



TOWARDS A HARMONIZED INTERNATIONAL TRADE CLASSIFICATION FOR THE DEVELOPMENT OF SUSTAINABLE OCEAN-BASED ECONOMIES



© 2021, United Nations
All rights reserved worldwide

Requests to reproduce excerpts or to photocopy should be addressed to the Copyright Clearance Centre at copyright.com. All other queries on rights and licences, including subsidiary rights, should be addressed to:

United Nations Publications
405 East 42nd Street
New York, New York 10017
United States of America
Email: publications@un.org
Website: <https://shop.un.org>

The findings, interpretations and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the United Nations or its officials or Member States. The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Mention of any firm or licensed process does not imply the endorsement of the United Nations.

United Nations publication issued by the United Nations Conference on Trade and Development

UNCTAD/DITC/TED/2020/4

ISBN: 978-92-1-112995-3

eISBN: 978-92-1-005308-2

Sales No.: E.20.II.D.32



Acknowledgments

The United Nations Conference on Trade and Development (UNCTAD) is grateful to David Vivas Eugui, Legal Officer, and Carla Vaca Eyzaguirre, Senior Consultant, both of the Trade, Environment and Development Branch, for their contribution to the coordination and production of this report.

The authors wish to gratefully acknowledge the comments and inputs by Margarida Domingues De Carvalho of Eurostat; Marcio Souza de Castro and Marc Taconet of the Food and Agriculture Organization of the United Nations (FAO); Alejandro Mayer of Midwestern University, United States of America; Hassiba Benamara, Lorenzo Formenti, Steve MacFeely, Divya Prabhakar and Vincent Valentine of UNCTAD; Paolo Bifani, formerly of the United Nations Environment Programme (UNEP); Antonis Michail of the World Ports Sustainability Programme; Marie Isabelle Pellán and Thomas Verbeet of the World Trade Organization (WTO); and exporters that provided guidance on the identification of product codes (Elastec, LSM Pumps, Oliveira Sá | WireCo WorldGroup and SeaQuest Systems).

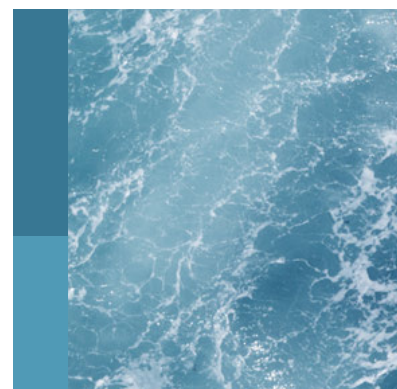
Thanks are also due to Ahmad Mukhtar of FAO; Claudia Contreras of UNCTAD; and Alexander Keck, Robert Koopman and Michael Roberts of WTO for reviewing the publication in full.

Comments received from other divisions of UNCTAD as part of the internal peer review process, as well as comments from the Office of the Secretary-General, are also acknowledged with appreciation.



Contents

Acronyms and abbreviations.....	viii
Executive summary	ix
I. Introduction	1
II. A sustainable ocean-based economy and the five pillars of sustainable ocean development of UNCTAD.....	5
2.1 Oceans: Sustainable Development Goals and pillars of sustainable development.....	6
2.2 Challenges, strategies and missing linkages for a sustainable ocean-based economy	11
III. International classifications and ocean-based economic sectors	16
3.1 National account classification: International Standard Industrial Classification	17
3.2 Trade classification of goods	18
3.3 Trade in services classifications	19
IV. A comprehensive and harmonized sustainable ocean-based economies classification	22
4.1. Methodology: Criteria for defining sectors and limitations of the classification	24
4.2. Deciphering the sustainable ocean economy classification	27
V. Recommendations for the application and next step of the ocean economy classification	38
5.1 Using the classification.....	38
5.2 Moving forward.....	40
References.....	42



Annex 1

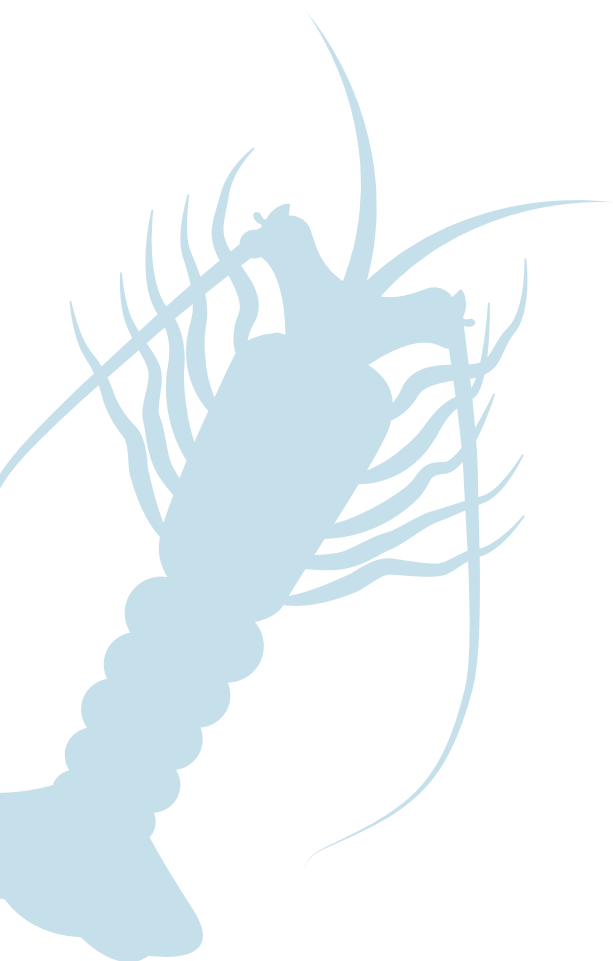
Experts and of enterprises that contributed, or provided guidance in selecting codes of the Harmonized Commodity Description and Coding System and the United Nations Central Product Classification45

Annex 2

UNCTAD classification of sustainable ocean-based economies by sectors and subsectors (2020).....46

Annex 3

Classification of sustainable ocean-based economies by sectors, subsectors and goods and services codes of existing international classifications.....50



Boxes

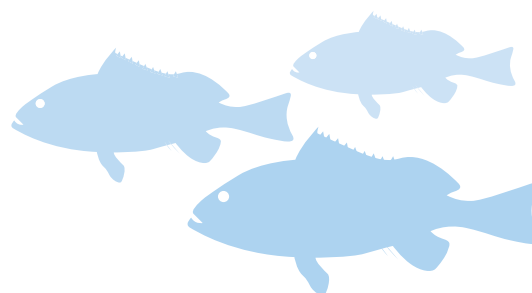
- Box 1.** Sustainable Development Goal 14: Oceans, selected targets 7
- Box 2.** System of Environmental-Economic Accounting..... 17

Figures

- Figure 1** Pillars of sustainable ocean development of UNCTAD 8
- Figure 2** Main principles for the construction of a sustainable ocean economy classification..... 23

Tables

- Table 1** Ocean-based sectors identified by selected regional and international initiatives 12
- Table 2** Classification of the ocean economy by sector 28
- Table 3** Examples of coastal and marine environmental services in the framework of the General Agreement on Trade in Services 36



Acronyms and abbreviations

BPM	Balance of Payments Manual
CPC	United Nations Central Product Classification
FAO	Food and Agriculture Organization of the United Nations
HS	Harmonized Commodity Description and Coding System
ISIC	International Standard Industrial Classification
NEC	not elsewhere classified (often used in lowercase: n.e.c or nec)
OECD	Organization for Economic Cooperation and Development
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
WTO	World Trade Organization



Executive summary

The vital importance of the oceans for human life and the development of livelihoods is recognized in Sustainable Development Goal 14 (life below water) and its trade-related targets, as well as in subsequent national and international declarations. In the call for action made by Heads of States, Governments and high-level representatives at the Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development, also known as the Ocean Conference, held at United Nations Headquarters in New York from 5 to 9 June 2017, all parties were exhorted to “support the promotion and strengthening of sustainable ocean-based economies” (United Nations, 2017, paragraph 13 (q)). Further, United Nations Member States revised the draft declaration of the Conference and urged that greater efforts be made in the areas of data collection, cooperation and inclusion.

Meeting these ambitious targets and objectives will require coherent policies at the sectoral, national and international levels with regard to production, trade and the environment. So far, most initiatives for attaining Goal 14 have focused on the sustainability of ocean ecosystems and ocean management. Limited work has been done on the identification of ocean-based sectors and assessment of their economic relevance: only a handful of countries have developed a classification that identifies the key sectors and subsectors that fall within the purview of an ocean economy. Only a few regional and international initiatives have attempted to map and measure the ocean economy, and modest international funds have been devoted to the development of ocean economy and trade strategies. The assessment and mapping of ocean-based sectors requires technical expertise and resources, a task that is hindered by the lack of an international classification of goods and/or services that can be directly applied to mapping ocean economy sectors.

This publication aims to lay a foundation for filling information and data gaps in trade in ocean-based sectors to facilitate its sustainable development within and across borders. The publication proposes a sustainable ocean economy classification for tradable goods and services that can be used by all countries at any time. It has been conceptualized considering its application for the design of coherent policies, the assessment of the pillars of sustainable ocean development and the comprehensive analysis of the value chains as part of the ocean-based sectors (goods and services). The main principles on which the classification is based are similar to those of any other international classifications of goods and services – applicability, standardization, comprehensiveness and flexibility.

The proposed classification builds on the work of regional and international organizations to assess ocean-based sectors. It also takes into account national ocean economy classifications, the structure of existing international classifications of goods and services, lessons learned from the implementation of ocean economy trade strategies of the United Nations Division for Ocean Affairs and the Law of the Sea and UNCTAD, the UNCTAD Oceans and Fisheries Programme and the UNCTAD blue biotrade approach and projects.

The classification presented here benefited from the guidance and inputs from experts from international organizations, the private sector, Governments, academia and civil society.



The classification features three categories: goods, services and energy. Each category is divided into chapters (A-M), and each chapter is subdivided into a three-digit level of detail covering 52 subsectors.

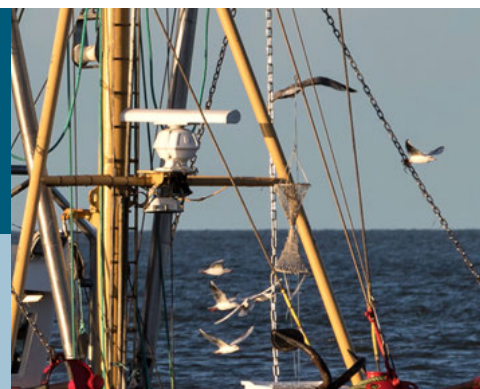
The classification sectors are as follows:

- A.** Marine fisheries
- B.** Aquaculture and hatcheries
- C.** Seafood processing
- D.** Sea minerals
- E.** Ships, port equipment and parts thereof
- F.** High-technology and other manufactures not elsewhere classified (NEC)
- G.** Marine and coastal tourism
- H.** Trade in fisheries services
- I.** Maritime transport and related services
- J.** Port services, related infrastructure services and logistical services
- K.** Coastal and marine environmental services
- L.** Marine research and development and related services
- M.** Ocean energy and renewable energy





INTRODUCTION



Oceans contribute to supply oxygen in the Earth's atmosphere; absorb half of all global carbon emissions; help mitigate the impact of climate change; and determine weather patterns, temperatures and water cycles (United Nations, 2020). They account for 80 per cent of the planet's biodiversity (World Economic Forum, 2020) and are major contributors to food security and livelihoods; in fact, about three billion people rely on marine and coastal biodiversity for their livelihoods. Oceans are also vital to the world's economy – over 80 per cent of global trade is carried out at sea (UNCTAD, 2019a). Over the years, oceans have supported a wide range of economic activities and continuous innovation in traditional sectors (fisheries and transport), fast growing industries (aquaculture, marine pharmacology, marine research and development services) and many others (OECD, 2019a).

Despite the importance of oceans to human life and economic prosperity, not enough has been done to mitigate the risks that unsustainable industrial and consumer practices pose to its health, nor to address the negative impact from climate change.

Human activities such as overfishing (about 34.2 per cent of all fish stocks are at unsustainable biological levels) (FAO, 2020) and pollution caused by chemicals and plastics, which continue to enter the ocean at an alarming rate,¹ have led to the extinction of species, variations in ocean biomass levels and the degradation of ecosystems. The latter is responsible for the loss of half of the world's living corals (United Nations, 2020). In addition, the impact of climate change on the oceans has prompted a rise in sea level and ocean temperatures, ocean acidification, deoxygenation, shifts in fish distribution, a decrease in fish stocks, coastal erosion and extreme weather events (UNCTAD, 2019b). Ocean-based economic sectors are being directly and indirectly affected by these trends. Failing to implement cohesive corrective actions will not only harm these ecosystems but will also put human health and well-being, jobs and economies at risk, and even more so in a post-pandemic world.

¹ Every year at least 8 million tons of plastic end up in the ocean; this accounts for 80 per cent of all marine debris, from surface waters to deep-sea sediments. See <https://www.iucn.org/resources/issues-briefs/marine-plastics>, accessed 13 May 2020.

The international community and national Governments have been devoting considerable resources towards sustaining the ocean ecosystems, both in terms of legislative support,² as well as knowledge-sharing and capacity-building.³ For instance, more and more countries and regions are putting in place strategic policy frameworks for better ocean management. In 2016, spatial ocean management initiatives were under way in about 50 countries. It is also expected that by 2025, more than 25 countries will have government-approved plans covering about 25 per cent of the world's exclusive economic zones⁴ (Organization for Economic Cooperation and Development (OECD), 2016). International organizations and agencies and programmes such as the United Nations Division for Ocean Affairs and the Law of the Sea; FAO; International Union for Conservation of Nature; OECD; UNEP; United Nations Educational, Scientific and Cultural Organization; World Economic Forum and many others, are also allocating resources to the sustainable management of the oceans.

A much smaller share of resources, however, has so far been devoted to enhancing the understanding and sustainability of ocean-based economies in an integrated manner. Ocean-based industries interrelate and interact with each other and their ocean landscape in multiple ways (OECD, 2016). In most countries, however, policies and approaches regarding the development of ocean-based economic sectors within or across borders and the sustainable management of the oceans are often characterized by a silo mentality. The situation is particularly precarious in non-traditional ocean-based sectors for which there are rarely any specialized agencies – national or international – that could support their sustainable development.⁵ Unlike the more traditional, ocean-based sectors, these non-traditional sectors lack prerequisites for thriving, such as institutional backing to support their efficiency and capacity, access to markets and sound policy and business environments. Further, information about these new sectors is scattered, making cooperation among economic sectors and between the public and private sectors more difficult. There is much to be done to improve policy coherence across borders so that countries can cooperate with their peers in managing marine ecosystems. The absence of such an enabling environment limits the effectiveness of policies and resources, and in turn takes a toll on incoming investments⁶ and hampers the sustainable development of ocean-based sectors.

² For example, an international legally binding instrument is being elaborated under the Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

³ For example, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization is preparing the implementation of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030). See www.oceandecade.org, accessed 18 December 2020.

⁴ Exclusive economic zones are one of the key features of the 1982 United Nations Convention on the Law of the Sea. The Convention recognizes the right of coastal States to jurisdiction and to exploit, develop, manage and conserve all resources to be found in the waters, on the ocean floor and in the subsoil. Article 57 (breadth of the exclusive economic zone) states that “The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured”.

⁵ Among the few exceptions are Barbados, Mauritius and Seychelles, which have ministries or departments exclusively dedicated to the blue and ocean economy.

⁶ See, for example, Credit Suisse, 2020.

Another factor limiting the sustainable development of ocean-based sectors is the lack of availability and accessibility of quality, up-to-date economic data on trade, value added and employment, for example. This can be attributed to the following factors:

- There is no internationally recognized classification of ocean-based goods and services that can be used to identify and map sectors linked to the ocean economy.
- Only a handful of countries are collecting data broken down by ocean-based sectors.
- Given the lack of an international ocean economy classification, these data are not comparable across countries.
- Current classifications used for collecting goods and services data are overly aggregated and lack detail and specificity. It is not always possible to determine the ocean-based sectors from these classifications.
- Gathering data on services by industries is particularly problematic at the national and global levels: the classifications used by most countries to collect services data are even more highly aggregated than for goods; other service data, which may have higher levels of disaggregation for certain sectors, do not necessarily include all countries or are not comparable across countries or sectors. Further, data collection may be costly.

The economic and trade aspects of ocean-based goods and services are a critical element of Sustainable Development Goal 14, especially targets 14.4, 14.6, 14.7 and 14.b, and subsequent calls for action and declarations. Yet, scant attention and resources have been directed towards these areas. In response to these concerns, the Nairobi Maaifikiano, paragraph 100 (t), calls on UNCTAD to take the following action: “in cooperation with other relevant international organizations and other stakeholders, support developing countries, in particular small island developing States, in the advancement of Sustainable Development Goal 14 in the design and implementation of regional and/or national economic development strategies for the conservation and sustainable use of oceans and their resources, seeking to promote sustainable trade in ocean-based sectors...” (UNCTAD, 2016).

The objective of this publication is to establish a basis for filling information and data gaps in the trade of goods and services in ocean-based sectors and to facilitate integrated actions that promote sustainable ocean-based economies. To do so, the publication proposes a sustainable ocean economy classification for tradable goods and services⁷ that can be applied by all countries at any time. It has been conceptualized considering its application for the design of coherent policies and coordinated actions, for the assessment of pillars of sustainable ocean development⁸ and a comprehensive analysis of the value-chain component of ocean-based sectors (goods and services).

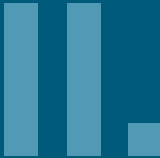
⁷ That is, the classification does not include services provided by the oceans (e.g. ecosystems services such as clean water and air) or public services (e.g. customs services).

⁸ See <https://unctad.org/topic/trade-and-environment/oceans-economy> (accessed 8 January 2021).

The proposed classification was developed with guidance and inputs from industry experts from international organizations, the private sector, Governments, academia and civil society. It includes ocean-based goods that are directly harvested from the oceans (e.g. fish and sponges), cultivated from marine species (e.g. cultivated shrimp or pearls), ocean-based raw materials (e.g. corals and salts), marine-based processed goods (e.g. fish oils, prepared and preserved fish, marine pharmaceuticals), and products for carrying out ocean-based activities (e.g. fishing gear, boats, appliances and equipment for maritime transport and ports, products and technologies for aquaculture, machineries and appliances for fish processing, high-technology manufactures for clean energy and marine sports products). The classification also includes ocean-based services that use marine ecosystems for the delivery of services (e.g. coastal tourism and maritime transport) or seek to conserve, sustainably use or clean up the marine environment (e.g. environmental services), support marine industries (e.g. trade in fisheries services, port-related infrastructure and logistical services) or seek to develop new innovation or processes based on marine resources (e.g. marine research and development, and scientific and technical consulting services). The classification also includes ocean-renewable energies (e.g. offshore wind energy, tidal power and wave power).

Chapter II of this report aims to reach those who seek to achieve the sustainability of the oceans, as well as those who work in the ocean economy and trade. It sets the context in which ocean-based sectors evolve and outlines the five pillars of sustainable ocean development established by UNCTAD. The chapter also sheds some light on the challenges, current strategies and the relevance of trade for the development of these sectors. Chapter III introduces the international classification that has been used for the development of ocean economy classifications and the frameworks underpinning current international goods and services classifications used for collecting data. Chapter IV discusses the guiding principles for the development of the ocean-based classification proposed in this publication, and the methodology and limitations of the classification. It presents and maps the sectors and subsectors of the sustainable ocean economy classification for tradable goods, services and energy. Annex 3, which contains an online Excel component,⁹ provides a comprehensive mapping of the proposed sustainable ocean economy classification; the annex describes the ocean-based sectors and identifies relevant goods and services codes of existing classifications for each subsector. Chapter V offers guidelines on the use of the classification and recommendations for the way forward.

⁹ Excel version available at https://unctad.org/system/files/non-official-document/ditcted2020d4_excel_en.xlsx.



A SUSTAINABLE OCEAN-BASED ECONOMY AND THE FIVE PILLARS OF SUSTAINABLE OCEAN DEVELOPMENT OF UNCTAD



At present there is no commonly agreed definition of a “sustainable ocean economy”. For most United Nations agencies and the World Bank, sustainable ocean-based economies¹⁰ and blue economies¹¹ encompass all industries that utilize and contribute to the conservation of ocean, sea and coastal resources for human benefit in a manner that sustains all ocean resources over time.¹²

All definitions in the relevant literature affirm that an ocean-based economy must ensure the sustainable use and conservation of the ocean-based marine environment, related biodiversity, ecosystems, species and genetic resources, including marine living organisms (from fish and algae to micro-organisms) and natural resources in the seabed (OECD, 2016, 2019; United Nations 2020; UNCTAD, 2019b). All recognize the interdependencies that exist between ocean-based industries and marine ecosystems.¹³ Most definitions also refer to economic activities that support the functioning of ocean-based economic sectors – these can be located anywhere, including in landlocked countries.¹⁴

In line with all these definitions, this publication focuses on tradable sectors. It does not include services provided by the oceans, i.e. ecosystems services such as clean water and air, as including them would imply a different accounting system that goes beyond economic activities strictly speaking.

The landscape of ocean-based economies has undergone a profound transition over the past 30 years. It shifted its focus from the more traditional domains – for example, shipping and fishing – to include activities such as tourism and a much larger array of new goods and services that are continuously expanding and reshaping traditional industries. Examples of new industries include the following: offshore aquaculture, marine pharmacology, marine biotechnology, renewable energies (e.g. offshore wind, tidal and wave energy), low-carbon vessels and maritime technologies, maritime surveillance, environmental services, and research and development services. Such

¹⁰ The term “sustainable ocean-based economies” is used in the 2020 United Nations Ocean Conference Declaration (United Nations, 2020).

¹¹ The term “blue economy” may not be used identically worldwide, for instance the definition of the Economic Commission for Africa includes lakes, rivers and other bodies of water, in addition to oceans (see www.uneca.org/publications/blue-economy; accessed 18 December 2020).

¹² See, for example, United Nations, 2020; UNCTAD, 2018, 2019a; United Nations Development Programme, 2018; World Bank and United Nations, 2017.

¹³ Some countries and organizations are attempting to assess the value of oceans. For instance, OECD defines the ocean economy as the sum of the economic activities of ocean-based industries, together with the assets, goods and services provided by marine ecosystems and recognizes the interdependency of those two pillars (OECD, 2016).

¹⁴ For instance, Collgan, 2016; European Commission, 2019; OECD, 2016; and UNCTAD, 2018.