

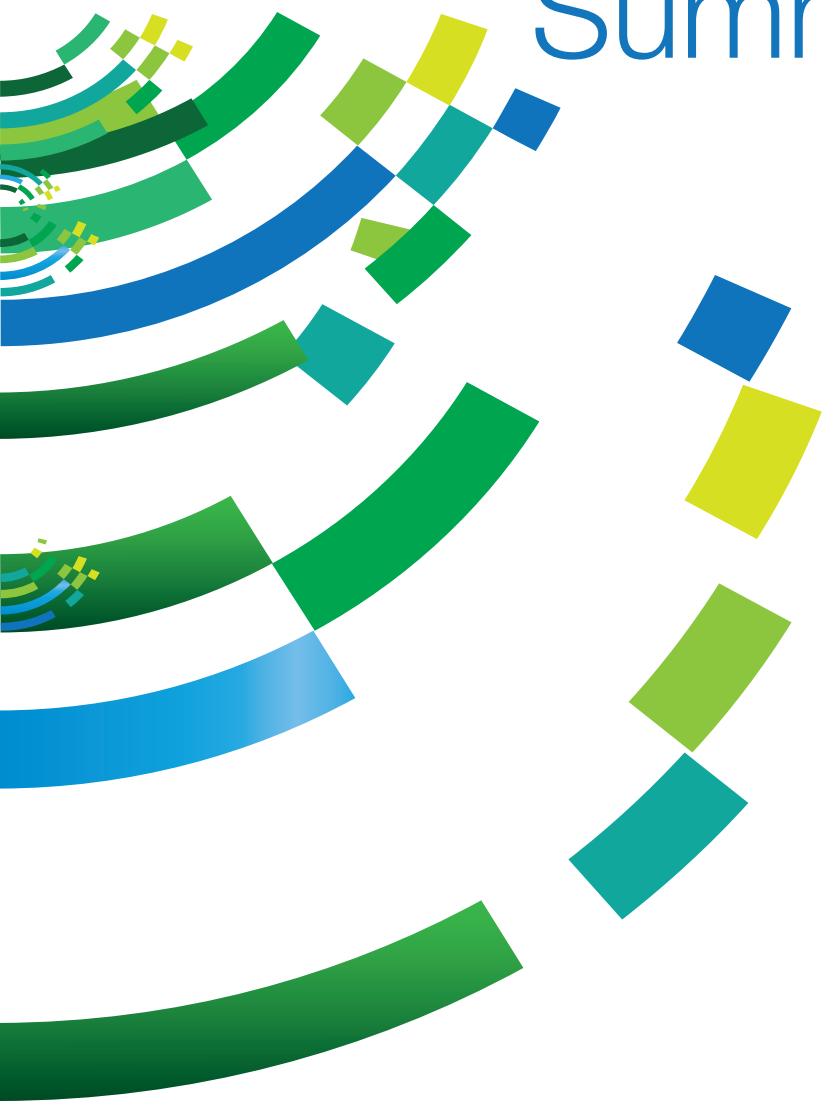
2017
#GGSD
Forum

21 & 22
November
OECD, Paris

Part of OECD Ocean Economy Week

Greening the Ocean Economy

Summary Report





2017
Green
Growth
and
Sustainable
Development
Forum



Greening the Ocean Economy

Greening the Ocean Economy

Established in 2012, the Green Growth and Sustainable Development (GGSD) Forum is the main annual green growth event at the OECD. The GGSD Forum provides a space for multidisciplinary dialogue on key cross-cutting issues on the green growth agenda for which coordination across different government ministries, OECD committees, business and civil society is needed.

The sixth OECD GGSD Forum (Paris, 21-22 November 2017) was held on the theme of “Greening the Ocean Economy” as part of the OECD Ocean Economy Week. The Forum examined the environmental and economic implications of the use of oceans and discussed innovative approaches for making the ocean economy more sustainable.

The three main sessions of the Forum were: (1) “Greening” of ocean-based industries: Case of bio-based sectors using living marine resources; (2) Marine spatial planning: A tool for improving ocean governance; and (3) “Greening” of ocean-based industries: Case of sectors based on non-living marine resources and infrastructure. In addition, four parallel sessions were held focusing on: (A) Monitoring progress of the SDG 14 implementation; (B) Marine litter, micro-plastics and the circular economy; (C) Targeting criminal activities at sea with economic and financial perspectives; and (D) Tourism as a driver for green growth.

The Forum gathered nearly 50 speakers and over 200 participants. Discussions drew on previous and ongoing work of various OECD Committees, the International Energy Agency (IEA) and the International Transport Forum (ITF) as well as partner organisations such as the World Bank, UN Environment and the GiZ.

During the one and half days, the Forum participants aimed to identify best practices as well as key knowledge gaps that may help establish future work priorities for the OECD and others.



Why greening the ocean economy matters

National governments committed to a global agenda for a sustainable world by 2030 when they adopted the Sustainable Development Goals in 2015. Goal 14 is specifically dedicated to the sustainable use of the ocean, sea and marine resources. They are under severe stress from over-fishing, habitat destruction, pollution, and climate change. 60% of the world's main marine ecosystems have been degraded or used unsustainably. More than 85% of all fisheries are fully exploited or overexploited, depleted or recovering from depletion. In 2016, it was estimated that 31% of fish stocks were overfished.

The conservation and economic development needs can be balanced through innovations in established and emerging ocean industries, as well as marine spatial planning instruments. The role of science and technology (including digitalisation), responsible business conduct and national and international capacity for ocean industry oversight are part of the solution.

Scene-setting Session

The [supporting document](#) “*Marine Ecosystems: State, pressures, economic values and policy instruments*” was prepared as an input to this session.

Anthony Cox, Acting Director, Environment Directorate, OECD, moderated the Scene-setting Session by outlining some areas where fresh enquiries are needed to address the undesirable consequences of policies that fail to align, i.e. investment, innovation, employment and, of course, climate change. As a follow-up to the UN Conference on the Oceans (New York, June 2017), the OECD Ocean Economy Week underscores the importance that the OECD gives to greening the ocean economy. The recently concluded COP23 included an Oceans Day, highlighting the importance of oceans to climate change policies going forward.



Angel Gurría, OECD Secretary-General

The OECD Secretary General **Angel Gurría** in his opening remarks stressed that the ocean is indispensable in addressing global challenges such as food security, climate change, energy, and even medicine, through advanced marine biotechnology. By 2030, the value of the ocean economy could more than double, supporting nearly 40 million jobs. It is therefore necessary to protect this source of life and progress. Yet, marine biodiversity and ecosystems are under severe stress from over-fishing, habitat destruction, pollution, and climate change.

Mr. Gurría stressed that in the coming decades scientific and technological advances are expected to play a crucial role in addressing the environmental challenges and the development of ocean-based economic activities.



Patricia Scotland, Baroness, Secretary-General of the Commonwealth of Nations

All in all, there is a need to overcome “ocean blindness” in order to bring these challenges closer to hearts and minds of citizens. It is also necessary to change policies and lifestyles, improve governance, and strengthen the Paris Agreement – the best hope for protecting the ocean. The key to greening the ocean lies in **effective multilateral and multidisciplinary cooperation** (the rationale behind this Forum). **Government policies** can help, with instruments such as taxation of marine pollution and the creation of marine protected areas. **Promoting recycling and re-use of plastic waste** towards a circular economy is also a big part of the solution.

What works and what doesn't

Patricia Scotland, Baroness, Secretary-General of the Commonwealth of Nations, joined the meeting by video link. She stated that many Commonwealth countries are small islands, and their coastlines are on the front line of our climate-changed world; this is why the Commonwealth is now looking beyond damage control. That approach is based on the Commonwealth Charter principles of consensus and common action, mutual respect, inclusiveness, transparency, accountability, legitimacy and responsiveness.

Peter Thomson, Ambassador, UN Secretary-General's Special Envoy for the Ocean, provided feedback from the UN Ocean Conference. The UN Ocean Conference focused on the implementation of the SDGs. The resulting Call to Action represents a strong mandate from all UN members. The Conference included seven partnership dialogues and over [1,400 voluntary commitments to ocean action](#). On 27 November 2017, the United Nations launched nine thematic multi-stakeholder Communities of Ocean Action during a series of global webinars, including on ocean acidification and coral reefs. These virtual families located around the world will drive action in this domain for the next 3 years to 2020, at which time four of the SDG14 targets will mature. Anyone working in ocean action should therefore be prepared to be accountable in 2020.

Mattias Landgren, Swedish State Secretary for Infrastructure, Ministry of Enterprise and Innovation, noted that past and current mismanagement of the oceans is hurting the ocean environment of today and in the future.

Achieving a sustainable blue economy rapidly without creating more problems is a pivotal question. He shared priorities for Sweden to address this: first, through the development of a set of indicators to measure progress towards a sustainable blue economy; second, by creating a more specific set of statistics of marine activities to better understand their contribution, needs and impacts; third, by providing the proposal of the largest environmental budget in history in order to safeguard marine resources; and fourth, by the development of sustainable maritime activities through various incentives. In this, it is necessary to incentivise actors to move towards sustainability. The OECD will contribute in many of these areas.

“Finding the right balance between protection and production will characterise the success or failure of SDG14.”

– Peter Thomson

Professor Costello flagged Global Fishing Watch as a big data project initiated by Google that tracks 60,000 fishing boats in real time on a daily basis. This is one example of using big data for innovative solutions. Marine spatial planning makes the relevant trade-offs explicit. It can be used to assess the cost of policy changes, and help identify policies that are clearly inferior.

Mr. Costello also explained bioeconomic forecasting which couples information on the biology and ecology of ocean species with information on the economics of the natural resource use. This can help identify possible consequences of different policy interventions. For example, it can compare rights-based fisheries management (RBFM) to business as usual approaches.

Finally, **Dirk Pilat**, Deputy Director, OECD Science, Technology and Innovation Directorate, provided an overview of the OECD’s flagship report, The Ocean Economy in 2030. This report provides a forward-looking assessment of the ocean economy to 2030 and beyond. The value-added of ocean-based industries is projected to double by 2030 from USD 1.5 trillion to USD 3 trillion, due mainly to growth in offshore wind, cruise tourism, aquaculture, and shipping. The business-as-usual growth of economic activities in the ocean, however, is not an option for the future to ensure sustainability. To this end, the OECD is currently working on the following areas:

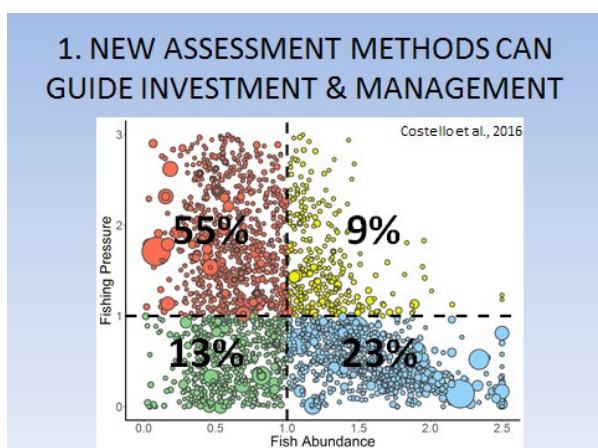
1. Exploring the role of scientific advances and enabling technologies to drive innovation in the ocean economy.
2. Mapping and analysing new and emerging patterns of collaboration among different global actors in ocean R&D.
3. Extending the frontiers of the use of economic valuation, analysis and tools further into areas of ocean-related activities.
4. Identifying best practices and successful policy mixes to foster innovation and the sustainable growth of ocean-based industries.

Current challenges, solutions and innovations

Christopher Costello, Professor of Natural Resource Economics, Bren School, University of California, painted the global picture of (a) ocean problems, and (b) emerging solutions from academia, NGOs and government agencies. There are a number of emerging ocean industries including tourism, ocean energy, aquaculture, and deep-sea bed mining. In developing these industries, the aim is to minimise externalities and conflict with existing industries and across sectors and countries.

New assessment methods can guide policy, investment and management of the world’s fisheries. Of 5,000 fisheries plotted, 23% are seen to be doing well; 9% enjoy fish abundance but are under high pressure; and 55% of the world’s fisheries are already overfished and still being fished at an unsustainable rate.

Quantification of fish stocks



Source: Professor Costello’s presentation.

Session 1 - Greening of ocean-based industries: Case of bio-based sectors

The session explored different practices in bio-based sectors (e.g. fisheries, aquaculture, marine biotechnology) that sustain economic growth, job creation and innovation while addressing energy and food security, pollution and climate change. Speakers from Canada, Spain and Sweden were invited to provide case studies highlighting different ocean policies supporting green growth and inclusive stakeholder engagement in their respective countries.

The session was moderated by **Carl-Christian Schmidt**, Chair, Nordic Marine Think Tank and former Head of the OECD Fisheries Policy Division.

Wendy Watson-Wright, CEO, Ocean Frontier Institute, Canada, set the scene by focussing on three areas, each of which encompasses economic and sustainability challenges and potential solutions for bio-based sectors; ocean governance, marine protected areas, and “ocean literacy”. She provided an overview of the current situation with respect to understanding and resolving the challenges of extracting more value from an underused and misused ocean. A fundamental challenge to an integrated approach to the sustainable use of the ocean is the fragmented – and even fractured – nature of governance regimes around the world.

It is necessary to impose order upon this fragmentation, bringing together the economic, social and environmental pillars of sustainability in the pursuit of a blue green economy. Can more bio-resources be extracted from the sea to better feed the world without causing more food chain damage? On the ecological side of this equation, it is not possible to geo-engineer the way out of the problems.

Marine Protected Areas (MPAs) have led to an increase in fish biomass and substantial benefits for tourism and fishers. However, 79% of a large sampling of MPAs did not meet even half the thresholds for adequate management. Only 35% of MPAs are appropriately funded, only 13% are informed by scientific monitoring, and only 9% reported adequate staffing. Despite this, 71% of MPAs still secure positive outcomes. MPAs alone will not stop the threats associated with climate change but they can serve as a powerful tool to ameliorate some of the climate-induced problems.

“One of the biggest problems we face is ignorance and lack of awareness. At a most basic level, people are not aware of why the ocean matters.”

– Wendy Watson-Wright



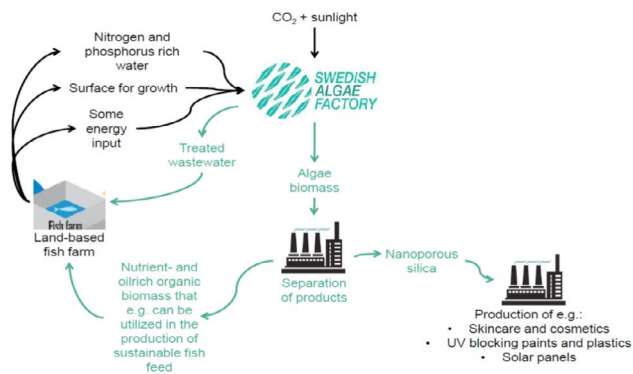
From left to right: Carl Christian-Schmidt, Wendy Watson-Wright, Sofie Allert, Roel Nieuwenkamp and Alberto López-Ansejo.

Alberto López-Asenjo, General Secretary of Fisheries, Spanish Ministry of Agriculture and Fisheries, Food and Environment, explained that policy in Spain is now fully committed to sustainable fishing based on five lines of action:

1. Access to finance, especially for SMEs;
2. World-class ICT-based control and surveillance systems, in particular for fighting IUU (illegal, unreported and unregulated fishing);
3. Marine protected areas, which will cover 10% of the coastline by 2020;
4. Aquaculture and maritime spatial planning;
5. Innovation, research-based start-ups, and new business models for blue growth.

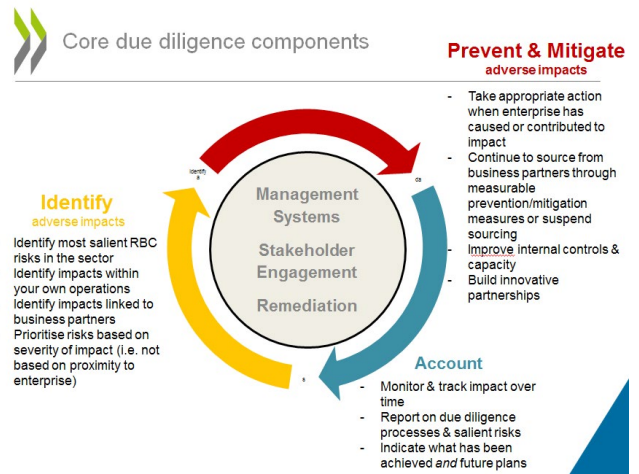
Sofie Allert, CEO, Swedish Algae Factory, explained that her company, the Swedish Algae Factory, has been inspired to move towards a more sustainable industry through the application of algae-based material to: increase the efficiency of solar panels; use the oil produced by diatoms in algae-b for biodiesel; and use the content of polyunsaturated fatty acids as food supplements. She stressed that it is necessary to develop more viable business models to allow the production and use of algae in a profitable manner, for example, by considering how companies like the Swedish Algae Factory could monetise the services they provide by recycling nitrogen and phosphorus with the help of algae (positive externality).

Example of sustainable use of marine biomass



Source: Sofie Allert, Swedish Algae Factory.

OECD's Responsible Business Conduct (RBC)



Source: Roel Nieuwenkamp.

Roel Nieuwenkamp, Chair, OECD Working Party on Responsible Business Conduct (RBC), provided the corporate responsibility angle on greening the oceans. The OECD Guidelines for Multinational Enterprises include a legally binding requirement for governments to set up a National Contact Point. The Guidelines are morally binding for businesses. They provide a global grievance mechanism for corporate responsibility. To date, over 360 cases have been handled by the National Contact Points, addressing impacts from business operations in over 100 countries.

In the context of the RBC, due diligence approach and proactive stakeholder engagement can be applied to the full supply chain to prevent negative environmental and human rights impacts and find solutions for problems as they arise. Roel Nieuwenkamp flagged the case of Soco's oil mining explorations in the Virunga National Park (Congo). As a result of the mediation that took place via the RBC mechanism, Soco agreed never to drill for oil in World Heritage Sites – including the 49 World Heritage Sites in the ocean.

The challenge lies in scaling up these good examples of company behaviour, and that is why the OECD should extend its work to the fishing sector. The OECD work on defining supply chain responsibility through the due diligence approach has so far issued 5 sector-specific guidelines on risk-based due diligence. By developing guidelines specifically for fisheries, it should be possible to energise and engage this sector.

Identified knowledge gaps and suggestions for future work

- Existing framework of ocean governance is extremely fragmented and complex; this must be addressed at both the national and international levels.
- Investment and innovation in greening ocean industries can come together to spur important developments.
- Application of the OECD Guidelines for Multinational Enterprises to the fisheries sector should be a next step.
- Development of more viable new business models to allow the production and use of algae in a profitable manner is needed.

Session 2- Marine spatial planning: A tool for improving ocean governance

An [issue note](#) “*Marine special Planning: Assessing net benefits and improving effectiveness*” was prepared as an input to this session.

Marine spatial planning (MSP) is an essential tool for greening the ocean economy. This session focused on MSP as one of the most used tools for governing the different uses of marine resources, both in areas of national jurisdiction and the high seas. Although MSP is still developing as a tool, it has already established principles and recommended processes. Recently, attention is turning to the evaluation of MSP to assess whether it is achieving desired outputs. Evaluation frameworks are being developed, though practice varies considerably between different contexts. This session covered a broad range of related issues including data, uncertainty, institutions, stakeholders, trust, leadership, and political will.

Experts from Canada, Costa Rica, Japan, World Ocean Council and UN Environment examined MSP as a serious tool for fisheries management, conservation, and for identifying the trade-offs among sectors such as tourism, shipping and coastal development. The session was moderated by Anthony Cox, Acting Director of Environment, OECD.

Improving Oceans Governance

Susanna Fuller, Marine Biologist and Senior Marine Coordinator, Ecology Action Centre, Canada, kicked off this session by quoting Rachel Carson who stated, over 50 years ago, that the human race was challenged “to prove its mastery, not of nature, but of ourselves”.

There are various drivers of MSP including new industries (such as offshore wind farms) that conflict with existing industries (such as marine fishing). The availability of increasingly sophisticated data systems is also driving planning and mapping processes. There is a need to resolve jurisdictional priorities (near shore environments, state waters and the high seas), and to establish indigenous rights and land claims.

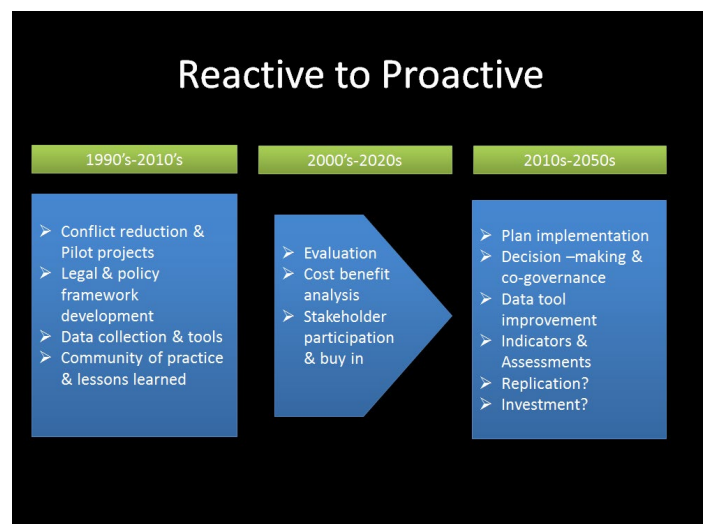
Finally, it should be noted that MSP does not replace sector-based improvements and progress. The approach to MSP has shifted from a reactive one in the period 1990-2010, to a proactive one in 2010-2050.

In her key note, Susanna Fuller showed several examples of MSP processes in Canada. The lesson learnt was that proactive planning in complex areas needs support and political will to be effective. She also flagged that MSP could have been used to resolve a number of recent conflicts, such as the Bay of Fundy tidal turbine project, or the Offshore Nova Scotia mega wind farm project. The lesson to be learnt here is that sector-based conflicts need to be addressed, and environmental assessments can provide the basis for planning provided that they are followed up by governments. In conclusion, MSP offers both an opportunity and a risk. It can be a very useful tool in addressing marine conservation issues.

“Marine Spatial Planning has shifted from a reactive approach in the period 1990-2010, to a proactive one today.”

– Susanna Fuller

Development of MSP approaches over time



Source: Presentation by Susanna Fuller.

Renewed interest in MSP

Christine Valentin, CEO, World Ocean Council (WOC), explained that the WOC discussed how to address industry concerns regarding marine planning by addressing the increased burden of regulatory complexity. For example, oil and gas is already a highly regulated industry which wants to understand how MSP fits into those regulations. She highlighted a WOC project to inform and engage a diverse range of ocean industries in MSP. The project identified potential benefits and concerns of MSP from the business perspective, and called on industry to consider its role in marine planning. Two key findings are: MSP cannot always produce win-win results which should be made clear from the beginning. It can, however, provide a mechanism to address conflicts. Planning can also help reduce investor uncertainty through well-formulated and implemented process.

Jorge Jiménez, Director General, Fundacion MarViva, Costa Rica, provided the perspective of the Central American region where countries have been successful in establishing MPAs. In Costa Rica, for example, 23% of territorial waters are covered by MPAs. However, there is little enforcement or other marine policies in operation in most of these countries. The region therefore suffers from a lack of integrated management, and enforcement capabilities. Costa Rica has only 14 fisheries inspectors. In conclusion, the region urgently needs to implement policy on MSP. It must incorporate mandatory MSP processes and regulations in all sectors – without that, no progress will be made no matter how much money is invested. Finally, it is necessary to improve MPA management, and to increase regional cooperation among the countries.

Nobuyuki Yagi, Professor, University of Tokyo, Japan, provided an overview of the Japanese experience with MSP which is mostly bottom-up. The downsides of area-based management include the fact that decision-making is very slow, as decisions can only be taken on the basis of an unanimous vote. This creates a disincentive for new and emerging industries in coastal areas. Secondly, if a local community changes its leader, its policies will also change. While it has

mostly worked in Japan, could similar bottom-up approach to marine spatial planning be extended to other countries? The bottom-up approach has not worked very well in countries such as Senegal or Vietnam, where there is frequent entry of fishermen from neighbouring countries. A bottom-up approach will not be successful in cases which face free-riders.

Lisa Emelia Svensson, Director, Ocean and Ecosystems, UN Environment, brought in the UN perspective and noted that it is very easy to lose trust, and building trust between different sectors and different people is crucial. Sharing information in an open and transparent way can help to build trust. In the Baltic Sea, a joint Swedish-Finnish initiative involved the sharing of information but this took considerable time. It could be preferable to start in a local setting, bringing in all the relevant actors and a new perspective. Technology is often seen as a threat but it can also be a solution. It all depends on how humans interact with and apply that technology and this is where the ecosystem-based approach to spatial planning could be very useful.



Lisa Emelia Svensson and Nobuyuki Yagi

Anthony Cox noted that pooling the good practices of countries that have had two or three rounds of this type of policy tool development would be valuable. Marine spatial planning is not about sectoral planning but about integrated planning, which is achieved through stakeholder engagement and building trust. It is clear that marine spatial planning is an essential tool for greening the ocean economy.

Identified knowledge gaps and suggestions for future work

- MSP is still a relatively young policy tool. **Peer learning on the experience with MSP among countries can be useful.**
- There is a need for accurate data as MSP is a continuous exercise, with regular updates of the plan. It is also necessary to **integrate macroeconomics** into the scenarios.
- Data gathering for the preparation of MSPs should also be directed to the **monitoring and evaluation** of plan implementation.
- Ecosystem-based marine spatial planning represents an even greater challenge. It requires an understanding and assessment of ecosystem biodiversity in a given coastal area. More **evidence based analyses** in these areas are needed.

Session 3- Greening of ocean-based industries: Case of non bio-based sectors and infrastructure

Session 3 of the GGSD Forum was co-organised with the OECD Working Party on Shipbuilding and moderated by **Christina Abildgaard**, Marine Bioresources and Environmental Research, Research Council of Norway. This session focused on examples of infrastructure-based ocean industries.

Participants from Norway, Germany, Japan, International Transport Forum (ITF) and (IEA) and a representative from Seas at Risk (NGO) shared insights and experiences on how to green the shipbuilding, maritime transport, renewable energy, and deep-sea mining industries.

The view from the Maritime Industry

Reinhard Lüken, Managing Director, German Shipbuilding and Ocean Industries Association (VSM) and European Delegate to the OECD Council Working Party on Shipbuilding stressed that future growth of ocean industries is certain, and green growth of those industries is possible. There are three key factors that are crucial in greening the shipbuilding sector:

1. Clean technologies are not being put to work. To find solutions, it is necessary to tackle the economic drivers that will help.
2. Unregulated markets do not deliver green growth. The maritime industry is far behind the onshore industries.
3. Urgent action is needed to establish global rules that meet the specific circumstances of the maritime industry that are technically sound, goal-based and market-based.

“To date, we have invested so much less to learn more about the oceans than what we have invested in learning about the surface of the moon”

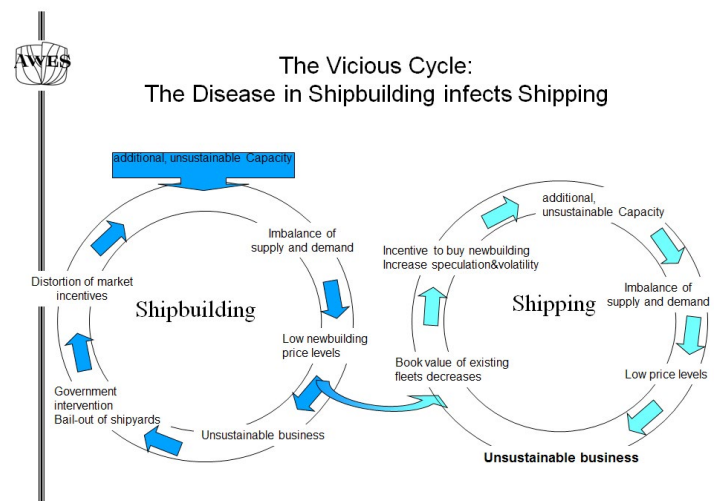
– Reinhard Lüken

The workshop of the OECD Council Working Party on Shipbuilding, held the day before, discussed main findings of the report “Analyses of selected measures promoting the construction of greener ships” (www.oecd.org/sti/shipbuilding). It assesses policies implemented at international, regional and national levels by target pollutants, and studies their impacts on shipbuilding, ship repair and marine equipment industries. The workshop highlighted the problems associated with reliability and enforcement of regulations, and recommended that their drafting needs to take into account issues of enforcement and timing.

Obtaining the necessary volume of investments is necessary to address many structural shortcomings:

1. Establishing global rules is by nature a very slow process.
2. The strategic sector leads to overcapacity and results in severe price pressure.
3. Incentives are divided between ship owners and charterers. If benefits are not visible, investment will not follow.
4. Although the maritime industry is pioneering many key technologies, most people are not aware of how maritime transport contributes to their daily lives.

Overcapacity in shipbuilding sector



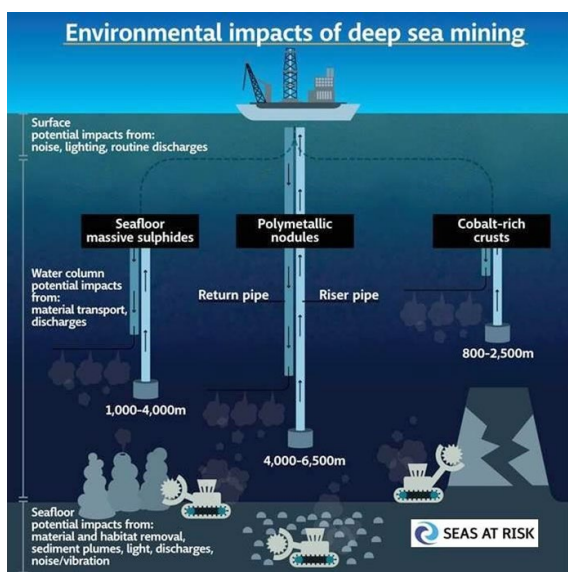
Source: Presentation by Reinhard Lüken

AWES, Brussels March 2002

Shin Otsubo, Deputy Director-General, Maritime Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan and Delegate to the OECD Council Working Party on Shipbuilding, explained that the regulations of the International Maritime Organisation (IMO) address the sustainability of the entire lifecycle of ships from the design and construction phase, to the 25-year operation phase, and finally to the recycling phase. Japan proposes that targets for greenhouse gas emission reduction should be ambitious but achievable. In the Japanese scenario, as compared to 2008 there will be a 40% improvement in carbon efficiency by 2030 and a 90% improvement in carbon emissions by 2060. To achieve this long-term target, a drastic shift to low-carbon fuels is indispensable.

The view from an NGO

Ann Dom, Deputy Director, Seas at Risk, presented an overview of deep-sea mining as seen from the perspective of Seas at Risk, an association of NGOs from 17 European countries working to protect the environment in the European seas.



Source: Presentation by Ann Dom

Deep-sea mining is a symptom of a society geared to throw-away consumption, including with respect to precious metals. The idea is to find reserves in non-populated areas that pose no governance issues: the deep-sea. However, deep-sea mining involves substantial environmental risks. It takes place in extremely vulnerable areas with slow growing ecosystems. Exploration calls for a very strong precautionary approach for high-risk sectors, which means that it will be necessary to look into alternatives. It may be ambitious to hope that, by 2030, mining terrestrial or deep-sea water for minerals and metals will no longer be needed as they will be part of a circular economy.

Olaf Merk, Administrator, Ports and Shipping, ITF-OECD, focused on three aspects of the debate: (a) ports, (b) national-level issues, and (c) incentives and pricing mechanisms. First, ports play an important role in this debate, as they are the places where shipping and land transport come together. Second, it is important to recognise the importance of national governments and measures. Shipping is a global industry and needs global rules. Third, it is essential to focus on the importance of incentives, particularly for carbon pricing. The risk is that there will be a patchwork of different regional carbon pricing schemes around the world; it would be preferable to propose a global scheme.

Cédric Philibert, Senior Energy Analyst, Renewable Energy Technologies, IEA, stated that even in the most ambitious climate change mitigation scenarios, marine energies and offshore wind power will still represent only a minor contribution to future global energy needs. Ocean energies are very diverse in maturity and potential. Besides offshore wind power, tidal lagoons, currents, and ocean heating and cooling offer the best prospects for an effective use. Offshore wind is making rapid progress and its potential is considerable. Global offshore wind capacity is expected to increase from over 14 GW in 2016 to over 40 GW by 2022, primarily in Europe and China.

Identified knowledge gaps and suggestions for future work

- Clean technologies are not always being put to work. To find solutions, it is necessary to tackle the economic drivers that will help us make better use of available technologies.
- Because shipping and transport overall is under-priced, many environmental impacts associated with globalisation have increased exponentially. Work should be undertaken to ensure that costs shipping and transport cover their externalities. Carbon pricing can be part of the package.
- Developing a business model to make zero-emission ships profitable is a priority.
- In-stream turbines and tidal lagoon concepts may expand cost-effective tidal potentials more globally.



From left to right: Christina Abildgaard, Reinhard Lüken, Shin Otsubo, Ann Dom, Olaf Merk and Cédric Philibert.



Parallel Sessions

A. Monitor progress of the SDG 14 implementation

An [issue note](#) "A Preliminary assessment of indicators for SDG 14 on Oceans" was prepared as an input to this session.

Moderator: **Charlotte de Fontaubert**
Senior Fisheries Specialist, World Bank

This session covered global, regional and national indicators for SDG 14 and reflected on the outcomes of the UN Ocean Conference (New York, 5-9 June 2017). The session illustrated the various results at the intersection between science, policy and politics. The most important message stemming from the exchange was that the significant amount of uncertainty and the presence of important obstacles could not be used as an excuse for not taking action.

Monika Stankiewicz, Executive Secretary, Baltic Marine Environment Protection Commission-HELCOM, advocated for acting now, even in the light of imperfect monitoring and assessment systems. A few decades ago, HELCOM agreed to an overall 50% reduction target for inputs of nutrients without knowing whether this target was sufficient to tackle eutrophication of the Baltic Sea. It nevertheless led to actions and measures, and monitoring was continuously improved. Nowadays, more precise targets to reach a good environmental status and suitable indicators are established in HELCOM. A lesson for SDG 14 is that even with little information, or few indicators, it is possible to make progress. Further co-operation is needed to figure out how to best monitor and report for national, sea basin and global purposes.

Sophie Seeyave, Partnership for Observation of Global Oceans, UK, flagged that responsibility for monitoring SDG-14 targets is split between various custodian UN agencies, and coordination among these agencies, as well as other scientific organisations and NGOs, needs to be enhanced to optimise the work being carried out and avoid duplication.

Claire Delpeuch, Trade and Agriculture Directorate, OECD, presented the work that the OECD is undertaking to develop indicators relevant to monitoring the SDG 14 targets. This includes the Fisheries Support Estimates (FSE) database, which measures and characterises fisheries support across countries and over time; a newly developed indicator of fish stocks status which reports the number of stocks assessed against quantitative thresholds and those considered to be meeting their stated objective; and the development of indicators tracking the adoption and implementation of best practices to fight IUU fishing. The OECD is also expanding a database on Policy Instruments for the Environment (PINE database) that tracks policies such as environmentally relevant taxes, fines, charges, tradable permits, etc., some of which are relevant to oceans.

Anne-France Didier, Political Counsellor, the French Ministry for Ecological and Inclusive Transition, highlighted that France is developing a national dashboard for tracking SDG implementation. She mentioned that for some of the SDG targets, there is good data for monitoring (e.g. plastic pollution and the data on floating debris) but, for other aspects, such as nanoplastics which are invisible but may be most harmful, data is still not available. There is also a need to better understand the impacts this has on biodiversity. Overall, marine ecosystems monitoring needs to be improved and big data can be instrumental here.

Identified knowledge gaps and suggestions for future work

- Eight out of the ten SDG 14 indicators are Tier 3 indicators, i.e. there are no established methodologies for their measurements, making comparisons of the results across countries, regions, and locations difficult.
- Despite interesting recent advances (e.g. big data, DNA, AI), some of the targets for measurement (e.g. acidification) are technically very difficult to monitor at scale, also with sufficient degree of precision and accuracy.
- The jurisdictional jigsaw: monitoring is usually carried out at the national level, but the physical phenomena to be measured do not respect regional boundaries, creating a discrepancy between the framework for research and, monitoring, and the geographical scale in which the impacts are felt.

B. Marine litter, micro-plastics & circular economy

Moderator: **Peter Börkey**

Principal Administrator, OECD Environment Directorate

This session covered the key responses to prevent litter entering the oceans. By 2050 we will have more plastic in the ocean than fish with significant impacts on the economy (e.g. tourism) and people's health as the Secretary General mentioned in his opening remark "everyone who eats fish, eats a bit of plastic". Panel members agreed that the challenges related to the eight million tons of plastic litter flowing into the ocean each year were immense. These plastics are fragmenting into micro-plastics, possibly entering the food chain, and impacting on a range of economic activities, including tourism and fisheries. Most of the discussion among panellist focused on solutions, emphasising that the benefits of plastics could be decoupled from their costs. In terms of solutions, ocean clean-up is important but cannot be a centre-stage solution. Instead, it is necessary to work higher up in the system, diverting the flow of plastics away from the oceans.

The OECD has not yet worked directly on marine plastic litter, although it has had some discussions in the framework of the Environmental Policy Committee and the Chemicals Committee. Going forward, there could be further opportunities for the OECD to contribute to this subject area.

Richard Thompson, Professor, Plymouth University, UK; GESAMP (UN advisory body), explained that the surface of the planet is contaminated with plastic debris, including remote and uninhabited islands that are far from population centres. Plastic debris has been found to be a vehicle for the spread of hazardous substances such as heavy metals and persistent organic pollutants into these remote areas.

Javier Goyeneche, Environmentalist Entrepreneur, CEO and founder, ECOALF, Spain, presented ECOALF, a Spanish fashion company that transforms "waste" into fashion items. The following materials are recycled: discarded fishing nets (there are 650,000 tons of them at the bottom of the ocean), PET plastic bottles, used tyres (a difficult material to recycle), post-consumer coffee, post-industrial cotton, and post-industrial wool. This "Upcycling the Oceans programme" began in Korea and has now been extended to Spain and Thailand. 70% of waste lies at the bottom of the ocean, and on a voluntary basis trawling boats agreed to bring back to land the 2-3 kg of waste that end up in their nets each day.

András Inotai, Cabinet Member of Karmenu Vella, European Commissioner for Environment, Maritime Affairs and Fisheries, explained that the EU recognises both the environmental and economic potential of

the ocean economy. The EU has one of the highest levels of environmental protection legislation in the world. Plastic recycling does not always make good business sense, and recycled plastic only makes up 4-6% of industrial plastic demand in the EU. That obviously needs to change, and the EU is currently working on a Plastics Strategy that would address this issue. If we could remove the use of single-use plastics, that would lead to a 50% reduction in marine litter.

Nolwenn Foray, Research Analyst, New Plastics Economy, Ellen MacArthur Foundation), highlighted the need for a new plastics economy in which plastics never become waste. This will require (a) the creation of an effective after-use plastics economy based on recycling, re-use and compostable plastic packing; (b) a drastic reduction in the leakage of plastics into natural systems, and other negative externalities; and (c) a decoupling of plastics from fossil feed stocks.

Three key messages emerged from this session. First, the current plastics system is broken, and system change is the only long-term solution to avoid marine litter. Second, policy makers play a crucial role in the transition to a circular economy for plastics. Third, system change requires action across the entire value chain, including upstream design and downstream collection, sorting and re-processing. Initiatives on plastics have existed for some time but not always at a scale that would induce real system change. The session also discussed possible contributions from the OECD, including the development of standards for biodegradability, the provision of information related to the costs and benefits of handling marine litter, and providing guidance on policy instruments and tools. Finally participants discussed the possibilities of future work in different areas.

Identified knowledge gaps and suggestions for future work

- More information is needed about the effects of marine litter on health environment and the economy.
- Fundamental system change is necessary. For that we need to look at (1) entire value chain (downstream, upstream) and (2) all actors (multi-stakeholder approaches).
- Policies are needed that ensure consistency of supply, high quality, and sufficient demand for end of life plastics.
- More focus needed on innovation to make product design more recyclable.
- Seeking solutions and setting standards for biodegradability.
- Setting up economic incentives to encourage business models for the recovery of material that could then be sent back to the economy.
- Raising awareness in order to change consumer behaviour away from a throw-away consumption model.

C. Targeting criminal activities at sea with economic and financial perspectives

An [issue note](#) “An inventory of new technologies in fisheries: challenges and opportunities in using new technologies to monitor sustainable fisheries” was prepared as input to this session.

Moderator: **Antonia Leroy**, Natural Resources Policy Analyst, Trade and Agriculture Directorate, OECD

Alistair McDonnell, Criminal Intelligence Officer, INTERPOL Environment Security, reminded participants of the important role of enforcement officers at sea. It is necessary to involve many different jurisdictions in a world government approach in order to combat criminal activities. Showing a ‘whole of governance approach’ of notified national authorities and INTERPOL covering 192 countries with national focal points is pivotal. INTERPOL is working on global fisheries crime in more than 30 countries dealing with banking and insurance sector, port states, market states and the flag states. Today, the flipside of illegal unreported activities at sea is that if countries do not comply fully it will cause reputational damage, potential loss to markets and also affect food security and loss of biodiversity.

Hrannar Már Ásgeirsson, Surveillance Expert, The Directorate of Fisheries, Iceland, reported on the North Atlantic Fisheries Intelligence Group (NAFIG), an initiative with a strong interagency cooperation set-up that brings together several countries. At the onset this initiative focused on fisheries but later refocused its attention on illegal activities including financial crimes.

Kees Lankester, Sea Food Finance Advisor, Scomber, The Netherlands, reported on the recent work that the Scomber organisation carried out with investors who were interested in the risk of loss of income due to trafficking at sea. Scomber in 2013 initiated ‘Start following the money’, investigating and identifying the beneficiaries as a key element in tackling criminal activities with financial perspectives. Banks these days are interested in understanding risks: reputation loss, not meeting own CSR ambitions, loss of income. Companies are also more and more aware of risk of public exposure and reputational damage.

Tyler Gillard, Head of Sector Projects and Legal Advisor, Directorate for Financial and Enterprise Affairs, OECD presented the OECD work with industry on responsible business conduct. The OECD Guidelines for Multinational Enterprises provides principles and standards for business, covering all areas of business ethics, and relevant for all sectors of the economy. Putting this into practice, the OECD has sector-specific standards and work on due diligence for responsible supply chains. These cover a range of issues relevant

for combatting illegal fishing and other crimes at sea (e.g. traceability requirements, risk assessment and management frameworks in the supply chain on legality, corruption, human rights and environmental damage).

In the discussion, participants flagged the possible role export credit financing institutions can have in supporting activities that have to comply with the OECD Guidelines for Multinational Enterprises. Also, the transferability of North Atlantic Fisheries Intelligence Group model to other parts of world was discussed. The panel responded that transferring a regional model is possible but there needs to be good databases and agreements on sharing intelligence among authorities (including fiscal authorities). For instance, under EU law accessing “Beneficial ownership” information is not always easy, as one needs to prove what the interest is to get access to info. It also takes time before international guidelines become part of domestic policy and legal frameworks. There is progress within OECD countries that might be applied to the fisheries sector, for example, requirements for companies to publish information on their supply chain due diligence practices under the UK Modern Slavery Act and the forthcoming French Law on Duty of Care. Furthermore, the recent US Trade Facilitation and Enforcement Act allows border officials in the United States to seize any goods produced with forced or child labour.

Finally panellists discussed how OECD could contribute in the future. Some panellist stated OECD need to promote more exchange with private business as they know a lot about the whole value chain (Lankester), whereas others (Asgeirsson/Iceland) focus more on government exchange. All panellists agreed that companies should follow more due diligence guidance.

Identified knowledge gaps and suggestions for future work

- Enhance private sector implementation of the OECD standard of Responsible Business Conduct in the fisheries sector, including through the development of tailor-made due diligence guidance or case studies, and enhancing awareness and use of the OECD National Contact Point mechanism, in which parties may file complaints on issues related to the implementation of the Guidelines.
- Reinforce inter-agency cooperation i.e. through exchange of information between the different national agencies needed to address illegal activities at sea: fisheries agencies, fiscal agencies, coastal guards, etc. (public sector role).
- Further efforts should be made to facilitate within OECD countries exchange with private business, and facilitate more government-to-government exchange.

D. Tourism as a driver for Green Growth

Moderator: **Alain Dupeyras**

Head of the Regional Development and Tourism Division, Centre for Entrepreneurship, SMEs, Local Development and Tourism, OECD

Daniel Skjeldam, CEO, Hurtigruten AS, Norway, in his opening remarks stressed that 'Blue tourism' can support local communities and surrounding territories through the use of local resources, supply chains, and CSR activities, and it is a profitable investment for the future of the industry.

Both **Philippe Calamel**, Project Manager, Odyssea Croissance et Tourisme Bleu, France & Europe, and **Sibylle Riedmiller**, Director, Chumbe Island Coral Park, Zanzibar, Tanzania, gave examples of successful regional tourism projects, outlining how eco-tourism can serve as a tool to educate and raise awareness on the value of ocean resources. **Jessica Battle**, Senior Global Ocean Governance and Policy Expert, WWF, stated that improvement in terms of blue economy can result in an improved and more appealing tourism sector (example of Calvia, Spain).

All panellists agreed that tourism has huge potential for the green economy. It can have very positive spillovers in the short-, medium- and long-term, if it is well managed, bearing in mind that the tourism sector is fragmented and made up of many small and micro-businesses. Better cooperation and governance throughout the sector are therefore essential, as well as the development of public-private networks.

An overall conclusion from this session was that tourism has the potential to make a major contribution to the 2030 sustainable development agenda by mainstreaming sustainable consumption and production patterns that are resource efficient and result in enhanced economic, social and environmental outcomes.

To succeed in the long term, "business as usual" is not an option. To make tourism more sustainable, all players need to adapt the current tourism business model to address environmental concerns and the new scale of the global market.

Key policy messages arising from this session were:

On governance

- There is a need to establish better institutional arrangements and governance models, and support public-private networks. Cooperation among all actors is critical to ensure effective tourism policies.

On policy approaches and instruments

- Effective incentives and regulations are needed to induce a change in tourism towards blue economy. The demand for tourism activities is still strongly price driven (for cruises especially).
- A long-term strategic approach should be prioritised over short-term gains (e.g. port authorities not regulating cruise ships) with tourism related policy areas working closely together (e.g. transport, environment).
- Mainstream blue economy drivers into tourism policy development.

On investment and financing

- There is a need to improve access to finance for sustainable tourism projects and incentivise the transition.
- Investment in new technologies is essential to reduce emissions and negative environmental impacts.
- Better demonstrate the role of sustainable tourism investment for the competitiveness of the destination.

Identified knowledge gaps and suggestions for future work

- Develop an **integrated policy approach** for the "blue tourism economy", cope with the expected rapid tourism growth in the coming years and make it more inclusive and sustainable.
- Adapt the traditional tourism business models into sustainable business models for 'Blue tourism' and scale them up.
- Promote financing for sustainable tourism projects and create incentives to encourage businesses to **invest in new emission reduction technologies**.
- Further research on **financial flows in tourism** is important as well as how to create a stronger business case for investment in sustainable tourism. Moving towards sustainable projects will make localities more attractive for residents and investors as well as for tourists.
- **Collect relevant data** to inform the development of evidence-based policies at the national level.





Closing Session

The Closing Session was moderated by **Noé Van Hulst**, Ambassador, Permanent Delegation of the Netherlands to the OECD, who concluded that this GGSD forum has met its objective: to identify knowledge gaps and recommend next steps or areas needing further work. These should feed into the discussions in relevant OECD Committees on the future Programme of Work and to ensure that horizontal and cross-cutting green growth issues are properly reflected in the organisation's work streams.

In his closing remarks, he stressed that it is crucial to be honest about all the trade-offs in greening the ocean economy. He asked the representatives from three OECD Directorates to reflect on the main outcomes of the Forum discussions.

Dominique Guellec, Head of Division, Science, Technology and Innovation Directorate, OECD, summarised the key messages of the Forum from his perspective. First, technologies are key to addressing many of the policy challenges we face. Second, international cooperation in research is necessary to render ocean exploitation sustainable. Third, policies are also necessary at the national level. Fourth, it will be crucial to improve our knowledge of the oceans by improving both the data collected and the processing of that data. Finally, inter-disciplinary work is needed to address greening of the ocean economy, and this Forum has therefore been an important milestone in that process. We always say that governments should not decide on the technologies to be developed, because the market knows better. That said, perhaps energy is a key area where new technologies should be developed and need a boost.

Carmel Cahill, Deputy Director, Trade and Agriculture Directorate, OECD, emphasised that the Forum had pointed to the need for much better monitoring of the way human activities are impacting the oceans. The OECD has a role to play in accompanying countries in their efforts to protect ecosystems and resources while maximising the socio-economic contribution of fisheries and agriculture. Good monitoring systems will be crucial to better understanding the state of those resources and the socio-economic dynamics behind them.

For **Anthony Cox**, Acting Director, Environment Directorate, OECD, the overall takeaway from the Forum was the extreme urgency of issues related to the ocean economy. It will be crucial to align those policies that will have an impact on the transition to a greener ocean economy, but this requires more emphasis on those policy areas that are outside the core ocean policies, such as competition policy, trade policy, and agricultural policy. In terms of resource efficiency, more work needs to be carried out on plastics: in their design, disposal, recycling, and transport. Carbon pricing is essential and will have benefits for oceans. "Blue carbon" could be further explored. It could also provide a link to distributional issues around climate change, particularly for developing nations.

Next year's GGSD Forum will be held on 27-29 November 2018, and focus on the theme of "Inclusive Solutions for the Green Transition". Suggestions and recommendations on how to shape that event are welcome.

"I like the new term 'blue carbon', which is a well-established system that could be further explored"


– Anthony Cox



Left to right: Noé Van Hulst, Dominique Guellec, Carmel Cahill and Anthony Cox.

The Ocean Economy


Oceans cover **three-quarters** of the globe



80% of all life on Earth is found hidden beneath their waves





The Ocean Economy is approximately **2.5%** of the world gross value and its growth is likely to outpace that of the global economy in the next 15 years



People living in coastal communities represented **37%** of the global population in 2010 (UN, 2016)

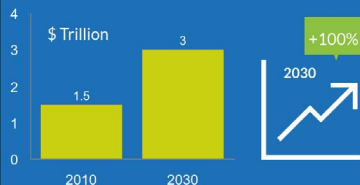
Fisheries and aquaculture assure the livelihoods of more than **10%** of the world's population (FAO, 2014)

90% of international freight is carried by sea

\$3 trillion

By 2030 the ocean economy could more than double its contribution to global value added, reaching \$3 trillion

Offshore oil and gas accounts for one-third of total value added of the ocean based industries, followed by maritime and coastal tourism, maritime equipment and ports

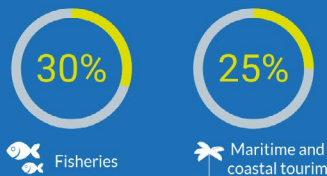
Value added of ocean-based industries in 2010, by industry





Direct full-time employment in the ocean economy amounted to **31 million jobs in 2010***

The largest employers were industrial capture fisheries and maritime & coastal tourism

In 2030, ocean industries are anticipated to employ approximately **40 million full-time equivalent jobs***

The fastest growth is expected to occur in offshore wind energy, marine aquaculture, fish processing and port activities



*Excluding artisanal employment

Source: OECD, The Ocean Economy in 2030 (2016)



Greening the Ocean Economy

21 - 22 November - OECD, Paris

List of Speakers

Scene-setting Session

Mr. Angel GURRIA, Secretary-General, OECD

Mr. Anthony COX, Acting Director, Environment Directorate, OECD

Ms. Patricia SCOTLAND, Baroness, Secretary-General of the Commonwealth of Nations

Mr. Peter THOMSON, Ambassador, United Nations Secretary-General's Special Envoy for the Ocean

Mr. Mattias LANDGREN, State Secretary for Infrastructure, Ministry of Enterprise and Innovation, Sweden

Mr. Christopher COSTELLO, Professor of Natural Resource Economics, Bren School UCSB, University of California, USA

Mr. Dirk PILAT, Deputy Director, OECD Science, Technology and Innovation Directorate

Session 2

Marine spatial planning:
a tool for improving ocean governance

Anthony COX, Acting Director, OECD Environment Directorate

Susanna FULLER, Marine Biologist and Senior Marine Coordinator, Ecology Action Centre, Canada

Christine VALENTIN, Chief Operating Officer, World Ocean Council

Jorge JIMENEZ, Director General, Fundacion Marviva (NGO), Costa Rica

Lisa Emelia SVENSSON, Director Ocean, Ecosystems, UN Environment

Nobuyuki YAGI, Professor, The University of Tokyo, Japan

Session 1

"Greening" of Ocean-Based Industries: Case of bio-based sectors using living marine resources

Carl-Christian SCHMIDT, Chair, Nordic Marine Think Tank, Former Head of the OECD Fisheries Policy Division

Wendy WATSON WRIGHT, CEO, Ocean Frontier Institute, Canada

Alberto LÓPEZ-ASENJO, General Secretary of Fisheries, Ministry of Agriculture and Fisheries, Food and Environment, Spain

Sofie ALLERT, CEO, Swedish Algae Factory (on high-tech marine products and services)

Roel NIEUWENKAMP, Chair, OECD Working Party on Responsible Business Conduct

Session 3

"Greening" of Ocean-Based Industries: Case of sectors based on non-living marine resources and infrastructure

Christina ABILDGAARD, Marine Bioresources and environmental research, Research Council of Norway; Steering Board Member of the OECD Ocean Economy & Innovation Project

Reinhard LÜKEN, Managing Director, German Shipbuilding and Ocean Industries Association; European delegate at OECD Council Working Party on Shipbuilding

Shin OTSUBO, Deputy Director-General, Maritime Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT) Japan; OECD Council Working Party on Shipbuilding

Ann DOM, Deputy Director, Seas at Risk, Belgium

Olaf MERK, Administrator, Ports and Shipping, International Transport Forum (ITF), OECD

Cédric PHILIBERT, Senior Energy Analyst, Renewable Energy Technologies, IEA

Parallel Session A

Monitor progress of the SDG 14 implementation

Charlotte de FONTAUBERT, Senior Fisheries Specialist, World Bank

Sophie SEEYAVE, Executive Director, Partnership for Observation of Global Oceans (POGO), UK

Monika STANKIEWICZ, Executive Secretary, HELCOM Baltic Marine Environment Protection Commission

Claire DELPEUCH, Agricultural Policy Analyst, OECD Trade and Agriculture

Anne-France DIDIER, Adviser on territorial policy, Environment Ministry (SDG 14,) France

Mattias LANDGREN, State Secretary for Infrastructure, Ministry of Enterprise and Innovation, Sweden

Parallel Session B

Marine litter, Micro-plastics and the Circular Economy

Peter BÖRKEY, Principal Administrator, OECD Environment Directorate

Richard THOMPSON, Professor, Plymouth University, UK; GESAMP (UN advisory body)

Javier GOYENECHE, Environmentalist Entrepreneur, CEO and founder of ECOALF, Spain

András INOTAI, Cabinet Member of Karmenu Vella, European Commissioner for Environment, Maritime Affairs and Fisheries

Nolween FORAY, Research Analyst, New Plastics Economy, Ellen MacArthur Foundation

Parallel Session C

Targeting criminal activities at sea with economic and financial perspectives

Antonia LEROY, Natural Resources Policy Analyst, Trade and Agriculture Directorate, OECD

Alistair McDONNELL, Criminal Intelligence Officer, INTERPOL Environmental Security, France

Hrannar Már ÁSGEIRSSON, Surveillance Expert, Directorate of Fisheries, Ministry of Industries and Innovation, Iceland

Kees LANKESTER, Sea Food Finance Advisor, Scomber, The Netherlands

Tyler GILLARD, Legal Adviser, OECD Directorate for Financial and Enterprise Affairs

Parallel Session D

Tourism as a driver for Green Growth

Alain DUPEYRAS, Head of the Regional Development and Tourism Division, Centre for Entrepreneurship, SMEs, Local Development and Tourism, OECD

Daniel SKJELDAM, CEO, Hurtigruten AS, Norway

Philippe CALAMEL, Project Manager, Odyssea Croissance et Tourisme Bleu, France & Europe

Sibylle RIEDMILLER, Director, Chumbe Island Coral Park, Zanzibar, Tanzania

Jessica BATTLE, Senior Global Ocean Governance and Policy Expert, WWF

Closing Session

Noé VAN HULST, Ambassador Permanent Delegation of the Netherlands to the OECD

Dominique GUELLEC, Head of Division, OECD Science, Technology and Innovation Directorate

Carmel CAHILL, Deputy Director, OECD Trade and Agriculture Directorate

Anthony COX, Acting Director, Environment Directorate, OECD



2017 GGSD Forum Supporting Documents

- Scene-setting session - [Marine Ecosystems: State, pressures, economic values and policy instruments](#)
- Session 2 - [Marine Spatial Planning: Assessing the net benefits and improving the effectiveness](#)
- Parallel Session A - [A Preliminary assessment of indicators for SDG 14 on "Oceans" / Annexes.](#)
- Parallel Session C - [An inventory of new technologies in fisheries : challenges and opportunities in using new technologies to monitor sustainable fisheries](#)

Further Reading

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