

The Blue Fix:

Unmasking the politics behind the promise of blue growth

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Published by Transnational Institute - www.TNI.org

Amsterdam, October 2018

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ACKNOWLEDGEMENTS

The authors are most grateful to Jennifer Silver and Irmak Ertör for their meaningful comments on earlier versions, and to our colleagues in the Agrarian and Environmental Justice team at TNI for their helpful feedback throughout research and writing. Any remaining errors are our own.

Introduction

The many ways that people use, exploit, care for and engage with ocean space have changed significantly over the course of the past century. The ocean was once primarily viewed—and governed—as a surface across which goods could be shipped. Today, in part due to technological advances and newly available methods for extracting wealth from the sea, the ocean is increasingly being reframed—and re-regulated—as a space for the ‘blue economy’. And importantly, the proponents of this blue-tinged growth promise a triple win on the ecological, social and economic fronts.

In this brief, we will explore the politics behind the promise of ‘blue growth’. We have discovered that the discourse around blue growth, blue economy, blue revolution and the like is a masterfully mixed and powerful cocktail. First of all, this discourse quenches the social thirst for action in the face of climate change by attracting private investment for protected marine areas and sustainable tourism. Secondly, it satisfies the growing global demand for healthy food and nutrition through the expansion of capital-intensive large-scale aquaculture, while brushing off the negative socio-ecological impacts of this technology. And finally, it refreshes the palate with a burst of wind energy and a splash of new deep sea minerals without disturbing the familiar and persistent flavour of oil and gas.

The ingredients that make up this mix are the subject of this brief, and our intention is to explore the function of each component of the cocktail. By doing so, we hope to provide a critical analysis of the interests and agendas behind blue growth, as well as the implications of this trend. We are not able to fully explore the many dimensions and sectors of the vast ocean environment in this short brief.¹ Instead, we focus on what we see as the three central components, each of which had its own history and trajectory well before blue growth became a buzzword. What however makes this such a potent cocktail is the synergy of the three elements, brought together in one elegant framework for reframing ocean politics that can be supported by many stakeholders. This ‘blue fix’ is made up of three main ingredients:²

- 1 part conservation fix
- 1 part protein fix
- 1 part energy/extractive fix

The term ‘fix’ is useful because its multiple meanings convey an addiction to a particular mode of extraction and production. It also describes how the formation of fixed capital in the shape of new infrastructure and investments in specific places (e.g. ports, luxury hotels, oil rigs and cargo ships) ‘fixes’ or sinks over-accumulated money capital into physical objects. Fixed capital also creates new opportunities for the circulation of other forms of capital (money, commodities) in new places and in new ways (e.g. investment in new regions or countries, and in new sectors such as deep sea mining). In times of crisis, this creates a temporary ‘fix’, or solution, to whatever may be hindering capital accumulation (the generation of surplus based on investments). We also use the term ‘fix’ to show how blue growth is simultaneously about staking out new opportunities for capital accumulation while at the same time accommodating existing formations of fixed capital (that is, actual investments into for example ports).

While it is important to track the discourse of blue growth, as some are beginning to do,³ the energy required to keep up with the next blue play on words also helps obscure the fact that if taken seriously, the blue economy has very real implications for how access to and control over ocean space is distributed, and for who is included in or excluded from these processes and politics. In the euphoria of self-congratulatory celebrations following blue fora – where policymakers clink glasses with investors, conservation NGOs and wind energy titans before gulping down highballs of this ‘blue fix’ – there is a tendency to ignore the social and ecological hangover that this cocktail will most certainly cause.

In theory, protecting marine areas is an important part of mitigating climate change. But in practice, what conservation is achieving at the national level is overshadowed by the ongoing expansion of offshore drilling for oil and gas. Although the transition to wind and solar energy is emphasised, the deep sea mining for minerals required by these new technologies launches us into unknown ecological territories with little-understood consequences. Finally, small-scale capture fishing is effectively being squeezed out, while industrial capture fishing remains well positioned to expand into as well as supply industrial aquaculture with fish feed from small pelagic fish. The social and ecological consequences of these shifts are rarely addressed in blue growth policies.

Enclosing ocean space

For thousands of years, small-scale fishers around the world have enjoyed preferential access to fishery resources, and traditional and customary rules have been shaped and entrenched in fishing communities. In Oceania, for example, the sea was governed as an integral space in society, just like the land.⁴ Over time, however, the evolving ways in which the ocean has been used to generate profit have been key drivers of changes in marine regulatory regimes. The result is that small-scale fishers are increasingly being pushed out of the spaces they have historically lived in and lived from. This trend has recently led global fisher movements to frame their struggles around the concept of 'ocean grabbing'.⁵ The emphasis on the dynamic of 'grabbing' is recent; it specifically arose from the so-called 'convergence of crises' (climate, environment, energy, food and finance).⁶ However the enclosure of ocean space and the institutionalisation of property regimes allowing for the appropriation of ocean resources by new users has a long history.

A major shift in how the sea was governed developed from the 17th century onwards as the transport of commodities by ocean became increasingly important for commercial capitalism.⁷ Transport became the dominant use of the sea, and was the foundation for the economic development of European colonial powers at the time. The main political and economic interest in the oceans was to control and ensure free passage along trade routes. This political-economic imperative shaped the governance of the seas during this period.⁸

By the 1900s, the regime that was primarily oriented towards the transportation of goods gave way to one that facilitated the extraction of ocean resources. The regulation of ocean space shifted towards a territorial model, whereby governments increasingly sought to incorporate coastal zones into recognised sovereign territory in order to provide security for investments in coastal fishing and mineral extraction. In the 1930s, pioneered by the Gulf of Mexico in 1937, offshore oil drilling became possible beyond the three nautical miles that was at the time accepted by most countries as the territorial zone.⁹

The development of offshore oil drilling capabilities in this manner marked the beginning of a regulatory model

based on state enclosure and the control of ocean space, and allowed for concessions to be doled out to extractive industries. Initially triggered by the increasing interest in oil following World War II, states began to claim national rights to resources further and further away from the coast. In 1945, the US claimed limited national rights to the resources on the entire continental shelf adjacent to its coastline,¹⁰ and El Salvador became the first nation to claim sovereignty over the area extending 200 nautical miles from its coastline in 1950.

In an attempt to better coordinate this scramble for territorial control over the sea, the United Nations hosted the first two Conferences on the Law of the Sea in 1958 and 1960. However, it was the third UN Conference on the Law of the Sea in 1973 that set in motion the development of the United Nations Convention on the Law of the Sea (UNCLOS). This convention, ratified by 167 countries and the European Union,¹¹ recognises the rights of coastal states to "exploit, develop, manage and conserve all resources – fish or oil, gas or gravel, nodules or sulphur – to be found in the waters, on the ocean floor and in the subsoil of an area extending 200 miles from its shore".¹²

The ratification of UNCLOS stands out as the largest enclosure of territorial space in history.¹³ At the time of the third conference in 1973, 25 states maintained claims to a three nautical mile zone; 15 states to zones between 4 and 10 miles; 66 states to a 12-mile zone; and one country to a 200-mile zone.¹⁴ While these enclosures of territorial space were significant, they were dwarfed in comparison to the 659,662 square kilometres (equivalent to 66% of total land territory) of the Exclusive Economic Zones (EEZs) enclosed through UNCLOS¹⁵. UNCLOS thus instituted a 'spatial fix' to reconcile the contrasting interests between different uses of ocean space: on the one hand facilitating the free flow of commodities and providing access to distant markets, and on the other hand defining areas of property rights to allow for fixed investments.¹⁶ UNCLOS ensured "a territorially governed coastal zone for fixed investment and resource extraction and a non-territorially governed deep sea dedicated to facilitating capital circulation."¹⁷ However, new technologies and the ever-expanding quest for resources under capitalism meant that the 'fix' reached through the UNCLOS regime was only a fleeting one.¹⁸

The promise of blue growth

As interest in ocean resources has grown, so have concerns about how to organise the use of increasingly crowded ocean space as well as around the impact of climate change on falling fish stocks and the marine environment. In the context of efforts to advance a sustainable development agenda building on the idea of 'green growth', the Rio+20 conference in 2012 (the follow up to the 1992 Rio de Janeiro Earth Summit), succeeded in placing oceans firmly on the international agenda. The Rio Ocean Declaration, issued on Oceans Day at Rio+20 by the conference co-chairs, notes "with great concern the many threats and negative drivers that are compromising the ability of the oceans to continue providing essential resources, food and nutritional security, and critically important services to the global community". It further lists a series of well-known threats, including climate change, ocean acidification, pollution, overfishing, IUU fishing, destructive fishing practices, and habitat destruction and degradation.¹⁹

An analysis of official sessions and side events at Rio+20 shows that the term "blue economy was consistently used to draw attention to oceans"²⁰ by a variety of actors, including representatives of intergovernmental organisations like FAO and UNDP, representatives of Small Island Developing States (SIDS), and conservation organisations. Silver and colleagues note that "when arguing for particular oceans problems, solutions, and participants, many speakers [at official sessions and side-events] worked to bring more specific meaning to the term [blue economy], often in ways that were inconsistent or incompatible".²¹ Some participants used the term to describe natural capital, or the economic value of natural resources; others went further and used it to 'sell' the notion of "oceans as good business"; and some SIDS used it strategically to attract attention and funds and to identify new partners.

More recent attempts to describe or define blue growth show that consensus on its meaning is still elusive, and that there are "some conflicts in interpretation that are likely to be irreconcilable. As such, any attempt to define the Blue Economy may result in [a] particular lens being privileged."²² However for Jacqueline Alder, who leads the Blue Growth Initiative at FAO, this vagueness has strategic value. She explains: "[w]e've designed our blue growth

program to be fairly broad, so countries can decide which way they want to go".²³

Ignited at Rio+20 in 2012, blue growth subsequently spread to the international scene. Governmental and intergovernmental institutions, together with environmental NGOs, academia, corporations and finance institutions, have since that time been driving a series of international conferences and producing countless reports and articles, inter-governmental policy frameworks and national level blue growth strategies. Indeed, this margin for interpretation has fuelled a proliferation of national and regional level programmes and policies that draw on blue economy and blue growth language (i.e. Norway, the European Union, India, South Africa, and Indonesia). Some governments have gone so far as to establish departments or ministries for blue growth or economy.²⁴

In 2013, the UN Food and Agricultural Organisation (FAO) launched its Blue Growth Initiative (BGI). This was followed by the Global Oceans Action Summit in 2014, co-hosted by the FAO and the World Bank, which brought together some 600 representatives from governments, intergovernmental institutions, environmental NGOs, philanthropic organisations and the corporate sector to discuss blue growth.²⁵ Other events that are working to advance the blue growth discourse include the annual Our Oceans conference (originally initiated by the US State Department), the next of which will be held in Bali in October 2018; the conferences of the UN Framework Convention on Climate Change (UNFCCC); and The Economist's World Oceans Summits. The latter brings together political leaders and policymakers, heads of global business, scientists, NGOs and multilaterals and focuses specifically on investment and business opportunities in the areas of fisheries, aquaculture, conservation and tourism.²⁶

In short, the blue economy discourse has opened a space for a broad and seemingly precarious coalition of diverse actors and agendas. All the buzz around blue growth, blue economy, blue revolution, blue investors fora, blue carbon, blue mining and even blue fashion can be dizzying. Much of this is and will remain hype and projection, but to what extent does the flood of new language provide a

useful set of smoke and mirrors to distract from the very real territorial, ecological and social implications of this arrangement among new, old and at times competing ocean industries, as well as actors pushing large-scale conservation?

To explore the material consequences of the implementation of the blue growth agenda and to analyse why such diverse interests might be drawn into a common arrangement, the following sections offer an initial exploration of the three key ingredients that make up the blue fix cocktail: (i) the conservation fix; (ii) the

protein fix; and (iii) the energy/extractive fix. Although we have separated these three elements here for analytical purposes, in practice the flavours and processes blend and overlap in contextually specific ways. We have included boxes on diverse cases throughout to highlight some of these specificities. Not all oceans sectors receive the attention they deserve. Shipping and related port activities, for example, certainly deserve closer attention. Not only do they account for a significant proportion of existing ocean economies, but are also projected to be among the fastest growing ocean sectors and thus remain a backbone of global trade.

The conservation fix

Agenda 21, a result of the 1992 Earth Summit, was broadly aimed at achieving 'sustainable development'.²⁷ The ocean component of this agenda involves addressing marine protection, the sustainable use and management of living resources within the EEZs and in the high seas, and climate change.²⁸ These laudable aims notwithstanding, steady carbon emissions continue driving ocean acidification, which causes coral bleaching and declining shellfish populations. Overfishing and pollution have led to a collapse in fish stocks. Islands of plastic have formed in the sea, mixing with agrochemical runoff from conventional agriculture. And even when offshore drilling doesn't result in oil spills, toxic by-products are leaked into the surrounding water.²⁹ Despite the gravity of the situation and the range of global initiatives to address it, the sustainable development agenda has largely failed from an ecological perspective.

Although the sustainable development agenda has also failed to mobilise funders, international commitments to conservation and sustainable development continue to proliferate: for example the Aichi targets of the Convention on Biological Diversity (CBD) and the UN Sustainable Development Goals (SDGs). Climate change is a growing concern in societies across the globe, but in practice the actual budgetary commitments of national governments and donors lag behind estimates of the funding that is needed to meet such global targets. To deal with this funding gap, NGOs like WWF argue that private capital is essential: "The private sector will make or break the SDGs."³⁰

The problem: the goals of investors seeking profit-making opportunities and the environmental protection demanded by the public seem to be at odds. The conservation fix: turn ocean conservation into an attractive investment opportunity while boosting public relations.

The framing of ocean conservation efforts in the blue growth agenda fits into the format pioneered by mainstream conservation over the last two decades. What some have called 'for-profit conservation' is based on the idea of "economically efficient means of mitigating climate change and conserving biological diversity without curtailing economic growth".³¹ At its core, this follows the reasoning of market-based environmentalism: environmental degradation and climate change are seen as market failure, as nature remains insufficiently integrated into the market system.³² From this perspective, the solution is to make nature visible and legible to capital.³³ Under this presumption, once the economic value of 'nature' and its 'ecosystem services' is documented, heads of states, CEOs of transnational corporations, investors and everyone else will factor the costs into their decisions and stop destroying nature .

Furthermore, "selling nature to save it"³⁴ allows conservation to pay for itself.³⁵ This approach relies on identifying money-making opportunities in conservation projects that can be turned into assets. It is hoped that this tactic will provide an attractive return on investment (ROI). This method of environmental protection effectively



shifts the priority away from addressing the most urgent ecological crises, which might be antagonistic to the interests of prevailing industries. Instead, conservation is framed as complementary to and something to be developed in close partnership with business interests. In the words of WWF: “Achieving the SDGs represents a business opportunity. Poverty, inequality, water scarcity, climate change and the degradation of natural resources and services are all ultimately bad for business. Conversely, investing in meeting the SDGs can unlock new markets and opportunities and secure a company’s long-term prosperity.”³⁶

The blue growth agenda has been seamlessly woven into the SDGs, with a specific focus on SDG 14: “Conserve and sustainably use the ocean, seas and marine resources for sustainable development.” This goal, coupled with the Aichi target to protect more than 10% of territorial waters by 2020, has encouraged state governments to further develop this vision of marrying investment opportunities for companies and investors with ocean conservation. Marine Protected Areas (MPAs), especially large ones that exceed 100,000 square kilometres, have emerged as one key solution to this challenge and have been gaining traction since 2006.³⁷ The Commission of the

European Union (EC) has also been spotlighting a focus on climate change via MPAs in its work on blue growth. According to a recap article in an EC publication from the Our Ocean conference held in 2017 in Malta: “[Climate] is an action area the EU is taking very seriously, so Our Ocean was a fitting place to announce new funding of €20 million to support MPAs in African, Caribbean and Pacific countries through the Biodiversity and Protected Areas Management Programme. Together with Germany, there will be more support for a new cross-sectoral and cross-boundary multi-stakeholder platform to be in place by 2020.”³⁸

Large environmental NGOs and philanthropic organisations have also gotten on board: National Geographic’s Pristine Seas project, Pew Charitable Trusts’ Pew Bertarelli Ocean Legacy Project, and Conservation International’s Seascapes Program have been central to establishing 22 large MPAs (LMPAs) globally, in collaboration with nation states.³⁹ And private banks like Credit Suisse have joined forces with WWF to make the case for conservation as an attractive investment opportunity. They see money making opportunities coming from “[i]nvestments in the infrastructure and sustainable management of ecosystem services, e.g.,

BOX 1

Operation Phakisa, South Africa: MPAs, oil and gas . . . but not small scale fishers

Operation Phakisa means ‘hurry up’ in Sesotho. It was launched by South African President Jacob Zuma in July 2014, in his own words to “help us implement the National Development Plan, with the ultimate goal of boosting economic growth and creat[ing] jobs”.⁵⁰ In an announcement about the new Africa Blue Economy Forum, the former Executive Secretary of the UN Economic Commission for Africa also highlighted Operation Phakisa and echoed the expectations raised by the South African government with reference to the creation of “one million new jobs by 2030 and add ZAR 177 billion [GBP 10.2 billion] to the country’s GDP”.⁵¹ However, Thean Potgieter, professor at Wits School of Governance, seems less optimistic, stating that “even achieving half of this target would be great”.⁵²

Exaggerated or not, these large numbers stem from prospects of development in the four main sectors of Operation Phakisa: offshore oil and gas; marine transportation (including port development); industrial aquaculture (mainly high-value export species); and marine protection services (secured through MPAs) and tourism. When the scope and development plans of the operation became clearer to the general public and fishing communities, actors not previously included in the policy dialogue began to react. In 2017, the fisher movement Coastal Links co-hosted a meeting with civil society organisations where two reasons for concerns were raised: firstly, the development plans of the coastal municipalities had not addressed the rights and needs of fishing communities in relation to Operation Phakisa; and secondly, the draft bill on Marine Spatial Planning tabled in Parliament failed to provide a mechanism that would enable civil society to participate fully and effectively in decision making about the implementation of the plan. Furthermore, the draft set of regulations for 22 new MPAs announced by the government in 2016 sits alongside its vision of drilling 30 new offshore oil wells in the next 10 years⁵³ as part of Operation Phakisa.

investing in lodges and trails to foster ecotourism or in solar arrays for power generation, or the monetization of ecosystem services (e.g., watershed protection) and goods derived from sustainable forestry, agriculture or aquaculture operations.”⁴⁰

According to the OECD, tourism represented 26% of the value added to the ocean economy in 2010, surpassed only by offshore oil and gas. Although a thorough review of the many implications of tourism in the blue economy framework is beyond the scope of this report, we highlight here the way it has been leveraged to make the case for private investment in ocean conservation. World Bank bloggers make their pitch as follows:

That nature is the foundation for much of the world’s tourism is clear—travellers are willing to pay a premium for a room with an ocean view, and words like “pristine,” “remote,” and “unspoiled”

are frequently assigned to amenities like beaches, coral reefs, and panoramic seascapes. The dependency of the travel and tourism industry on a healthy environment goes much deeper than that, however. Not only does a reef provide entertainment value for seaside visitors, but it can deflect waves that cause erosion and reduce the risk of storm surges that can harm the industry’s bottom line.⁴¹

In order to bolster these arguments, the Nature Conservancy has partnered with the World Bank in an initiative called Mapping Ocean Wealth. They claim that “[t]his knowledge can enable smarter investments in management and conservation actions that support both nature and the tourism businesses that support coastal economies.”⁴² Quantifying possible returns is seen as essential to recruiting investors. In the excitement about

identifying the ocean's natural wealth, crucial questions about whether for profit conservation will actually address the dire ecological and social issues in ocean and coastal areas are cast aside.

Once investors are convinced of the possible returns, the mechanisms put in place to channel funds are diverse and warrant much deeper scrutiny. Examples include blue bonds,⁴³ WWF's Financial Instruments for the Recovery of Marine Ecosystems (FIRME),⁴⁴ and new institutional LMPA setups.⁴⁵

Importantly, these rapidly evolving and complex mechanisms for channeling private investment into ocean conservation do nothing to limit environmentally harmful activities in those countries. Banks like JP Morgan and Credit Suisse appear to be driven more by the high returns they see in green bonds and conservation finance than by investments in a good cause. "[I]n general, they invest more heavily in polluting industries, such as fracking and the extraction of oil sands."⁴⁶ Meanwhile the Seychelles has established no fishing zones, but has continued to allow petroleum exploration in its MPA and the construction of an Indian naval base within a World Heritage site.⁴⁷

Given its spotty track record, it may seem easy to disregard 'blue finance' as overhyped. Yet in the context of ocean space, the regulatory reforms being initiated to facilitate for-profit conservation are very significant in that they follow up on historical enclosure processes and give NGOs significant roles in the governance of MPAs. While some view the lack of private property in much of ocean space as a limitation to profit generation, "large-scale ocean governance initiatives built around MSP [Marine Spatial Planning] and/or LMPAs may be seen as complementary to addressing the property question, in the sense that they seek to order and ration ocean space and resources, identify 'appropriate' uses/users, and grant them greater regulatory certainty and/or secure access".⁴⁸ Even if the ROI in ocean conservation areas doesn't end up amounting to much, expanding legal control over those areas to new constellations of actors – including environmental NGOs, philanthropic foundations and 'impact investors' – may end up being much more attractive in the long run. This is an issue that merits close scrutiny in the years to come, as vast areas are being turned into LMPAs.⁴⁹

BOX 2

Kiribati: deep sea mining and Marine Protected Areas in the name of sustainability

Kiribati's former President Anote Tong is internationally renowned for putting the consequences of sea level rise for Pacific Island states firmly on the international agenda. However, his political solutions to this dire issue draw on a blue economy framework, and have recently been referred to as 'seabed grabbing'.⁵⁴ As Tong remarked to the UN General Assembly in 2014, "the ocean plays a pivotal role in the sustainable development of my country. Our vision for achieving sustainable development hinges on the blue economy, on the conservation and sustainable management of our marine and ocean resources."

This vision of the blue economy has also involved concessions for deep sea mining in large swathes of Kiribati's EEZ.⁵⁵ Other sectors, such as small-scale fishing, do not feature as part of the country's blue economy agenda.⁵⁶ Even though the environmental impacts are still poorly understood, sourcing the key elements for wind turbines and photovoltaic batteries via deep sea mining is framed as part of the new clean energy-based blue economy. In the words of a former Kiribati minister: "[Deep sea mining], what an ironic story! First they tell us we have a problem because the Western countries burn too many non-renewable fossil fuels and now the same countries want to take our non-renewable minerals to solve the problem?"⁵⁷ Both of these projects were pushed through with no public consultation. As noted by a public official, "[i]f all this activity had gone to the public, people, the media, would come and question the integrity of our government. Conservation here and mining next door, I mean honestly, how credible does that make your political intentions?"⁵⁸

The protein fix

FAO and OECD projections indicate that global catches in wild capture fisheries have stagnated – at 90.9 million tonnes in 2016⁵⁹ – and are unlikely to grow in the decades to come. In comparison, aquaculture production (food fish) was estimated at 80 million tonnes the same year, and is projected to increase by 2.1% per year in FAO's 2030 scenario.

At the same time, a “common feature of the Blue Growth discourse [is] its ambivalent treatment of capture fisheries”.⁶⁰ For example, the EU's five areas cited for blue growth are aquaculture, coastal tourism, marine biotechnology, ocean energy, and seabed mining.⁶¹ Similarly, as demonstrated by the national level examples (see Boxes 1-4), capture fisheries are generally not a central consideration in the new ocean space arrangements fuelled by the blue economy agenda. FAO's

Blue Growth Initiative, however, is one of the few global schemes that has sought to include capture fisheries along with aquaculture.

Furthermore, the very serious ecological impacts of overfishing, habitat destruction and ocean pollution that limit available catch add to the marginal role that capture fisheries play in most blue growth initiatives. “These trends have resulted in policy narratives which position capture fisheries as ‘doomed’, or subject to ‘inevitable decline’.”⁶²

Here a problem emerges: an increasing global demand for fish protein⁶³ and declining wild fish stocks. The protein fix for this problem appears to be the framing of large-scale aquaculture as the future of fisheries.



In the past 30 years, aquaculture production has exploded, outpacing the growth of capture fisheries at an average rate of 8.6% per year. Aquaculture is now responsible for almost half of the fish we eat.⁶⁴ It is true that this growing sector has provided a steady protein fix over the past three decades, but it relies on vast energy inputs and increasing volumes of capture fish, soy, rapeseed, sunflower and wheat for feed. Furthermore, it creates a series of social and ecological issues along the way. An inherent problem within this fix is its dependency on increasing volumes of wild capture fish in order to produce increasing volumes of aquaculture species. This is particularly the case for the production of carp species, marine shrimp, salmon, tilapia and other finfish.⁶⁵ In 2016, close to 15 million tonnes of wild capture fish, or 13% of global wild fish catches, was used for fish meal production,⁶⁶ and growing

aquaculture production (species relying on fish meal and fish oil for feed) will inevitably lead to more pressure on and competition for wild capture fish.

This also raises a fundamental question of who has the right to fish stocks: local fishing communities that rely on fish for livelihoods, healthy food and nutrition, or transnational corporations that hunt for pelagic fish stocks in foreign waters to feed the growing large-scale aquaculture industry? As described in *The Global Ocean Grab*, “aquaculture is another dynamic whereby control over aquatic resources is captured by the corporate seafood regime, at the expense of the people depending on these resources”.⁶⁷ As the blue growth paradigm gains support, small-scale fishing communities become increasingly marginalised.

BOX 3

Turkey's transition into aquaculture

Insights from Turkey's rapidly expanding aquaculture industry reveal that large-scale fishing enterprises are the ones surviving the transition, while pressure on fish stocks continues. As Ertör and Ortega-Cerdá explain: “This trend transforms the practices of seafood production from capture to farming while opening new frontiers for capital, with new types of investments.”⁶⁸ Turkish regulatory changes encouraged concentration within the sector by rejecting applications for marine aquaculture investments of less than 250 tons. This, coupled with the large amount of capital needed to enter a quickly intensifying sector, resulted in the direct or indirect elimination of small-scale fish farms by “growing companies and growing farms”.⁶⁹ Aquaculture in Turkey shifted from production volumes of 1,500 fish per farm in 4 cubic metre wooden cages in the 1990s to one million fish per farm housed in circular cages of 50 metres in diameter.⁷⁰ In short, the rapid growth in aquaculture has squeezed small-scale production out of the market.

The relationship between capture fisheries and aquaculture is often framed as if aquaculture will relieve the oceans of the ecological stress caused by overfishing. In fact, the dependence on anchovy for fish meal in Turkish aquaculture has put additional stress on anchovy stocks in the Black Sea. In the words of one industrial fisherman and fish meal producer in Turkey, “this creates its own capture fishing economy and increases the pressure on wild fish stocks instead of decreasing it. So, it leads to a paradox between capture fisheries and intensive marine aquaculture production.”⁷¹ The global surge in aquaculture celebrated in blue growth policies raises many questions about social and ecological impacts that warrant further research. But what is clear is that “instead of providing a solution to declining fish stocks, the intensive marine aquaculture of carnivorous species only solves the crisis of capital in the short term, and its expansion ends up putting more pressure on capture fisheries”.⁷²

The energy/extractive fix

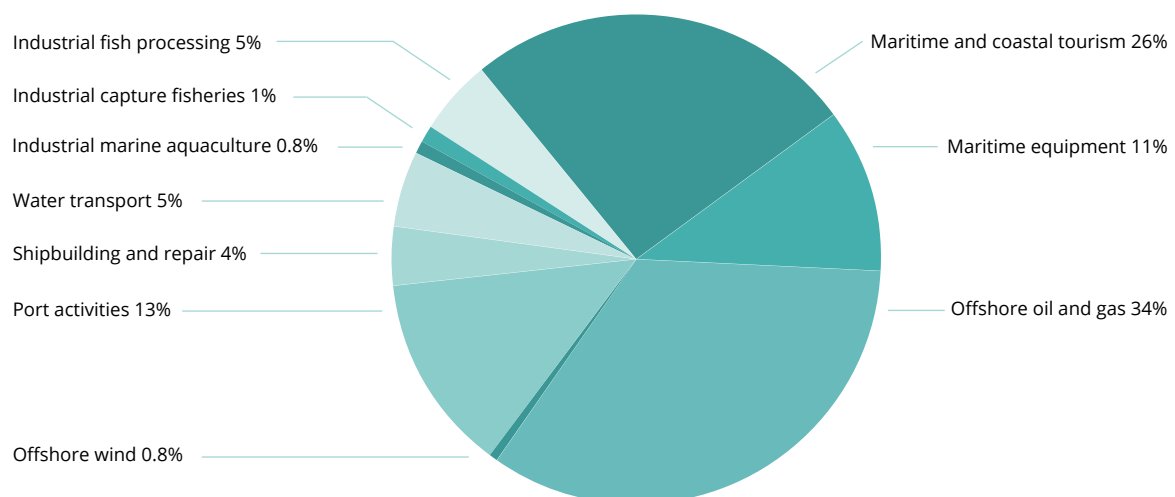
Framed as a response to climate change concerns, the blue economy discourse at the global level has a strong focus on emerging industries: alternative wind and tidal energy as well as the deep sea extraction of rare minerals.⁷³ Concurrently, the oil and gas industry is a sprawling and expanding system, and represents one of the largest forces in the ocean (and global) economy. As the OECD figure below illustrates, offshore oil and gas accounted for almost 34% of the total value of ocean-based industries in 2010, equivalent to USD 510 billion. In comparison, industrial capture fisheries, according to the OECD, accounted for USD 15 billion.⁷⁴

Although figures vary from one report or agency to another, the bottom line is that industrial fishing accounts for an almost insignificant proportion of the global ocean economy when compared to oil and gas, and this difference is projected to increase. Meanwhile, the value of small-scale fisheries is not accounted for, nor are fishers considered important social actors despite the fact that their livelihoods and human rights depend on their access to marine resources.

The ecological impact of oil and gas extraction on oceans (especially since the Deepwater Horizon oil spill in 2010), and the broader effect of fossil fuels and carbon emissions on the climate are now undeniable. According to the OECD, “[t]he sea is fluid and interconnected. Implication: What happens in one place may affect what happens elsewhere, as pollutants and alien species are carried by ocean currents and/or vessels to much greater distances than on land.”⁷⁵

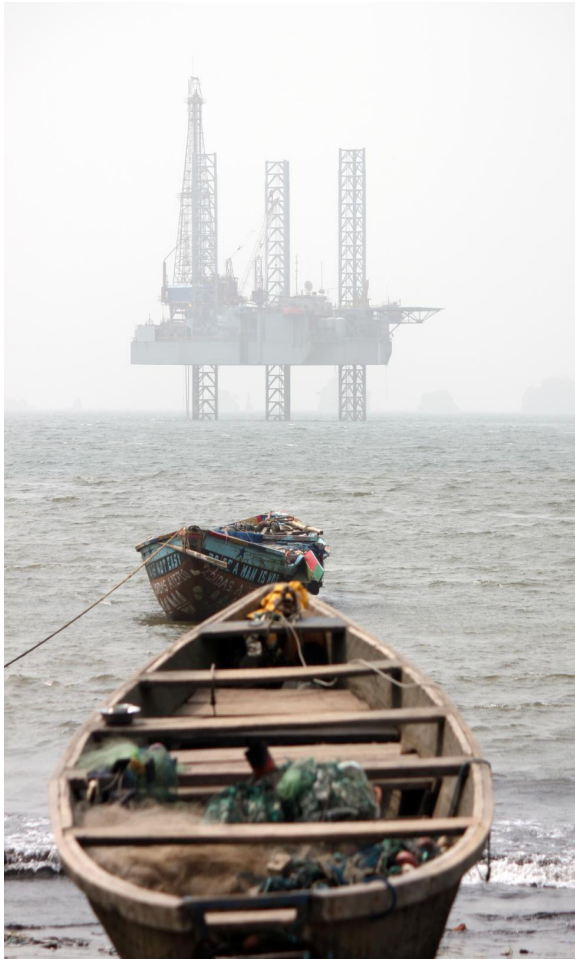
According to Watts, the vast network of wells, pipelines, oil tanker and so forth that make up the global ‘petro-infrastructure’ is responsible for almost 40% of global CO₂ emissions.⁷⁶ In its New Policy Scenario,⁷⁷ the International Energy Agency (IEA) estimates that “natural gas demand [will] rise by almost 50% [from 2016] to 2040 and oil consumption [will] continue to grow.” The largest area of growth in both oil and gas production is projected to come from deepwater exploration, with off-shore gas production in particular skyrocketing by 69% (2.2% per year) from 2016 to 2040.⁷⁸ In other words, “This imperative drives the oil frontier to the ends of the earth, or more properly a mad gallop to the bottom of the ocean. Deepwater exploration is the new mantra.”⁷⁹

Value added of ocean-based industries in 2010 by industry



Note: Artisanal fisheries are not included in this overview.
Source: Numbers based on figure 1.2 and data in OECD (2016)

StatLink: <http://dx.doi.org/10.1787/888933334614>



The problem: how to advance the supposed sustainability agenda of blue growth without going head to head with the oil and gas sector?

This central tension highlights the importance of understanding the relationship between the oil and gas industry and blue growth policy spaces (across different scales). This complex empirical and contextually specific issue merits much deeper investigation than is feasible in this short brief. However, an initial exploration into these questions (see Boxes 4 and 5) reveals that national level blue growth policies do not dare to limit offshore oil and gas development. Rather, they attempt to take advantage of existing oil and gas infrastructure and expertise under the auspices of transferring capacity to other sectors. In other words, the energy fix: blue growth policies allocate ocean space to expanding offshore drilling, and provide opportunities for new uses of existing ocean infrastructure. The minimal public focus on or engagement with the oil and gas industry downplays the centrality of this sector to ocean governance, thus shielding it from unwanted scrutiny. Important questions remain about the role of 'blue finance' in the expansion of extractive industries at sea (oil, gas and deep sea rare minerals).

BOX 4

The Netherlands: wind energy, the public face of ongoing offshore drilling

The government of the Netherlands, a public supporter of FAO's Blue Growth Initiative, has developed its own Policy Document on the North Sea, 2016-2021 that "ties in with the 'Blue Growth' strategy, focused on sustainable growth in the marine, maritime and coastal economies, as formulated by the European Commission".⁸⁰ Using the exercise of maritime spatial planning, this policy document seeks to clarify how permits for the use of ocean space will be granted. To explain these priorities, current and future scenarios for each of the activity areas in the blue economy are described. Lots of emphasis is put on the Dutch "energy transition at sea"⁸¹ and the emerging wind energy sector as evidence of the value put on sustainability.

Existing oil and gas infrastructure is identified as a possible site for investment, both for maintenance as well as renovation in order to accommodate wind energy. Both energy industries could be supported through the sharing of helipads and other infrastructure. This case highlights some questions about the degree to which oil and gas companies (within the Netherlands and elsewhere) see entering into alternative energy development in the ocean as a hedge against price slumps, or as a way to continue controlling and investing in ocean infrastructure that also serves offshore drilling.

Tellingly, the fine print demonstrates very clearly that this move into alternative energy will in no way limit or interrupt the expansion of oil and gas extraction. The document goes on to recognise that competing interests may emerge, and provides guidance for public servants who must assess who should be granted permits. It states that “the Cabinet is giving priority to activities of national interest: shipping, oil and gas extraction, CO2 storage, generation of sustainable (wind) energy, sand extraction and replenishment, and defense”.⁸² In the spatial plan, all other sectors are allocated defined areas, while fishing is assigned to the undefined area not “closed for energy and nature.”⁸³ In fact, the report very clearly states: “Due to the roll-out of wind energy, energy production at sea will take up more space. In some cases, commercial and recreational sailing vessels will need to alter their course, and the fishable area will shrink”⁸⁴ (emphasis added).

The spatial plan offers an almost surgical tool for slicing up, doling out or even grabbing access to ocean resources from previous users. Under the banner of an “energy transition at sea” towards wind energy, the proposal is in fact not at all a territorial transition from one energy regime to another. Along with wind energy, the space allocated to oil and gas is projected to expand, and hence the space for fishing (both small-scale and industrial) will shrink. When push comes to shove, the Dutch government makes it clear that priority will be given to oil and gas.



BOX 5

Norway: exporting the carbon footprint and market oil industry expertise to other countries

Although only about 2% of global crude oil comes from Norway's continental shelf, the country is the third largest producer of natural gas in the world, supplying some 25% of the EU's total consumption.⁸⁵ The Norwegian government has provided funding for FAO's Blue Growth Initiative via its development agency, NORAD, and has incorporated blue growth discourse into its national ocean policy documents. However, this longstanding northern petroleum power is clutching on to the role of oil in its future ocean strategy. As the government's 2017 Ocean Strategy explains: "Petroleum technology is at the centre of the development of ocean-based aquaculture and ocean-based renewable energy."⁸⁶ Rather than move away from petroleum, Norway is essentially doubling down on its oil and gas commitments while positioning itself as the global maritime knowledge hub set to provide "technology and competence from the petroleum industry to other areas".⁸⁷

This global positioning is in line with the country's general approach of pushing fossil fuels abroad – almost all Norwegian oil and gas is exported, representing more than a third of the value of total exports – while cleaning up its energy use at home.⁸⁸ National company Statoil has been actively leading the charge to drill in the Arctic as ice melts, and started work on five new exploration wells in the Barents Sea in 2017. That same year, the Norwegian Petroleum Directorate confirmed that oil production had increased for three years in a row and that the Norwegian continental shelf was churning out gas at record levels. These rates are only expected to continue over the next few years.⁸⁹ And as the Norwegian Ocean Strategy outlines, "the oil and gas sector will remain the most important core market for most supply businesses".⁹⁰ The cases from the Netherlands, Norway and South Africa illustrate that the blue growth framework fails to curb the extraction of fossil fuels. While the blue growth discourse at the global level (as for example articulated at Rio+20 and in FAO's Blue Growth Initiative) seeks to highlight the centrality of environmental sustainability, it becomes clear that national level blue growth strategies fail to address the paramount problem of the burning of fossil fuels, and that in practice the focus is on accommodating the continued expansion of the industry.

Deep sea mining: bolstering blue growth or wreaking ecological havoc with no knowledge of the consequences

The interest in seabed mining, especially targeting rare earth elements, has picked up in recent years. This, according to the OECD, has been driven economically by "rising demand and price increases" stemming in particular from 'green energy technologies' (e.g. wind turbines and photovoltaic batteries that rely on these minerals) and politically by the interest of the EU and others to de-link from current source countries China and DRC. Seabed mining is seen as the solution to both of these issues.⁹¹ As expressed by the Chief Executive of Nautilus Mining, "[t]he seafloor contains some of the largest known accumulations of metals essential for the green economy,

in concentrations generally much higher than on land, so it is inevitable that we will eventually recover essential resources from the seafloor."⁹² And in early 2018, the Secretary-General of the International Seabed Authority (ISA) stated that "we are now at the stage where we can see that deep sea minerals can provide a stable and secure supply of critical minerals [...] having the potential to provide a low cost, environmentally sound, supply of the minerals needed to drive the smart economy, they could also contribute to the Blue Economy of several developing States."⁹³

Many sites currently targeted for the extraction of rare earth elements are in international waters. As established in UNCLOS, the ocean area beyond 200 nautical miles from the coast (EEZ) is classified as a common good of humanity and simply referred to as “the Area.” The Area represents nearly half of the planet’s surface and is governed by the International Seabed Authority (ISA). The ISA is made up of 168 representatives of member states, each of which appoint 36 individuals to the Legal and Technical Commission (LTC) that is in turn charged with managing requests for access and permits for mining. The LTC generally convenes and makes decisions behind closed doors and does not reveal what companies are finding at the bottom of the ocean – even to the ISA member state representatives. In the words of one environmental observer of the ISA, “You’ve got [30] people making decisions about half the planet behind closed doors.”⁹⁴ As Kristina Gjerde, Senior High Seas Adviser at the International Union for Conservation of Nature (IUCN),

told the Council of ISA member states: “There is a large risk that we will not know what we have lost until it is indeed gone.”⁹⁵ As the ISA moves towards the next phase of granting exploitation contracts, “[t]he tension between the ISA’s dual – and conflicting – mandates to promote the exploitation of the little-known seafloor that covers about half the planet while ensuring its protection” becomes more and more evident.⁹⁶

In addition to this mining-friendly climate, draft ISA regulations have cited environmental priorities but lack detail describing how this will be ensured.⁹⁷ According to the OECD report, “[e]ven the most careful deep sea mining will disturb the marine environment. The generally held view is that industrial-scale mining will inflict a range of harm that will irreversibly alter the deep oceans, but as yet there is no clear picture of what those impacts might be.”⁹⁸ Meanwhile, specific blue economy initiatives are drawing funding and opening doors for private contractors to gain access to ISA governed ocean space.

BOX 6

Small Island Developing States: sponsors of deep sea mining

Although Small Island Developing States (SIDS) are set to be among the most impacted by climate change, they have also been the poster children of the blue economy expansion into deep sea mining efforts. In 2011, Robert G. Aisi, Permanent Representative of Papua New Guinea to the UN speaking on behalf of the Pacific SIDS⁹⁸ represented at the preparatory committee for Rio+20, declared, “In addition, an issue that we consider will emerge as topical in the post-Rio+20 period in connection with the Blue Economy is deep seabed mining. Although deep seabed mining and related activities may be a fairly new frontier for some countries, we see the developments in this area as one which will closely involve the Pacific Ocean and the Pacific SIDS.”⁹⁹ Six years later in June of 2017, the UN Ocean Conference in New York marked the launch of “the UN-DESA [Department of Economic and Social Affairs] and ISA voluntary commitment partnership on [the] Abyssal initiative for Blue Growth.” The partnership is engaged in a “quest for a Blue Economy through the promotion of socio-economic benefits for developing countries, including SIDS” as well as increasing scientific knowledge and research capacity and promoting the blue economy concept as a means to enable SIDS to “benefit fully from the sustainable development of their deep-sea mineral resources”.¹⁰⁰

One of the key ways that SIDS are engaging in deep sea mining exploration is by sponsoring contractors seeking licenses. According to ISA policy, when private companies want exploration contracts in the Area they must be sponsored by an ISA member state and have a subsidiary company in that state. In practical terms, the sponsorship approach provides opportunities for mining corporations to obtain contracts through SIDS.

As of August 2018, a total of 29 contracts for exploration had been granted by the ISA.¹⁰¹ The ISA is in the process of reviewing its ‘mining code’, which will then govern the allocation and management of exploitation contracts. To date, none have been granted. Of the 29 contracts, most are sponsored by big econom-

ic powerhouse countries like China, Korea, Japan, India, Russia, Brazil, the United Kingdom, Germany and France, and they often provide access to their own public research agencies or state-owned mining companies. However, beginning in 2011, SIDS also began to sponsor private mining companies.

For example, in 2012 the nation of Tonga sponsored Tonga Offshore Mining Ltd. (TOML) for the exploration of polymetallic nodules in the Clarion Clipperton Fracture Zone (a submarine fracture zone in the northern Pacific Ocean). "TOML has agreed to a royalty with the Tongan government as part of its sponsorship agreement of US\$1.25 per dry ton for the first 3 million dry tons of nodules mined per year, and US\$0.75 per dry ton for all subsequent tons mined thereafter in that same year."¹⁰² TOML is 100% owned by Nautilus Minerals, headquartered in Canada. Its largest shareholder (holding 30.4%) is MB Holding Company LLC., a multinational oil and gas drilling and oilfield services company headquartered in the Sultanate of Oman.

It is not only SIDS that are providing sponsorship for transnational interests. UK Seabed Resources holds two contracts for exploration, sponsored by the United Kingdom. However, UK Seabed Resources is a subsidiary company of Lockheed Martin, a US-based defence and security company. Since the United States is not a signatory of UNCLOS, it is not represented on the ISA council of member states and therefore can't sponsor its own contractors.

The United Kingdom, Northern Ireland and Tonga effectively provide gateways into the deep sea for multinational mining companies. And proposals by UN-DESA and ISA – such as the Abyssal Initiative for Blue Growth – clarify that this is the vision for SIDS in the blue economy. As explained in the ISA concept paper for the 2017 UN Ocean Conference, Nauru, Kiribati, Tonga and the Cook Islands have provided sponsorship for new exploration contracts in the Area. The paper goes on to recommend close collaboration between private contractors, the ISA, and member states "in assisting interested States, and in particular SIDS, to draft their deep seabed mining regulatory frameworks".¹⁰³

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well as increasing scientific knowledge and research capacity and promoting the blue economy concept as a means to enable SIDS to "benefit fully from the sustainable development of their deep-sea mineral resources".¹⁰¹

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Capital fixing and investment in the energy and extractive sectors

It is hard to stress enough just how massive a role oil and gas play in the global economy. The total value of the oil and gas market is US\$3 trillion, and “the largest five oil companies’ collective revenues exceed the GDP of all of Africa”.¹⁰⁵ But beyond the cash flow associated with traded goods, it is important to highlight the vast architecture of machinery, technology, infrastructure, transportation networks and other assets that capital is sunk into. According to Watts, this represents a value of some USD 40 trillion. He goes on to paint this picture:

Close to 5 million producing oil wells puncture the surface of the earth (77,000 were drilled [in 2011], 4,000 offshore); 3,300 are subsea, puncturing the earth's crust on the continental shelf in some cases thousands of meters below the sea's surface. There are by some estimations over 40,000 oil fields in operation. More than 2 million kilometres of pipelines blanket the globe in a massive trunk-network (another 180,000 kilometres will be built at a capital cost of over \$265 billion over the next four years); another 75,000 kilometres of lines transport oil and gas along the sea floor. There are 6,000 fixed platforms, and 635 offshore drillings rigs (the international rig total for June

2011 is over 1,158, according to Baker Hughes). Over four thousand oil tankers move 2.42 billion tons of oil and oil products every year – one-third of global seaborne trade; over eighty massive, floating production and storage vessels have been installed in the last five years.¹⁰⁶

This vast built environment, what Carton has called the “fossil fuel landscape”,¹⁰⁷ creates its own kind of inertia or ‘path-dependency’.¹⁰⁸ This is because the massive amounts of money capital that become ‘fixed’ in it typically have a long turnover period, so the landscape “exercises a coercive power over future uses”.¹⁰⁹ That is, capitalists that have made investments into fossil fuel extraction will not simply forsake the anticipated profits from their investments. Indeed, agreements such as the Energy Charter Treaty actively protect such investments – and even planned investments – from any type of political decisions that might impinge on expected profits.¹¹⁰ In this manner, investments into the built environment prohibit political change, as they lock a distinct logic into the landscape. Expansion is key to ensuring returns on the investments needed to develop such expensive systems for offshore extraction.

Amidst this level of investment, the oil market hit a price slump in 2014. In addition, increasing public outcry over climate change is causing rumblings that imply that it might be time to come to terms with our petroleum addiction. Post-2014 saw a return to cheaper land-based shale extraction, sowing concern over all of the money that has been sunk into offshore infrastructure and the comparatively high cost of oil and gas extraction in the ocean. As rebounding oil and gas markets are expected in the coming years, blue growth provides an elegant policy framework to keep investment flowing into multi-use ocean infrastructure while ensuring new allocations of ocean space for the expansion of offshore drilling.

One proposal coming out of blue growth policy circles that could defray significant costs to oil companies and taxpayers is multi-use platforms. Oil and gas reserves, especially in Europe, are ageing and subject to the provisions in the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) that force oil companies to fully decommission inactive infrastructure.¹¹¹ Between 2017 and 2025, some 200 platforms must be removed, 2,500 wells closed down and 78,000 kilometres of pipeline decommissioned across the North Sea.¹¹² This is a very complex and expensive obligation. For the UK, the government estimates that the cost will be GBP 39 billion, while the independent research organisation Intergenerational Foundation calculates more like GBP 80 billion.¹¹³ Some 10% of rigs in the Gulf of Mexico have been left as part of a nationwide Rigs to Reefs programme.¹¹⁴ Rather than reefs, current proposals for the North Sea involve exploring the option of turning old oil platforms into aquaculture facilities or wind farms.¹¹⁵ The main challenge is how to get around

the OSPAR regulation, which mandates decommissioning in signatory countries.¹¹⁶ If such regulatory hurdles can be dealt with, blue growth policy recommendations like multi-purpose offshore platform transitioning and development¹¹⁷ represent ways in which capital can be freed up for investment in new and other types of offshore projects that are also given priority in marine spatial planning efforts.

In deep waters, it remains to be seen just how big of an economic opportunity rare earth elements represent for seabed extractive industries. Although technology is rapidly advancing, exploration requires lots of upfront investment: bankrolling a research ship and a remotely operated vehicle capable of reaching deep sea vents runs around USD 75,000 per day.¹¹⁸ Until ISA exploitation regulations are clear, investment is not likely. Kris Van Nijen, Sea Mineral Resource's general manager, says: "We're talking about more than hundreds of millions of dollars. If we do not know how we are going to be regulated in the future, we cannot invest that kind of money."¹¹⁹

The blue fix is by no means complete. Can blue economy actually drum up the needed financing for ongoing investment in ocean infrastructure? And if not, where is it going to come from? Perhaps more importantly, will the momentum behind blue growth policies provide the needed push to overcome the regulatory hurdles to capital accumulation (like the OSPAR obligations or the ISA mining code)? These questions merit further research and social and political positioning as the blue growth agenda is rolled out at the national level.

Conclusions

Blue growth is a broad and ambiguous concept, home to many visions and ideologies. This vagueness has helped to attract a diverse coalition of actors, each able to project their own interpretations onto these policy agendas. For some it is about conservation and renewable energy, whereas in practice offshore drilling remains untouched. Wrapping blue growth in a framework of sustainability helps to address growing concerns about climate change, and channeled through sustainable tourism and large-scale Marine Protected Areas (MPAs) makes it profitable. This is the conservation fix.

For others, it is about a transition to aquaculture that cedes ocean space to other uses and avoids dealing with the problem of decreasing fish stocks and the need for increasing quantities of feed based on capture fish and other ingredients including soy, rapeseed, sunflower and wheat. This is the protein fix.

Finally, marine spatial planning at the national level concretely prioritises the sectors that generate the greatest profit: in particular oil and gas and shipping and mining. This approach also offers more possibilities to

profit from existing infrastructure and expertise in the development of alternative energies and aquaculture. This is the energy/extractive fix.

As comprehensive as the blue growth agenda is, there remain irreparable ecological and social contradictions. And social and environmental conflicts will only be further fuelled as long as these contradictions remain. As with earlier historical instances of enclosure and shifts in the regulatory regime, heads of state seem to primarily view blue growth as a means to solve conflicts between competing ocean industries. And this happens within the context of the coercive imperative to ensure compound growth rates by any means necessary.

Blue growth thus manifests as a balancing act to frame these attempts as 'sustainable' and in everyone's interest. However, it is important to highlight that the millions of people who to this day still rely on ocean space for their lives and livelihoods – specifically small-scale fishers – have for the most part not been invited to the blue party. This poses very tricky political questions for fisher movements and allies. Some are trying to arrange an invitation into the blue economy, believing that this is the surest way to secure rights to their fishing grounds. Others however are more skeptical, having witnessed how the blue growth agenda pushes small-scale fishers into an impossible corner.

Co-existing with the expanding development of ocean industries is not easy for fishers: the spaces that they

depend on for their lives and livelihoods are rapidly being corralled into plans for new ports, tourist facilities, shipping lanes, new conservation and mining areas, and new aquaculture ponds. And if they manage to defend a particular fishing area, the combined impact of construction, contamination and climate change means it is less and less likely that fish will be plentiful there. In order to survive, they must go further and further out to sea, increasing their fuel costs as well as their exposure to the dangers of the ocean and to possible conflicts with industrial fishing fleets. For many, fishing is no longer viable.

In the face of already plummeting fish stocks, the need for an ecologically and socially sensitive approach to fishing is only going to increase. This is more obvious to small scale fishers than to others, but the terms of entry into the blue growth party make it nearly impossible for them to survive and uphold such standards. Herein lies the ugly secret at the heart of the blue growth agenda: the appetite for oil, gas, minerals, protein and conservation that is fuelling and shaping the agenda is fundamentally unsustainable. The three-part deal with conservation, protein and energy/extractive fixes that has been cobbled together fails to address the underlying causes of environmental degradation – including climate change – and condemns the population of small-scale fishers to an increasingly desperate future of scrambling for shrinking space and fewer fish.

Endnotes

- 1 Other important themes are shipping and port activities, biotechnology, and coastal infrastructure development.
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- 15 data extracted from <http://www.marineregions.org>
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- 17 Ibid, 413.
- 18 Ibid, 413.
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