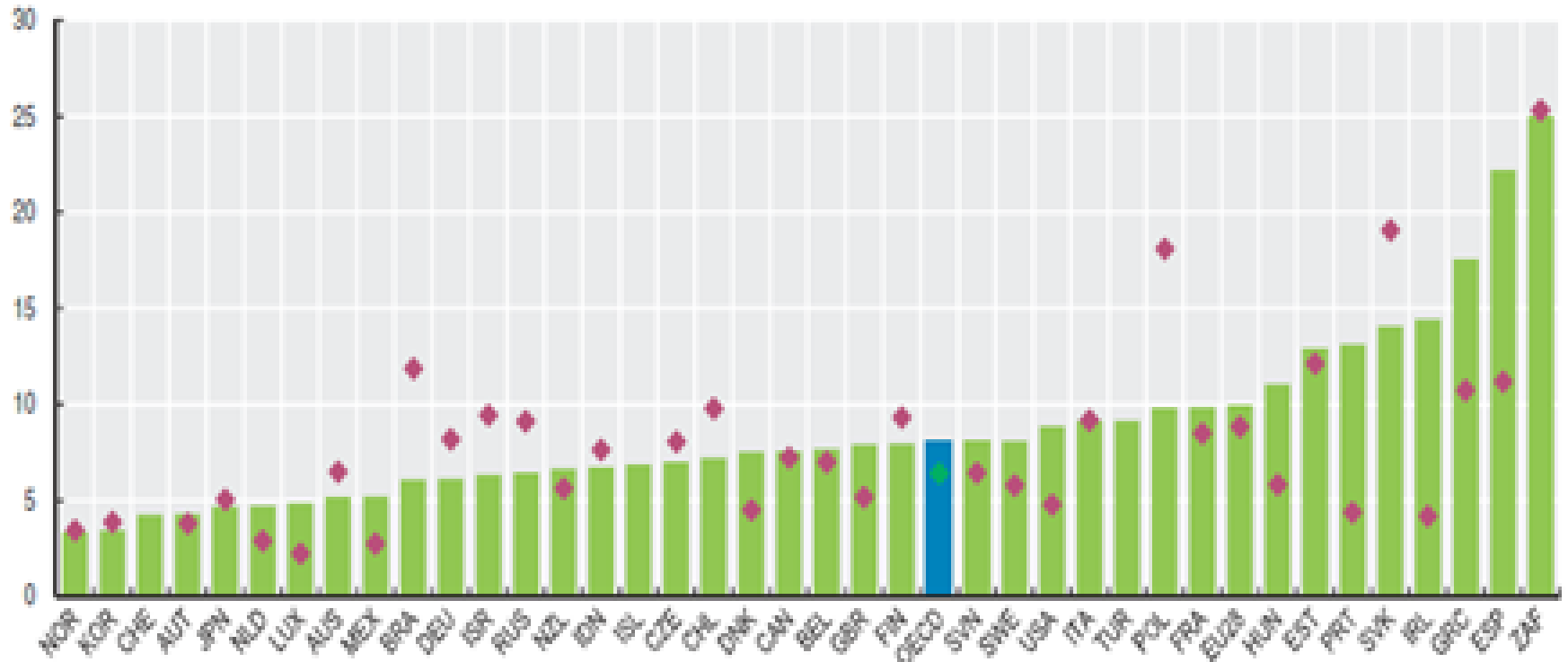
# Unemployment rates in many OECD countries higher than a decade ago

## Unemployment rates: total

As a percentage of labour force

3 year average 2010-12

3 year average 2000-02

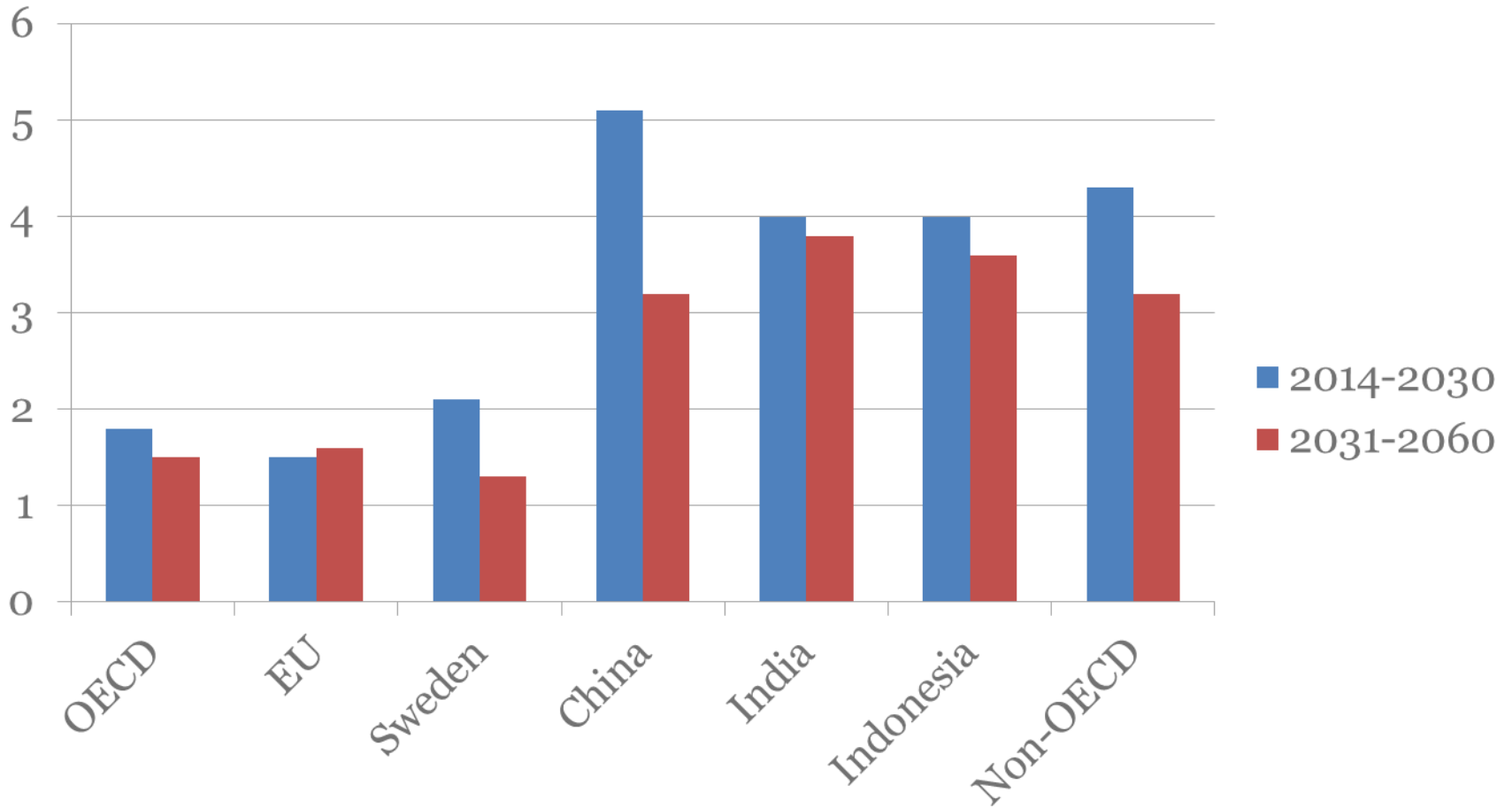




# Growth in trend productivity to 2030/60

Average annual percentage change

Source: OECD 2014





## Key questions for the future

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- Where are the new sources of growth?
- Where are the jobs to come from?
- Where is the innovation to come from?



# Aims of “Future of the Ocean Economy”

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- Heighten **international visibility** of the maritime economy;
- Assess opportunities for sustainable **growth, jobs, innovation** in maritime economy globally;
- Pay particular attention to “**emerging**” maritime activities;
- Construct ocean industry **database** - global and regional;
- Run **projections** to 2030/50 for maritime industries, and alternative **scenarios** (e.g. “green”, “slow growth”);
- Consider **impacts** of future growth of maritime activities on **ocean environment**;
- What role for **public policy**?
- **Publish OECD report early 2016.**

# Ocean industries

## “Established”

- Shipping
- Fisheries
- Coastal tourism
- Offshore O&G

## “Emerging” – [in-depth workshops]

- Ultra-deep water/Arctic O&G
- Ocean renewable energy
- Deep-sea mining
- Offshore aquaculture
- Marine biotechnology
- Maritime safety and ocean surveillance
- Marine tourism



# Advisory Group Members

- The Research Council of Norway
- SINTEF (Norway)
- Kongsberg Group (Norway)

Västra Götaland (Sweden)

- The Scottish Government
- Calouste Gulbenkian Foundation (UK)

Government of Flanders (Belgium)

- Ministère des Affaires étrangères et du Développement international (France)
- Ministère de l'écologie, du développement durable et de l'énergie (France)

Marine Institute Ireland

Government of Quebec (Canada)

- Foundation for Science and Technology (Portugal)
- DG for Maritime Policy (Portugal)
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- Ministry of Oceans and Fisheries (Korea)
- Korea Maritime Institute (Korea)

NGOs:

- OES
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Ministry of Marine Affairs and Fisheries (Indonesia)

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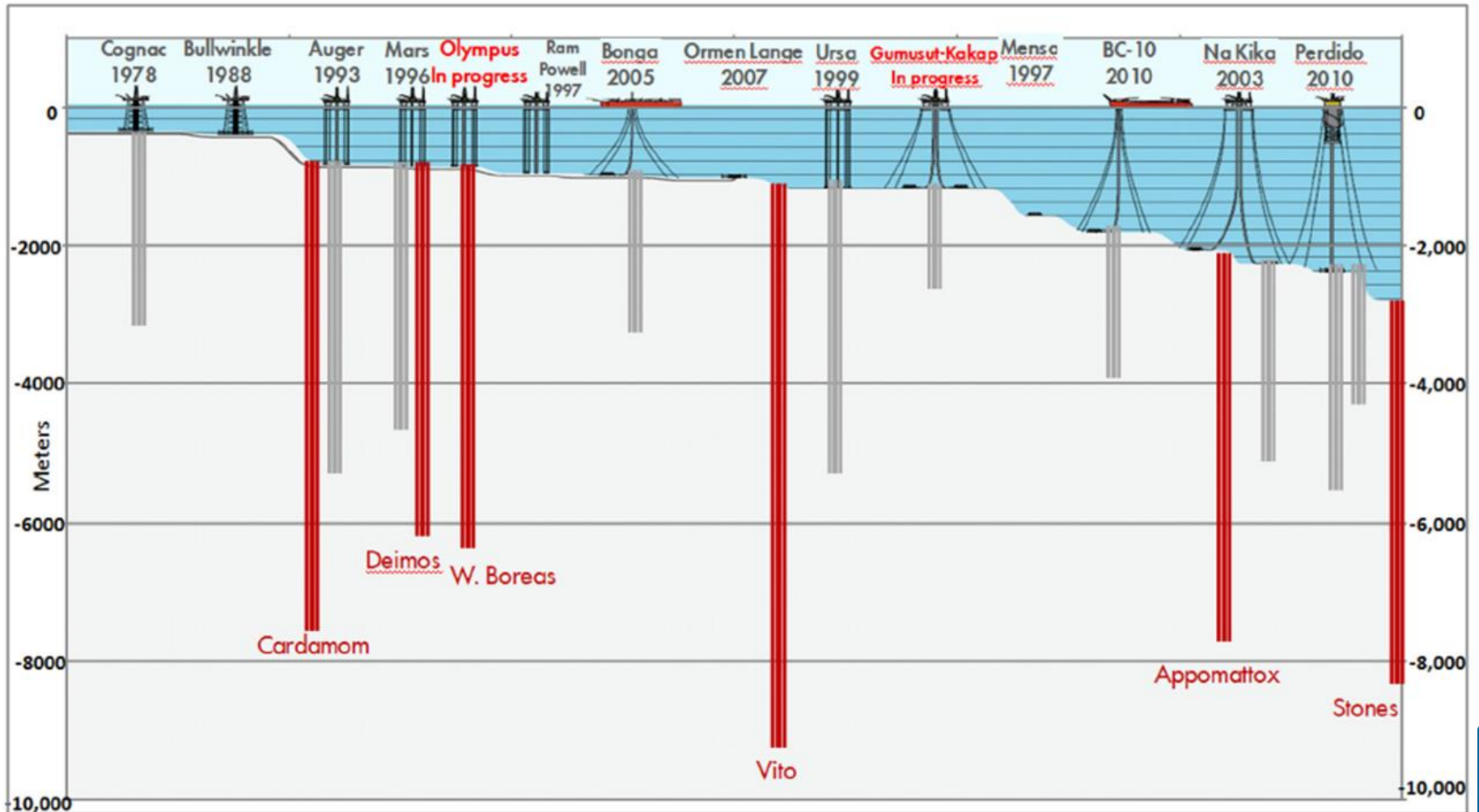


# Maritime industries: global growth potential and business opportunities

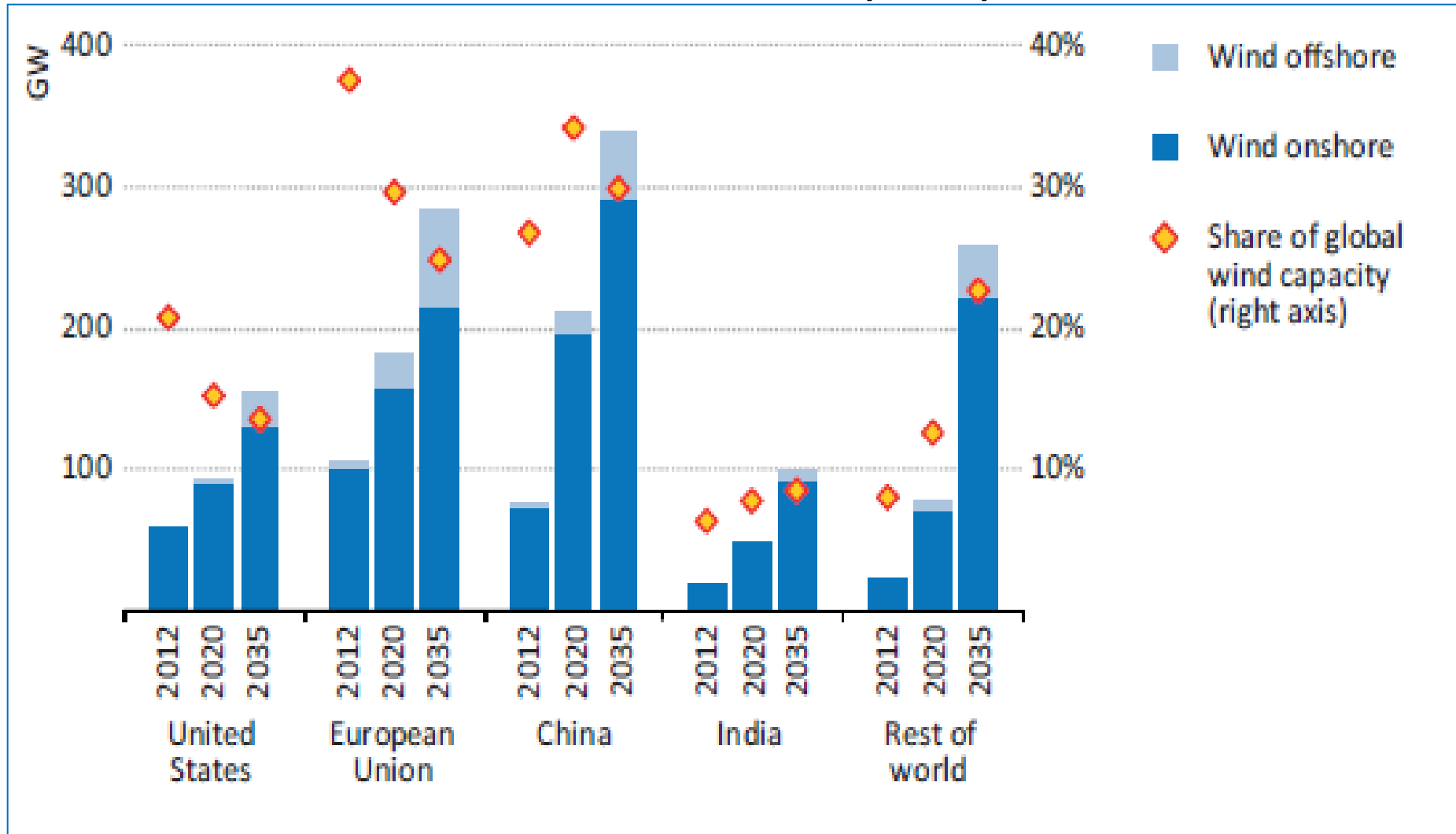
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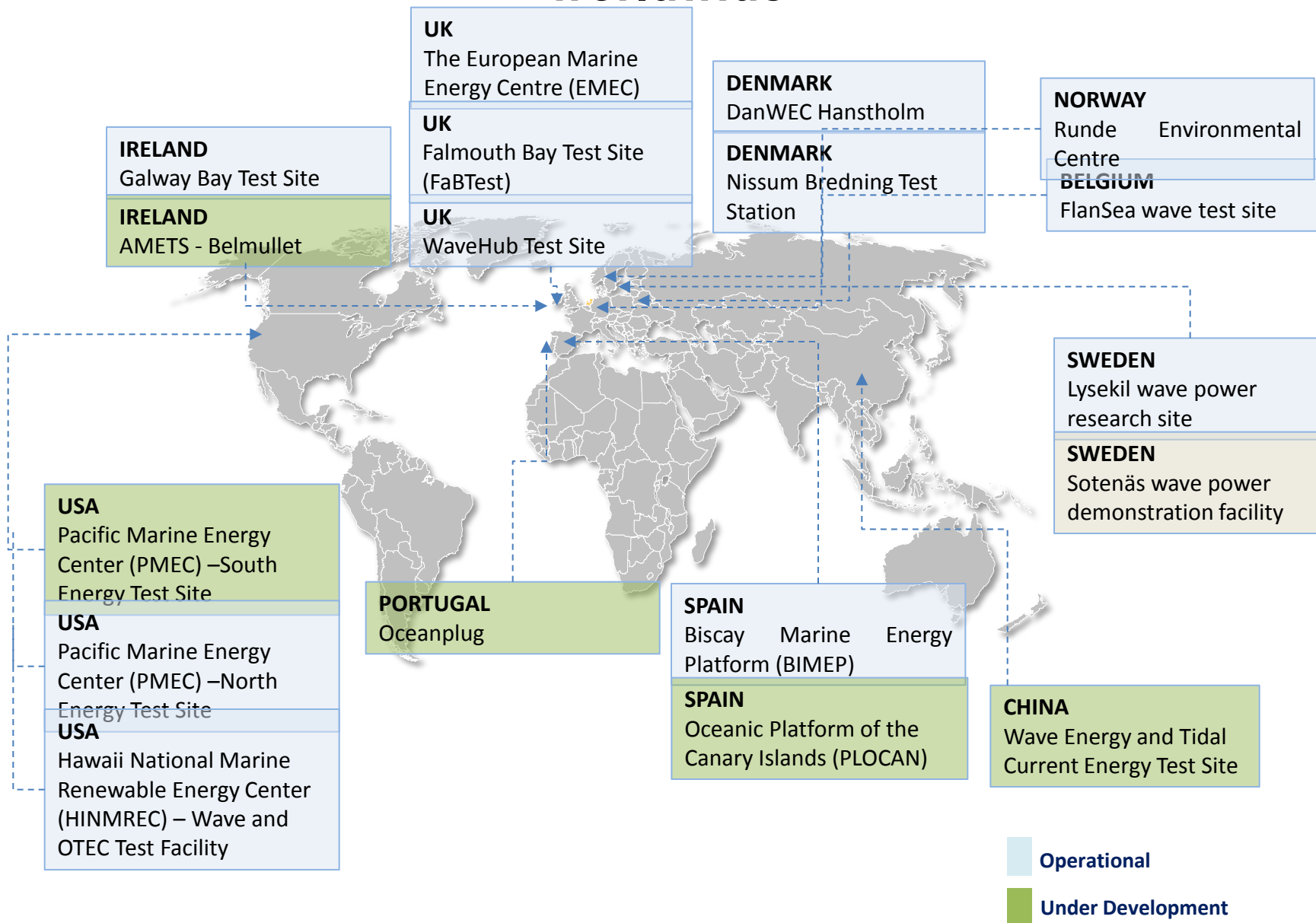
# Offshore oil and gas: the march along the deep water frontier



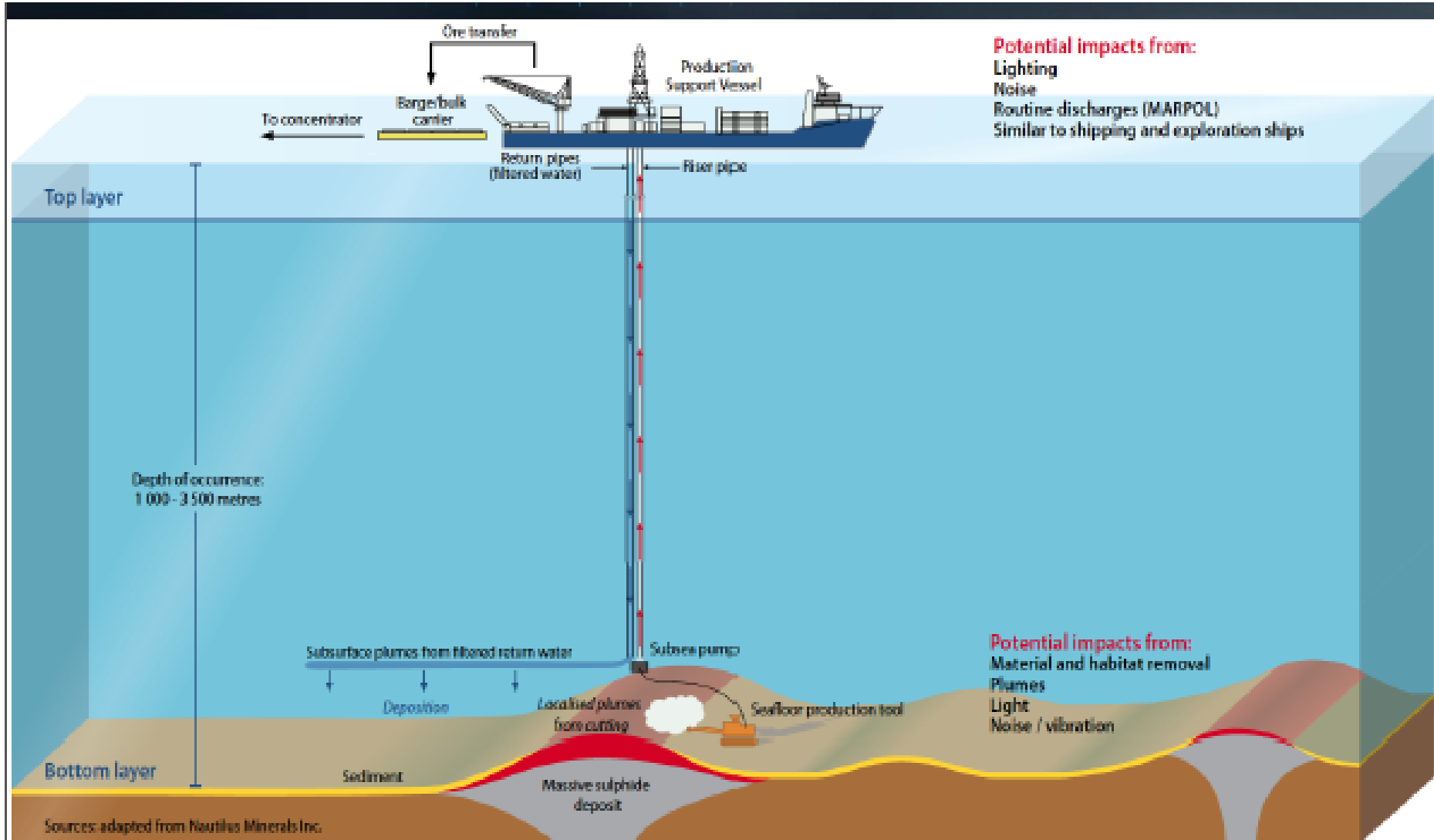
# Installed wind power capacity by region in the IEA New Policies Scenario (GW), 2012-2035



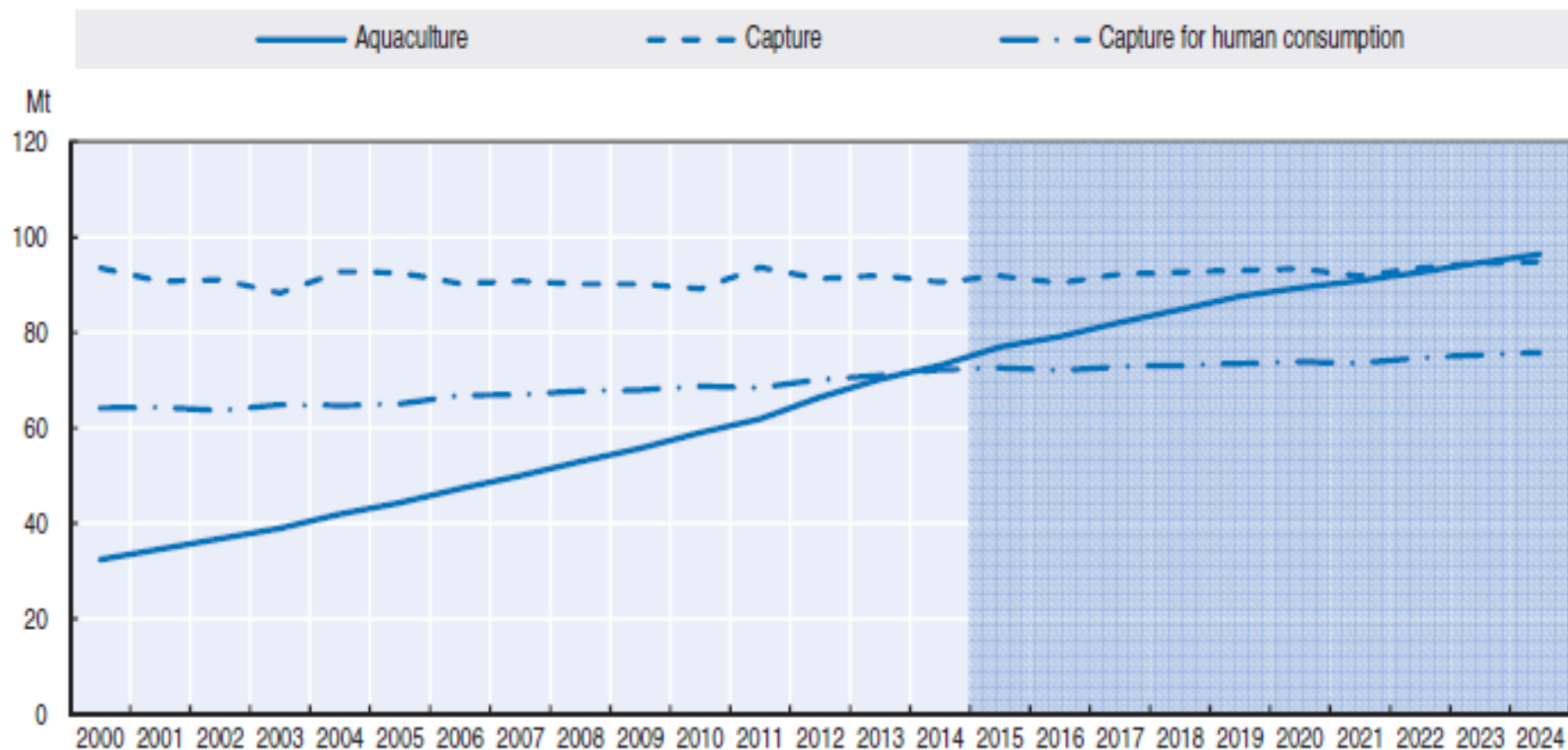
# Ocean Renewable Energy - Open sea testing sites worldwide



# Deep sea mining




# Aquaculture and capture fisheries to 2024



Note: "Capture for human consumption refers" to the Capture production excluding ornamental fish, fish destined to the production of fishmeal, fish oil and other non-food uses. All aquaculture production is assumed to be destined to human consumption.

Source: OECD/FAO (2015), "OECD-FAO Agricultural Outlook", OECD Agriculture Statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

StatLink  <http://dx.doi.org/10.1787/888933229221>



## Global cruise sector growing fast

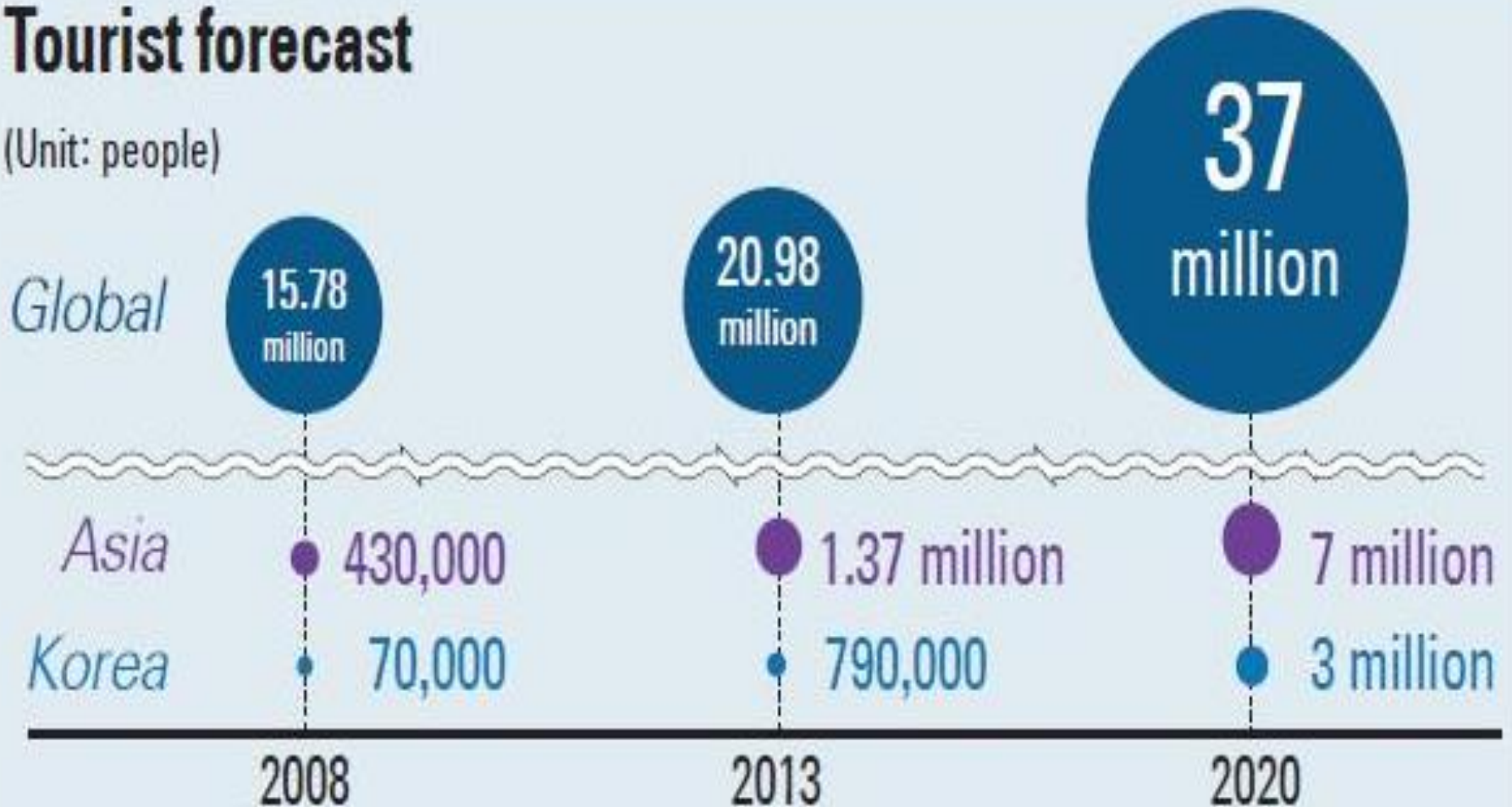
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- Estimated current total contribution to the global economy
  - USD 52 billion (direct)
  - USD 117 billion (direct + indirect)
- Estimated total employment contribution
  - 891 000

# Cruise tourism 2020

## Tourist forecast

(Unit: people)



Source: Ministry of Oceans and Fisheries



## Expected benefits from OECD database, projections and scenarios of global maritime economy

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- Not forecasting future – helping anticipate opportunities and risks in the maritime economy to 2030 and beyond;
- Business-as-usual projections of growth and employment in individual maritime sectors and overall maritime economy, based on coherent sets of assumptions.
- Scenarios (e.g. “green” or “sustained low growth”) to explore alternative futures
- Help identify potential business opportunities
- Encourage countries to think about strategic co-ordinated frameworks for developing sustainable maritime industries
- Provide basis for international comparison and benchmarking
- Better understanding of future pressures on ocean resources, ocean environment and sea space = better planning.



# How is management of marine/maritime activities evolving in different parts of the world?

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- Marine Parks/MPAs (e.g. Australia, Canada)
- Marine Functional Zoning (e.g. China)
- National Maritime Strategic Frameworks (Sweden, Quebec, Ireland....)
- Marine Spatial Planning (e.g. EU)



# Key questions on planning for and management of maritime activities

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- Will it be comprehensive enough?
- Is it happening fast enough?
- Will it be flexible enough?



## Options for further OECD work

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- Policies for fostering ocean-related S&T (incl. ICT, robotics, subsea technology...), growing use of satellite technologies;
- Measuring/Evaluating ecosystem services;
- Explore ways to reduce the many barriers to greater sharing of ocean-related scientific data and information – e.g. ocean floor mapping.
- MSP - options for more systematic application of economic tools, smarter multi-sectorial, multi-stakeholder governance, and integration of science and technology innovations already available or in the pipeline.

Thank you.

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[www.oecd.org/sti/futures](http://www.oecd.org/sti/futures)