The Economist Intelligence Unit

Investing in the blue economy

Growth and opportunity in a sustainable ocean economy

A discussion paper by the Economist Intelligence Unit

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1 Introduction

The ocean remains one of the least developed regions on earth. This is about to change. The ocean and its inestimable pool of resources represents a new economic frontier for growth, development and investment. And if history has shown us anything, it is that expansion into new frontiers usually comes at the expense of the environment, and with the degradation of natural resources. This is therefore an opportune time to assess and articulate the upside potential for ocean investments that are aligned with improved natural resource management. What is the potential for those investments that are emerging from a blue economy paradigm? Can business models that embrace thoughtful management and sustainable use of ocean resources provide a path to unlocking value? And where will the financing come from?

Together with participants from industry, finance, policy, academia and civil society, the Economist Intelligence Unit (EIU) will explore these questions at an Executive Dialogue on *Investing in the Blue Economy*, sponsored by the Gordon and Betty Moore Foundation. This short discussion paper aims to throw out ideas and questions that will help shape a thought-provoking dialogue. Its purpose is not to define the blue economy, or sustainable practices per se (except to offer working definitions), nor to explore the state of the ocean and its ecosystems, which we take to be troubled and somewhat damaged. Rather it is to flip our lens, and examine opportunities for investing where the sustained or better health of the ocean is an outcome. Insights gathered from the Executive Dialogue will help shape an EIU white paper of the same name, to be launched at the World Ocean Summit in June 2015.

2 Working definitions

Many countries have made efforts to define their ocean economy, for which the scope of economic activity can vary significantly.[1] For the purposes of this discussion, the **ocean economy** is defined as those economic activities that directly or indirectly take place in the ocean, use outputs from the ocean, and put goods and services into the ocean's activities.

As countries increasingly look to the ocean as a source of growth and investment, the terms "**blue economy**" and "blue growth" are emerging as part of a new lexicon of ocean economic discourse. The "blue" is generally taken to imply a longer-term vision in which economic opportunity is balanced by responsible investment in a sustainable ocean economy. "Blue growth", the maritime dimension of the European Union's 2020 growth strategy that has at its heart resource efficiency and sustainability, envisages a blue economy as a growth engine as well as a source of new opportunity—a key driver of competitive advantage.There is clearly a need for a more concise and agreed upon definition of the term "blue economy", though this is not the focus of the discussion paper, nor the Executive Dialogue.[2] Quite often the "blue economy" can refer simply to the opportunity for further growth and activity in the ocean, conventional and sustainable.

What might be considered as sustainable practice—where businesses incorporate "consideration of impact"[3] in their activities—differs across the sectors in the ocean economy, depending on the nature of the opportunity (See *Table 1: Working definition of sectoral activities in the coastal economy and sustainable practices*).

[1] Kwang Seo Park. "A study on rebuilding the classification system of the Ocean Economy". Centre for the Blue Economy in Monterey Institute of International Studies. April 2014.

[2] The definitional issues pertaining to the ocean or blue economy and the application of sustainability to ocean-related practices will be analysed in more detail within the EIU's upcoming white paper on the "State of the blue economy." June 2015.

[3] Yvon Chouinard, Jib Ellison, Rick Ridgeway. "The Sustainable Economy" Harvard Business Review, October 2011.

Table 1: Working definition of sectoral activities in the ocean economy and sustainable practices[4]

Sector	Key economic opportunity	Sustainable practices
Aquaculture	Harvesting of living plant resources from the ocean, and associated technologies.	Non-depleting harvest and production that does not erode biodiversity, or place undue strain on the natural ecosystem.
Blue carbon sequestering	Services and infrastructure, and associated technologies.	Carbon dioxide capture and storage through conservation of mangroves, sea grasses, and salt marsh grasses.
Coastal and marine environmental protection	Services and infrastructure, and associated technologies.	Activities to protect the shoreline restore degraded land and develop resilient ocean-related infrastructure.
Extractive (including mining, oil and gas, dredging)	Harvesting of non-living mineral resources from the ocean, and associated technologies.	Mitigate damage of operations on natural ecosystems and limit depletion of resources.
Fisheries	Harvesting of living fish resources from the ocean, and associated technologies.	Non-depleting harvest of renewable fisheries resources.
Marine biotechnology	Harvesting of living resources for pharmaceutical, cosmetic, nutritional and chemical purposes, and associated technologies.	Non-depleting harvest and production that does not erode biodiversity, or place undue strain on the natural ecosystem.
Renewable energy (marine)	Energy generation from ocean-based resources (i.e. offshore wind, wave and tidal stream power), and associated technologies.	Mitigate damage of operations on natural ecosystems.
Shipping/ port services and technologies	Trade and logistics services associated with the ocean and coasts, and associated technologies.	Reduce of waste and emissions, and management of noise and sound in the oceans.
Tourism/ Eco-tourism	Recreation and leisure services premised on the health of the ocean and coasts.	Mitigate impact of human activity on natural ecosystem.
Water treatment / waste management solutions	Services, infrastructure and associated technologies. Also includes fresh water treatment (i.e. desalination of seawater).	Activities to reduce the polluting impact of waste water on the ocean.

[4] The working definitions are intended to frame the discussion around ocean economy investment during the Executive Dialogue.

3 The investment climate

Discussion questions: Attitudes of businesses and investors

- What is your general perception of risk and return for investments in the ocean economy?
- What do the emerging trends in natural resource management and ocean governance mean for companies?
- What does it take to improve the attractiveness of investment in "common pool resources"?

As the world's oceans emerge as a new frontier with the promise of economic opportunity and growth, one trend is clear: the path of development and investment will have critical implications for both the ability to unlock increased value for business, and the future health of shared ocean resources. Various approaches to natural resource management are coming into play that could potentially drive behaviour towards more sustainable development of the ocean economy.

Fisheries rights-based management (RBM), or a programme that allocates a secure area or privilege to harvest a share of a fishery's total catch to an individual or group, is a tried-and-tested means of allocating usage rights to enable management of quotas and enable long-term sustainability of stocks. Experiences in the fisheries sector indicate that RBM can lead to secure tenure, sustainable harvest and robust monitoring and enforcement—all critical to the long-term viability of fisheries.[5] Such factors are also pertinent to the investment risks associated with fishing of common pool resources,[6] and the need to satisfy concerns around secure tenure and the ability of investors to hedge risk. As an example, when a group of trawl fishermen approached a UK bank for financing, one of the assessment questions was whether the fishermen owned a specific quota in a rights-sharing arrangement that could be assessed and managed by the bank,[7] indicating the potential value of sustainable managed fishery approaches. RBM approaches then may have an application for aquaculture and marine biotechnology sectors, where sustainable management of living resource sectors can align with commercial considerations.

Marine Spatial Planning (MSP) is an emerging management tool being used by governments to plan and sustainably manage their ocean spaces. While a marine spatial plan is typically

[5] "Towards investment in sustainable fisheries: A framework for financing the transition." Environmental Defense Fund and The Prince of Wales's International Sustainability Unit. 2014.

[6] Resources sufficiently large that it is difficult to define who are the recognised users and exclude others. Further, each person's use of such resources is subtractive of benefits others might enjoy. Examples of common pool resources include fisheries, forests, pasture land, lakes, the ocean and the atmosphere. See Elinor Ostrom. "Sustainable Development of Common Pool Resources. Environment: Science and Policy for Sustainable Development", July/ August 2008.

[7] Maria Damanaki. "Towards investment in sustainable fisheries." Speech "Financing the transition to a sustainable blue economy." The Prince's Charities. London, 10 July 2014.

targeted at natural resource management, it can potentially help to improve the investment environment through streamlined rules and regulations (and their enforcement), and clear and secure property and access rights. With this, comes the opportunity for a higher degree of certainty around investments in the ocean economy. The development of an underwater telecommunications cable in Massachusetts by Comcast and NSTAR Electric Company was underpinned by various aspects of the state's marine spatial plan (the Ocean Management Plan) which included upfront data collection, stakeholder engagement and zoning specifications.

Progress made in the **valuation of natural capital**, the goods and services derived from the earth's natural ecosystem, means that the "true cost" value of blue economy investments can be better measured and quantified. Mangroves provide a number of ecosystem benefits including agricultural and pharmaceutical products, carbon capture as well as protection for coastal communities against tsunamis and storm surges. The economic value of replanting mangroves when considering the benefits offered by carbon sequestering and coastal protection, alongside the value of goods produced, may have bearing on the investment attractiveness of such projects.

4 Strategies for investing in a blue economy

Discussion questions: The blue economy opportunity

- What viable new opportunities are emerging on your radar from the ocean economy? To what extent do you consider sustainability in assessing these?
- Which ocean economy sectors offer most promise for expanding current investment and future opportunities?
- What approaches can unlock value from blue economy investments?

What new and current investment opportunities could be strengthened in the development of the blue economy, and what approaches (**early mover, shaping and scaling**) can unlock value? A number of strategies can be applied, and furthermore, suggest that there are investment propositions at different levels and scales.

In the transition to a blue economy, **early movers** have a chance to lead the way in aligning investments with sustainable natural resource extraction. In this, there is an opportunity to capitalise on existing information asymmetries. For instance, an investor who can anticipate how the growing threat of storm surges from changing climatic conditions will impact needs for coastal infrastructure could analyse weather pattern data and incorporate this into coastal land investment decisions.

A blue economy also presents a chance for companies to act as "**shapers**," where they can push the entire context for sector development towards the incorporation of sustainable conditions, while enjoying the security of moving as a group. With the blue growth, there is the opportunity to focus on the growing momentum across the ocean economy sectors to embrace better management of natural resources. One example lies in the trend towards natural-risk reduction, and the development of infrastructure that incorporates natural resources to bolster the resilience of coastal assets.

Where the general investment climate is conducive, there is also the opportunity to **scale** investments into a sector, and push the investment proposition from being a niche to a mainstream one. The flourishing of eco-tourism is one such example. A recognition of the economic value of minimising the impact of tourism activity on natural resources has helped to drive a transition towards sustainable, nature-based tourism as a matter of course. There is scope here to consider how models for sustainable natural resource management across other ocean economy sectors can too achieve scale. Growing interest in, and application of, RBM approaches to investment fisheries presents one such opportunity for discussion.

5 Unlocking value from a blue economy

Discussion questions: Lessons from other sectors

- In what ways can policy-makers and other non-state actors promote (or hinder) the development of a blue economy?
- How have businesses and investors navigated similar challenges in other sectors?
- What successful financing models have been used in other sectors? To what extent are they applicable to the blue economy?

A number of potential investment opportunities are emerging from a blue economy paradigm, at different levels and scales. Some remain in their infancy, while others are coming to fruition. Experiences from other sectors illustrate how various instruments and models could be applied to address the inherent challenges and risks associated with investments in the ocean.

In **managing common pool resources**, the evolution of the mobile telecoms industry provides some insight. Arguably, the institutionalisation of a structured process for allocating wireless frequency compelled (large-scale) investment to the industry in the first place, particularly in the emerging markets where growth has been the fastest. Usage rights for spectrum remains a divisive issue for mobile operators, who must rely on governments and regulators to determine their ability to operate. But verified auctions are viewed as the gold standard for allocating mobile spectrum, providing a simple yet transparent institutional mechanism for valuing usage rights and overcoming the "free-for-all" challenges typical of shared public resources. While the complexities associated with managing and valuing ocean resources will differ greatly, the importance of secure and legitimate allocation of property rights are not withstanding.

For established industries that harvest from the ocean, there are opportunities to hedge the material **financial risk** that is emerging from changing business conditions. Rising prices and concerns around food security are driving agriculture companies (and those in the finance sector) to invest in land as a means of managing these risks, while at the same time, diversifying their portfolios. As the ocean economy

develops, the emerging aquaculture and marine biotechnology sectors could face similar pressures to seek secure tenure and hedge risk.

There is also the opportunity to learn from the experiences of microfinance in its transition from a cottage to **mainstream sector**, improving overall sustainability in the process. A number of drivers—the development of a viable business model and distribution network, the proliferation of mobile banking, changing attitudes on the importance of financial inclusion—have contributed to this shift. Importantly, the role of policy makers in the sector's evolution has been pivotal—the EIU's yearly review of the business environment for microfinance indicates a strong correlation between the extent of institutional support (policy and legislation) and expanded access to finance across the 55 emerging markets assessed in 2014.[8]

An obvious challenge of a blue economy paradigm for established companies will be the cost of adapting business practices to the new requirements it may bring. This is already beginning to take place in the form of regulatory change in the shipping industry. To mitigate the threat posed to marine ecosystems by microorganism contamination from ballast water, an International Maritime Organisation (IMO) convention will eventually require shipping companies to install ballast water treatment systems across their fleets. The cost of compliance is substantial—Maersk, a Danish shipping company, estimates a cost to the group of up to US$600m.[9] Early movers, however, have already begun to implement these requirements in anticipation of a smoother transition, and have participated in the process of drafting legislation to help shape the outcome. On the other side of the coin, the impending IMO regulations are fuelling the growth of a multi-billion dollar ballast water treatment market with potential for scale. This represents a new revenue opportunity for shipping companies such as Maersk, which has established a joint venture to develop and commercialise a water ballast treatment system based on ultra-violet technology.

Ultimately, the flourishing of blue economy opportunities is contingent on attracting the necessary investment capital. Investors can innovate to structure appropriate financial models, but industry must also develop projects that are investable, while policy makers have influence on the enabling environment.

[8] Global Microscope 2014: The enabling environment for financial inclusion. EIU, 2014.

[9] "Maersk joint venture helps to protect marine ecosystems." Maersk website. 30th May 2014.

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