
# Feasibility Study On An Observatory For The Blue Economy And The Sea Satellite Accounts For The European Union

Executive Summary

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| **Study Team** | |
|---|---|
| ***Deloitte Consulting*** | ***Stichting Wageningen Research*** |
| Vincent Viool MBA – Director Strategy<br>E-mail: vviool@deloitte.nl | Maggie Skirtun<br>Aquaculture specialist<br>E-mail: maggie.skirtun@wur.nl |
| Dr Indra Vonck – Manger<br>E-mail: ivonck@deloitte.nl | Dr Jamal Luka Roskam<br>Senior Researcher<br>E-mail: jamal.lukaroskam@wur.nl |
| Gurvinder Arora – Senior Consultant<br>E-mail: gurvarora@deloitte.nl | David Verhoog<br>Senior data scientist<br>Email: david.verhoog@wur.nl |
| Paulien Zhu – Consultant<br>E-mail: paulzhu@deloitte.nl | Dr Sander van den Burg<br>Senior Researcher<br>Email: sander.vandenBurg@wur.nl |
| Yi Gong– Consultant<br>E-mail: ygong@deloitte.nl | |



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European Climate, Infrastructure and Environment Executive Agency
Unit D.3 – Sustainable Blue Economy

*Contact:* Unit D.3 – Sustainable Blue Economy

*E-mail:* CINEA-EMFAF-CONTRACTS@ec.europa.eu

*European Commission*
*B-1049 Brussels*

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The Blue Economy comprises all those activities that are marine based or marine-related. It consists of sectors that have been a salient part of the Blue Economy for many years (e.g. Fisheries and aquaculture, Maritime transport) and sectors that have more recently gained prominence, either due to their accelerated growth (Off-shore wind energy) or due to their importance towards sustainability (Bio-Economy, Ecosystem services). The growth of the Blue Economy sectors bring new opportunities for investment and hold huge potential for the future development of coastal communities.

The established sectors are already monitored quite extensively through data sources such as the European System of Statistics, Fisheries and aquaculture data (under the EU Data Collection Framework), Eurostat data from Structural Business Statistics (SBS), PRODCOM, National Accounts and tourism statistics. Overall they directly employed over 4 million people and generated €658 billion of turnover and €180 billion of gross value added in 2017. The emerging sectors, on the other hand, have limited data availability in publicly available data sources with majority of data being dispersed over multiple smaller data collection initiatives and services. Gradually, more data is becoming available so that an attempt is being made to find comparable and consistent ways of monitoring and measuring these sectors.

The main objective of this study is to assess the feasibility of an observatory on the Blue Economy and a Sea Satellite Account (SSA). The study enables a comprehensive and integrated approach to measuring the impacts of the Blue Economy, expanding the sources currently in existence with complementary sources. To conduct the feasibility assessment, four tasks were performed over the course of the study:

- Identification of Blue Economy sectors and database
- Data collection for selected case study countries
- Feasibility analysis - observatory of the Blue Economy
- Feasibility analysis - National / EU Sea Satellite Accounts

The **identification of Blue Economy sectors and databases** was conducted based on a comprehensive literature review and benchmark of existing reports to identify the classifications of the sectors. A detailed approach is described in Chapter 2. The output of the exercise on data source identification and checking for availability at a subsector level indicated that most of the sub-sector and industry classifications in NACE rev 2.0[1] do not have any provision to distinguish between Marine vs non-marine proportions of the underlying data. This entails that even if the data for countries is collected at a detail of 4-digits, an external mechanism to extract the marine proportion may be required.

Furthermore, some maritime activities refer to the economic activities not classified elsewhere The approach to build upon the Blue Economy Taxonomy was preferred and a six-step approach was followed for sector allocation to established or emerging sectors;

This list of sector and sub-sectors developed in task 1 that goes beyond the Blue Economy report and includes additional sectors, sub-sectors and industries. Ecosystem services has been added to the emerging sectors due to its growing importance. As noted by the OECD (2019)[2], valuing marine ecosystems needs to be done in a transparent and evidence-based manner.

[1] NACE is the "statistical classification of economic activities in the European Community" and is the subject of legislation at the European Union level, which imposes the use of the classification uniformly within all the Member States. NACE is the acronym for "Nomenclature statistique des activités économiques dans la Communauté européenne". Refer https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

[2] https://www.oecd.org/cfe/tourism/tourismsatelliteaccountrecommendedmethodologicalframework.htm

The data collected in task 1 formed the **basis of task 2,** where macro-level (top-down) and micro-level (bottom-up) data were combined to identify all potential data sources for the case study countries; Spain, France and Sweden. Using a combination of both the approaches, sectoral insights and relevant data were collected on all three countries from publicly available and licensed data sources. Based on a comparison between Spain's and France's data, the industries which are complete at NACE rev 2.0 as marked in task 1 have higher consistency across multiple data sources. However, for the sectors (such as Cargo handling) where the portion contribution from the maritime activities is not calculated from the non-maritime activities, (that comprise of Partial I in completeness of data), differences between the reported values were observed across the Blue Economy report 2019, National statistics offices and independent data sources. The differences in values are observed due to:

- aggregation of maritime proportions directly from non-marine data,
- incomplete reporting of company data by private and public data sources, and
- no data availability in case of a few sectors.

For calculating the portion of the sector that contributes to the Blue Economy, it was observed that there is a lack of information available to calculate the share of the Blue Economy in the overall data as this is a highly academic and technical exercise. This lack of exact coefficients to provide the portion of industry attributed to the Blue Economy, results in inaccurate reporting of indicators such as, the number of companies, turnover, GVA, and the number of employees.

Additionally, during the interviews conducted with the statistics offices and industry organisations, it was observed that most of the industry organisations relied on publicly available and published databases for sectoral information. Very few organisations publish the data on their sectors with most organisations opting for a need-based reporting system by hiring data research firms. Some organisations attributed the misreporting/underreporting of data at NACE level to the structural differences in the setup of the sectors compared to NACE classification.

Once the data was consolidated, the next step was to conduct the feasibility analysis for observatory. Existing marine and non-marine observatories were benchmarked on a number of characteristics. Based on the outcome of the benchmark, preliminary activities of an observatory were aggregated and categorised into six categories; gathering, structuring, aggregating, disseminating, supporting activities and miscellaneous.

The activities were then grouped in line items for the purpose of resource allocation based on interviews conducted with a few observatories and national statistics organisations engaged in marine accounting. Besides the activities, the focus and the set-up of the observatory were the main elements in the feasibility analysis. Focus is determined by assessing each sector based on indicators, to decide whether it should be included as a core or adjacent sector. Periodisation indicators were defined based on the following guiding principles:

- The economic importance of the sector to the EU's and individual member states' economy
- The current and the future economic growth potential of the sector
- The impact of the sector on the long term plans of the EU
- The level of data that currently exists on the key indicators for the sector

The set-up, on the other hand, is dependent on the cost structure, which is determined whether the observatory will be a *non-physical* or *physical* organisation. For a non-physical observatory, main cost items and resource allocation were benchmarked from the European Market Observatory for fisheries and aquaculture (EUMOFA) project implementation plan and resource allocation guidelines. Furthermore, additional resource allocation information was collected from Cogea, the external service provider for

EUMOFA. The cost breakdown thus calculated had approximately 90% of variable costs including:

- Data purchase costs 12%
- Human resources 78%

In addition to the variable cost, the fixed costs were calculated at 10% consisting of IT costs and overheads.
For a physical observatory, a list of main cost items and resource allocation was identified based on Dutch Statistics (CBS) and French marine observatory. The cost breakdown thus calculated has approximately 20% of fixed cost including:

- Overhead costs, which in this case include location cost, such as rent and utilities
- IT costs to set up and maintain the infrastructure

As the fixed cost is higher, the portion of variable costs reduces 80% of the overall costs. Therefore, the proportion of Human resources and data purchase cost within the variable costs is 69% and 11% respectively.

Irrespective of the *non-physical* or *physical* set-up, the roll-out of the observatory is dependent on three dimensions: activity, sectors and geography. A phased approach is proposed to roll-out the observatory activities to ensure smooth scale-up and management in the early stages. The overall implantation is distributed over 4 phases, roughly 1 year each, with a slow ramp up of activities from phase 0 all the way to full function of the observatory. Due to the number of variables to calculate the costs of set-up, a tool has been developed to provide estimation of costs. The input on sectors, activities and number of member states can be input into the tool to provide an estimate of set-up costs. Using this approach, it is made accessible to re-visit the cost estimates at a later stage and re-evaluate the cost feasibility.

Using the case study countries, a calculation is demonstrated based on whether the observatory will be physical or non-physical and a fixed prioritisation of sectors over phases. Based on the calculation, a fully functional *non-physical* observatory will cost ~€ 8.6 million to implement, whereas a fully functional *physical* observatory will cost ~€ 6.5 million to implement (see section 4.3.8). Both the cost estimates include the effort needed to set-up a centralised Sea Satellite Account. A detailed breakdown of only setting up the Sea Satellite Account is discussed in detail in the next part.

The last part of the study focussed on the feasibility analysis for the Sea Satellite Account. Similar to the previous task, the first step here was to benchmark marine and non-marine satellite accounts that exist or are in development. Based on the benchmark, the general methodology to structure SSAs was created as shown below:

- Conceptual phase to determine **scope** of sectors and economic activities that fall under the Blue Economy
- Compilation and analysis to measuring the value of economic activities, marine ecosystems and indirect and induced sectors
- Monitoring of **emerging sectors** under the scope of the Blue Economy, revision of **splitting coefficients** as new or better data becomes available

Additionally, cross-cutting activities for the set-up of the Sea Satellite account are proposed as:

- Collaboration and coordination with other government agencies (e.g. national statistical offices, offices responsible for various overarching sectors like labour, transport etc.)
- Consultation with industry and market experts, as well as industry associations or private firms undertaking independent surveys
- Stakeholder engagement at all levels, incl. international and regional bodies to ensure consistency in approach and structure to the satellite accounting (e.g. participation on international forums and dialogues)

During the research, interviews and data collection, it was identified that a Sea Satellite Account can be setup in conjunction to the observatory based on:

- **The observatory takes a central role**: in data collection and compilation;
- **The observatory takes a coordination role**: in providing guidelines and assisting Member States.

The feasibility and accuracy of Sea Satellite Accounts are very much determined by the maturity of national accounting framework i.e. the level of detail available within commodity and economic activity indexing. The greater the number of classification codes or the finer the sub-classification of activities and commodities, the more likely maritime industries and activities are uniquely identifiable. In general, a detailed or mature national accounting framework also provides more information to a country in establishing splitting coefficients for the maritime sector.

For the cost analysis of setting up a SSA, a weighted average was applied to the resource breakdown reported by interviewed respondents based on the level of detail produced in the final economic account of activities related to the sea. The estimated cost of a pilot study corresponds to €385,853, but represents mostly an upper bound value. Extending the cost calculation to the whole EU, it is estimated that the overall cost for constructing a SSA for each Member State will be in the region of €6,459,891 to €9,250,511 for the initial set-up.

The key challenge in setting up a Sea Satellite account is conceptual – i.e. the decisions on what is to be accounted. This requires extensive expert consultations with various agencies. A well-established communication chain and good cooperation are key in ensuring accurate reflection of activities in a Sea Satellite Account.

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