Arjen Uytendaal: There seems to be a large difference in figures between this study and the study from the Oxford Economics done on behalf of ECSA on shipping. Especially the indirect added value by shipping which is far less as in the Oxford study (€ 11 mld. Versus € 61 mld!!). Same as for the employment figures (resp- 50.000 indirect jobs versus 1,1 mln. Indirect jobs!!).

From NML perspective we would like to propose that both consultants meet and sort out why there is such a huge difference!

The difference can be explained easily: we're using different definitions of the sector. When it comes to the direct impact, our study does not include activities such as those carried out by ships laying or repairing undersea cables or pipelines, prospecting for oil, conducting oceanographic research, diving assistance, undertaking undersea work, servicing offshore wind farms, oil and gas platforms. These activities are included in 'shipping' in Oxford Economics' study, while they are included in the indirect impact of several maritime activities in our study. Furthermore, Oxford Economics also include 'dredging activities' in shipping (in their report they also point out that it's not possible to single out data on dredging from official statistics), while, in our study, (part of) dredging is included in 'construction of water projects'.

When it comes to the indirect impact, the difference is outstanding because Oxford Economics' study measure both indirect and induced impact, while our study only takes into account indirect impact.

In the report, some graphs mention 'shipping' , later it mentions 'maritime transport'. Is there a difference?

In figure 2 direct added value for 'shipping' is € 49 mld., but later in the figure it states direct and indirect added value for 'maritime transport' is € 43 mld., so less! Difficult to understand what is under shipping and what under maritime transport. Are the definitions also different from those used by Oxford Economics.

The definitions are inevitably different from those used by Oxford Economics, as explained above. What is under shipping and what is under maritime transport is explained in former Table 2 (Table 3 in the second release of the report). In a nutshell: we start from NACE codes that correspond to economic activities, e.g. 'H.50.10 Sea and coastal passenger water transport'. To make things easier, we group NACE codes into sectors (the definition of sectors is based on existing literature), e.g. 'H.50.10' is part of maritime transport together with other activities (e.g. freight water transport, support activities, etc.). Sectors can be further grouped in even larger groupings; for instance, the sectors 'maritime transport' and 'ports (including dredging)' have been grouped together into 'Shipping'. However, to make things clearer, we presented the data in a different way in the latest release of the report.

Karyn Morrissey: Should the Shipbuilding category in Table 3 be divided into civilian and naval to match the further analysis provided for this sector on page 35.

We prefer not to. The data on 'Building of pleasure and sporting boats' (C.30.12) and on 'Building of ships and floating structures' (C.30.11) are taken from Eurostat's Structural Business Statistics without further processing. 'Building of ships and floating structures', of course, also includes building of naval ships, even though it is not possible to single out naval shipbuilding from SBS data. To do so, we had to use data on countries expenditure on military programmes (assuming that naval ships are only bought by governments, which seems fairly reasonable) provided by IHS – Jane's Defence. Jane's Defence data make it possible to calculate how much each country spends on naval ships, and, if that's the case, from which other country they buy their naval ships. By crunching the numbers, one can get an idea of the naval shipbuilding turnover (we assumed public spending in naval shipbuilding can be considered as naval shipbuilding turnover, which again seems fairly reasonable, even though, depending on the country, one might have to adjust for VAT) for any given country worldwide. We then calculated value added and employment, by using the turnover/value added and the turnover/person employed ratios of the shipbuilding sector in each country. Finally, we subtracted our estimates on naval shipbuilding from C.30.11 and that's how we did the split. The

turnover, value added and employment of naval shipbuilding were included in the 'sector-specific' indicators database, because we prefer not to mix the two methods, and give a false sense of precision.

Paolo Bolsi: I have read the draft final report and I do not have any particular comment to make, except that maybe it would be better for DG MARE colleagues if the consultants could eventually prepare, as an additional annex, an easy-to-use step by step guide to reupdate the database, calculate the estimated quantities and the activities which are not 100% maritime, and especially to calculate the indirect effects. Although the annex 1 shows how to calculate the maritime proportion for each activity, I put myself in the shoes of the colleague who will have to repeat these calculations and it does not seem an easy task.

We'll ask DG MARE and EASME whether the information provided is sufficient to update the database.

Socio-Economic Marine Research Unit (SEMRU) National University of Ireland, Galway:

Coastal tourism

- No clear indication of the spatial allocation of estimates for this sector at the LAU2 level. The approach is in line with previous efforts by DGMARE to estimate coastal tourism, but the lack of spatially disaggregated data for this sector is still unresolved. Concerns arise from the aggregation of values for coastal tourism in the case of countries for which data is not available at the coastal area level, i.e. Ireland. This value is likely to be overestimated. The method used for the spatial allocation of country-level values should be explained in detail.
- Estimates for expenditure on marine recreation activities are not included.
- The discrepancy in the dominant definition of tourism which is coastal rather than marine should be emphasised more. A true marine related tourism definition is still a gap in the analysis of the size of the blue economy

The number of nights spent in coastal areas is available on Eurostat (data set tour_occ_ninatc). It is now better clarified when explaining the method for coastal tourism (Annex I).
Estimates for expenditure on marine recreation activities are not included. We only have common data on expenditure in accommodation (by type), transport (by type), food and restaurants, durables and other valuable goods, other (which may include anything not recorded in the other categories).
We agree on the point made on coastal vs marine tourism. However, together with the client it was decided to focus on tourism in coastal areas. It's a merely geographic criterion.

Marine/maritime retail: While these values tend to be small, estimates for marine retail activities are missing.

It was included in the first phase of the project. Then it was removed at the suggestion of the peer-review group.

It would be desirable to add the value for Marine/Maritime Education. Estimates have been published for Ireland by SEMRU [see link here: http://www.nuigalway.ie/semru/documents/semru_marineeducation_training_r... . We would be happy to share our experience with the research team.

Throughout the study we tried finding sources that could provide data on this sector. However, we found some for a very limited number of countries. Considering that the study aims to develop a method that can be easily replicated in the coming years, it was decided to give up the sector for the time being. This is not to say that education is not important; on the contrary, it is clearly stated that the lack of data on

marine/maritime education is a weakness of our study. We hope more countries will be following the example of Ireland in the future and make available data on education, possibly in a consistent manner.

Regarding shipping and floating structures - Potential problems with double-counting re- public sector expenditures.

We're aware of this issue. We decided to provide a different indicator for the public sector (government expenditure), which cannot be summed with GVA and turnover of the other economic activities.

Finally, one small thing, authors might use commas rather than full stops to indicate thousands in the pie charts (and tables) and also add euro signs for these figures where relevant.

We decided to use hard spaces, as suggested on page 31 of the English Style Guide published by the EU Commission https://ec.europa.eu/info/sites/info/files/styleguide_english_dgt_en_0.pdf
About euro signs, we prefer to indicate the currency used in graphs' titles.

SEA Europe: The Study doesn´t show the real value and size of the maritime equipment industry.

Due to the unavailability of statistical information about the maritime equipment industry, the EC (DG GROW) commissioned a Study to Balance Technology Consultancy which was published in 2014 "Competitive position and future opportunities of the European marine supplies industry". That Study offers an exhaustive overview of the maritime equipment industry in Europe, accounting an average annual turnover of aprox. € 60bn. The study identifies more than 22.000 companies in the sector in Europe, which supply about 50% of the global maritime equipment.
In the Study on the value of the Blue Economy, a very limited part of the equipment industry is considered (just "navigation equipment"!!!) , and therefore, the value shown do not reflect the real size, employment and turnover of the industry. Actually, from the results of the study it seems that the newbuilding industry is bigger than the equipment manufacturing side, but actually it is the opposite.
From the European Shipyards and Marine Equipment industry (SEA Europe) we do not find the results of the study representative of the real size and importance of the European marine equipment supplies companies. We understand that due to the importance of this Report, the figures about the Equipment industry should be revised and modified according to the real values.

An explanation is now provided in the Draft Final Report. To cut a long story short, we liaised with Balance Technology Consulting, but their method cannot be used for our study, because it's not easily replicable. It's based only partly on quantitative data, and mostly on interviews with stakeholders and personal knowledge of the consultants. The EU Commission will not be able to replicate it in the future. A solution could to use BTC's data in our database, but unfortunately their study is not updated every year. At the same time, it should be noted that if we consider the direct and indirect value of shipbuilding and ship repair that we calculated in our study, the numbers are similar to those of BTC.

Ship Repair –SEA Europe provided at that time 2014 data on the turnover and employment coming from SEA SMRC Working Group.
2014 SMRC turnover: € 3.5 bln with fixed: 28.800 employees

That table refers to 'sector-specific indicators'. We do have data on turnover, gva and employment of ship repair from Eurostat SBS, but no sector-specific indicators for ship-repair.

HELCOM: However, none of the indicators selected take into account the environmental sustainability. The environmental sustainability can in the long run impact even the economic performance of the blue economy and thus should be considered in the data used to monitor the sectors making up the blue economy. Thus, we support the recommendation to take into account ecosystem services, as proposed on p43. The inclusion of environmental considerations alongside Growth potential in the Annex 1 – Framework for Data collection is a start to ecosystem approach thinking. However, it should be made clear that these considerations can also impact the growth potential of the economic activities.

This issue was discussed at length with the peer-review group of external experts set up for this study. In principle, we agree with your comment. At the same time, taking into account ecosystem services was not a part of the contract for this study. We do believe that in the future, efforts should be made to ensure that the blue economy takes into account ecosystem services, and this is the rationale behind the recommendation you mention.

A general concern is how to separate between sea-based activities contributing to blue economy and other activities. As the GVAs and the values of the other indicators are not wholly attributable to marine/coastal areas, they do not really measure the size of the blue economy. This is discussed in chapter 5, but perhaps it would be good to mention this also when presenting the results, as the pie charts and figures can give the idea that these are actual appropriate estimates for the blue economy. Has there been any attempt to identify the portion of the e.g. GVA/employment for the activities that would really be attributable to the sea/blue economy?

The methods to estimate what we call 'maritime proportion' of not entirely marine/maritime activities are explained in Annex 1.

It would be useful to have a concise assessment of data availability for each activity. Which activities are well covered with current statistics/data sources? Which are especially difficult? Why? Also, it might make sense to evaluate the reliability of the presented figures in measuring the size of the blue economy.

There's a summary table that does that, but it wasn't posted on the forum. It'll be up to the EC to decide whether to make it available or not.

However, lack of data seems like an insufficient reason to leave activities out completely from the activity lists – it can be stated that these are important activities, but their (correct) assessment is challenging/impossible with the current data. In the future, data collection and statistics can be improved to include additional/more specific measures of marine uses. This is especially true as the aim of the study is to set up a framework for data collection.

We agree and we didn't exclude those activities from the list. In fact, activities such as blue biotechnology, extraction of salt, seabed mining, etc. are actually included in the least, even though no data are available. We decided to include them in the list anyway, should any data become available in the future. It may be worth mentioning that the OECD came to the same conclusion in their recent work on the ocean economy.

It is not described what the sources of information for the basic common indicators are. What is the justification for selecting these over others (availability, etc)?

The sources of common indicators are always listed in Annex 1.

Gross value added at factor cost is listed as an indicator in the indicator set common to all activities, but it is also listed also as an indicator in some of the sector-related indicator sets (2nd set). The reason for including it two times should be explained. E.g. in Shipbuilding activities, Turnover, GVA, and employment related indicators are present.

It is never included twice. It's true, though, that in some cases gva is included as a 'sector-specific indicator'. It's a very limited number of cases (naval shipbuilding and cruise tourism), where we had data on gva, but we did not include it in the common indicators either for the sake of consistency (the gva of naval shipbuilding is estimated based on Jane's Defence data on public expenditure for military programmes) or to avoid double accounting (cruise tourism's gva includes gva of maritime transport and of coastal tourism).

Gross value added at factor cost is listed as an indicator in the indicator set common to all activities. Eurostat SBS Statistics use Value added at factor cost. How do the two differ and what is the source for GVA at factor cost?

There is no difference, apart from the name. See http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Value_added_at_factor_cost and https://stats.oecd.org/glossary/detail.asp?ID=1186 . If you look at Eurostat's and OECD's data, you'll find out that it's the same indicator. However, for the sake of consistency, we'll call it value added throughout the report.

Handling of coastal and marine recreation in the report seems insufficient. The use of coastal and marine areas for leisure and recreation is much broader than "tourism", and an important part of activities that take place in the marine environment and use the sea as an input (comp. the definition on p. 9). Many of the blue economy activity lists mentioned in the report explicitly include recreation, but it is basically left out from the report's list of activities as only tourism in included (Tables 1-2). Also, the argument that tourism and recreation are not economic activities is somewhat unconvincing, as people use money specifically to get to the coast and sea, and they can be thought to "consume" the coast and the sea for their benefit. Tourism and recreation are major uses of the sea, and they are interesting because they are often in conflict with the other uses. This issue warrants some discussion in chapter 5, and is linked to ecosystem services mentioned in chapter 6.

The sentence on coastal tourism not being an economic activity has been rephrased. As to recreation, that is not an economic activity and so it is not captured in the statistical classification of economic activities. Therefore, we do not have any data on that.

As the bullet point on tourism hints at, an important consideration is how to separate between coastal and marine recreation and other types of recreation – i.e. how we can assign the correct proportion of the turnover/value added and other economic indicators appropriately to marine and coastal areas. The report could be more specific about this, as well as how it takes this into account in presenting the results. As the definition of coastal tourism is very broad ("tourism in coastal municipalities"), the presented figures are likely overestimates.

In this study, coastal tourism is (tautologically) defined as tourism in coastal areas, these being municipalities that either border the sea or have 50% of their territory within 10 km from the coast. It was decided not to distinguish between marine and coastal areas, also on account of the fact that, to our knowledge, there is no reliable and easily replicable method to do that. From this point of view, we do agree that the figures may overestimate the size of tourism.

Lack of appropriate data is evident especially for tourism. Based on the framework for data collection described in Annex 1, it seems rather unclear what the coastal tourism statistics presented actually measure. Thus, it might make more sense to find other data sources or develop new indicators.

As written in the report, coastal tourism figures measure tourist spending in coastal areas. It is assumed that tourist spending equals tourism turnover. From that, data on gva and employment are derived by using the turnover/gva and turnover/person employed ratios of the different industries that make up coastal tourism.

What do you mean by "Ensuring that the system be reliable in such a way that it will not be confronted with negative reactions from stakeholders."? Perhaps rephrase or clarify? Different people/stakeholders are likely to have different reactions to the definition despite its content, as they have different points of view and opinions.

Unfortunate wording. Deleted.

It would be good to explain what the NACE classification is right after you mention it, especially as the link that is provided in the footnote goes to a page that only has a title and is empty otherwise (and does not even include the word NACE). So either a definition or a link to where NACE is explained when NACE is introduced

The link works (25/01/2016) from both Google Chrome and Firefox.

Having the statistical classification system take into account the blue economy would provide standard figures for Member states reporting for several marine related EU directives and plans, e.g. MSFD, as well as regional reporting to Regional Sea Conventions such as HELCOM.

Couldn't agree more, but it's not going to be easy to review the statistical classification system.

The important notes starting on p12 are helpful, but some could be explained in more detail. For example, it is not clear why freshwater aquaculture or inland water transport IS by some countries considered a part of the blue economy. Such an explanation would help people using cross-country data to understand the discrepancies, especially when they are not necessarily logical.

This issue was discussed at length with the peer-review group. We agree that having inland waterway transport and inland aquaculture in is not consistent with the definition of the blue economy proposed. However it was decided that these activities can be included in the database. Like any database, our database has a modular structure. If a user believes that inland aquaculture and inland waterway transport shouldn't be part of the blue economy, they're of course allowed to exclude them upon querying the data.

It would be useful to single dredging out as a separate sector, as it also can take place separate from port activity.

We do agree. Several attempts to liaise with the EU Dredging Association were made but to no avail.

On p23 (section 4), it states that the "The database with the full results of the study is attached to this report". However, it is unclear what is meant by the "attached to the report". A link to the location is needed.

It wasn't posted on the maritime forum, presumably because of its size. It will be up to the EC to decide where and when to post it.

Indicators measuring direct and indirect contribution, as well as public sector contribution to the economy would be useful.

They're all are available in the database.

As coastal tourism indicators (p70) are calculated using a different method, it would be good to provide more detail about how the expenditure-based calculations are used to calculate the common set of indicators.

It can be done, but we would need your feedback on what is not clear exactly.

The expert group for blue economy data should link with working groups dealing with the Economic and Social Analyses related to maritime policies, e.g. the WG POMESA.

The recommendation was edited accordingly. The final decision will be up to the EC.

In the Annex 1 Framework, 10.1 C 28.11 on page 62, Maritime proportions are listed for a handful of countries. What is the situation for the countries not listed? It should be stated why they are not listed (data not available?)

Yes. Either countries not reporting to Eurostat, or countries not producing marine engines.

For the calculation of the maritime proportion of Cruise Tourism (p72), it was not clear what is meant by class amount or the source of this figure in the text „by calculating the class amount * number of coastal passengers (passengers l (excuding cruise passengers) mar_mp_am_cft)/ country level passengers embarked and disembarked in all ports [mar_mp_aa_cph]." It is also not apparent why cruise passengers are excluded in this formula.

Eurostat has data on the number of passenger (total) and the number of passengers (excluding cruise passengers). The fastest way to calculate the maritime proportion of cruise tourism is 1 – (passengers excluding cruise / total passengers). We agree that the wording is unclear and has to be rephrased.