

OECD *Multilingual Summaries*

The Ocean Economy in 2030

Summary in English



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For many, the ocean is the new economic frontier. It holds the promise of immense resource wealth and great potential for boosting economic growth, employment and innovation. And it is increasingly recognised as indispensable for addressing many of the global challenges facing the planet in the decades to come, from world food security and climate change to the provision of energy, natural resources and improved medical care. While the potential of the ocean to help meet these challenges is huge, it is already under stress from over-exploitation, pollution, declining biodiversity and climate change. Realising the full potential of the ocean will therefore demand responsible, sustainable approaches to its economic development.

The ocean economy encompasses ocean-based industries (such as shipping, fishing, offshore wind, marine biotechnology), but also the natural assets and ecosystem services that the ocean provides (fish, shipping lanes, CO₂ absorption and the like). As the two are inextricably inter-linked, this report addresses many aspects of ecosystem services and ecosystem-based management all the while focusing on the ocean-industry dimension.

The global ocean economy, measured in terms of the ocean-based industries' contribution to economic output and employment, is significant. Preliminary calculations on the basis of the OECD's Ocean Economy Database value the ocean economy's output in 2010 at USD 1.5 trillion, or approximately 2.5% of world gross value added (GVA). Offshore oil and gas accounted for one-third of total value added of the ocean based industries, followed by maritime and coastal tourism, maritime equipment and ports. Direct full-time employment in the ocean economy amounted to around 31 million jobs in 2010. The largest employers were industrial capture fisheries with over one-third of the total, and maritime and coastal tourism with almost one-quarter.

Economic activity in the ocean is expanding rapidly, driven primarily by developments in global population, economic growth, trade and rising income levels, climate and environment, and technology. However, an important constraint on the development of the ocean economy is the current deterioration of its health. As anthropogenic carbon emissions have risen over time, the ocean has absorbed much of the carbon, leading to ocean acidification. Also, sea temperatures and sea levels are rising and ocean currents shifting, resulting in biodiversity and habitat loss, changes in fish stock composition and migration patterns, and higher frequency of severe ocean weather events. The prospects for future ocean development are further aggravated by land-based pollution, in particular agricultural run-off, chemicals, and macro- and micro-plastic pollutants that feed into the ocean from rivers, as well as by overfishing and depleted fish stocks in many parts of the world.

Looking to 2030, many ocean-based industries have the potential to outperform the growth of the global economy as a whole, both in terms of value added and employment. The projections suggest that between 2010 and 2030 on a "business-as-usual" scenario basis, the ocean economy could more than double its contribution to global value added, reaching over USD 3 trillion. Particularly strong growth is expected in marine aquaculture, offshore wind, fish processing, and shipbuilding and repair. Ocean industries also have the potential to make an important contribution to employment growth. In 2030, they are anticipated to employ approximately 40 million full-time equivalent jobs in the business as-usual scenario. The fastest growth in jobs is expected to occur in offshore wind energy, marine aquaculture, fish processing and port activities.

In the coming decades, scientific and technological advances are expected to play a crucial role both in addressing many of the ocean-related environmental challenges mentioned above and in the further development of ocean-based economic activities. Innovations in advanced materials, subsea engineering and technology, sensors and imaging, satellite technologies, computerisation and big data analytics, autonomous systems, biotechnology and nanotechnology – every sector of the ocean economy – stands to be affected by these technological advances.

In a context of such rapid change, regulation and governance will struggle to keep up. The world is increasingly multi-polar and is experiencing growing difficulty in forging international consensus on global and regional issues key to the ocean environment and ocean industries. At least for the foreseeable future, regulation of ocean activities is expected to continue to be largely sector-driven, with efforts focusing on the integration of emerging ocean industries into existing and fragmented regulatory frameworks.

The future growth of ocean-based industries on a scale suggested by this report highlights the prospect of growing pressures on ocean resources and ocean space already under considerable stress, not least in economic exclusion zones (EEZs), where most of the activity takes place. The inability so far to deal with these pressures in an effective, timely way is attributed in large part to what is historically a sector-by-sector management of marine activities. Much as a response to growing pressures, recent years have seen a significant increase in the number of countries and regions putting in place strategic policy frameworks for better ocean management within their EEZs. However, many obstacles stand in the way of more effective integrated ocean management, which will need to be addressed in the near future.

In order to boost the long-term development prospects of emerging ocean industries and their contribution to growth and employment, while managing the ocean in responsible, sustainable ways, this report puts forward a number of recommendations to enhance the sustainable development of the ocean economy.

- **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.** This entails inter alia: undertaking comparative analyses and reviews of the role of government policy vis-à-vis maritime clusters around the world, notably in respect of their effectiveness in stimulating and supporting cross-industry technological innovations in the maritime domain; establishing international networks for the exchange of views and experience in establishing centres of excellence, innovation incubators and other innovation facilities in the field of cross-industry maritime technologies, and improving the sharing of technology and innovation among countries at different levels of development.
- **Strengthen integrated ocean management.** In particular, this should involve making greater use of economic analysis and economic tools in integrated ocean management, for example by establishing international platforms for the exchange of knowledge, experience and best practice, and by stepping up efforts to evaluate the economic effectiveness of public investment in marine research and observation. It should also aim to promote innovation in governance structures, processes and stakeholder engagement to render integrated ocean management more effective, more efficient and more inclusive.
- **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.** This could include, among other tasks, the further development of the OECD's Ocean Economy Database.
- **Build more capacity for ocean industry foresight,** including the assessment of future changes in ocean-based industries, and further development of the OECD's current capacity for modelling future trends in the ocean economy at a global scale.

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doi: 10.1787/9789264251724-en