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The challenge of managing Earth's new economic frontier: our oceans

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Abstract

Amid growing demand for seafood, gas and other resources drawn from the world's oceans, and growing stresses from climate change, we examine some of the challenges and solutions for developing "the blue economy" in smarter, more sustainable ways.

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Disclosure statement

Alistair McIlgorm works for the Australian National Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong. He has been Director of Dominion Consulting Pty Ltd since 1997. He has recently received funding from the Fisheries Research and Development Corporation, the Department of Industry NSW (Fisheries), the Department of Foreign Affairs and Trade (DFAT) and the David and Lucille Packard Foundation. He has been invited to speak on the Blue Economy and review studies by the Chinese Government State Oceans Administration, the Indian Government Ministry of External Affairs and Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Manila, Philippines. He is on the Editorial Board of the Journal of Ocean and Coastal Economics, Monterey, US.

Amid growing demand for seafood, gas and other resources drawn from the world's oceans, and growing stresses from climate change, we examine some of the challenges and solutions for developing "the blue economy" in smarter, more sustainable ways.

As the world's land-based economies struggle with annual rates of around 2% growth in Gross Domestic Product, the global marine economy – now increasingly being talked about as "the blue economy" – is a bright light on the horizon.

New developments in marine industries range from diversification in aquaculture to the new technologies of marine bio-technology and pharmaceuticals, marine renewable energy such as wind and wave power, and deep sea mining.

The European Commission has a "blue growth" strategy, recognising that those marine industries are growing at a faster rate than those on Europe's land mass. And in areas such as south east Asia, the oceans contribute directly to the wellbeing of hundreds of millions of people.

In Australia, a new national report forecasts marine industries' contribution to Australia's Gross Domestic Product will grow three times faster in the next decade than the rest of the economy – doubling from A$47.2 billion a year to about A$100 billion in 2025.

As researchers from The Economist Intelligence Unit recently concluded:

As a setting for global trade and commerce, and as a significant source of food and energy, the ocean's contribution is already important. This century, it is likely to become an economic force.

But those researchers also noted many challenges ahead, including "how to create predictable cash flows for investors behind the valuable ecosystem services offered by the ocean".

The consensus is that going from the ocean economy to the emerging blue economy will take time. But there are still major questions about the blue economy we need to answer – including how to define, measure and govern it, especially when so much of the world's ocean lies beyond national borders.

'The blue economy' still isn't clearly defined

If you Google the term "the blue economy", the first search result you're likely to see is not about oceans at all; instead, it will takes you to Gunter Pauli's work on ecological innovation, with no sea on the horizon.

But among the marine community and increasingly in government and global business circles, there has been a shift from talking about "the ocean economy" to "the blue economy".

While there is still no broad agreement on what that means, The Economist recently adopted this working definition:

A sustainable ocean economy emerges when economic activity is in balance with the long-term capacity of ocean ecosystems to support this activity and remain resilient and healthy.

Economic growth is not enough; we also need to do a better job of sustainably managing ocean resources.

See URL for vide (4min 37s) - A snapshot of some of the challenges ahead for ***'The Blue Economy'***, from the Organisation for Economic Co-operation and Development (OECD).

There have been several drivers behind that shift. The past decade has seen the incorporation of green accounting concerns about the sustainable development arising through the United Nations' Rio 20+ process.

Small islands, such as Seychelles and Mauritius, have led the way in calling for the use of marine resources and eco-system services to be sustainable. Internationally, new approaches to environmental accounting have been developing.

This need for greener and more sustainable marine activities has also been influenced by climate change. In amongst approaches involving ecosystem values lurks the longstanding need to control the impacts from marine industries, such as overfishing and pollution. Controlling industry is necessary – and to do so, having a good understanding of the economics matters.

Yet marine economists have been concerned for some time that the frameworks for measuring the ocean economy are not in place.

For a start, what are we measuring? Whose job is it to measure it? Who has the vision for the future of the blue economy? How do we get the private sector to invest? And is there a governance framework that will support private investment in ocean or "blue" industries?

Opportunities and challenges for south east Asia

Together with economic growth and long-term environmental sustainability, social equity is another crucial consideration – particularly in booming regions such as south east Asia, with so many coastal communities dependent on the ocean.

So where is the blue economy going in this region?

Any country looks at what their comparative advantage may be in benefiting from the sea. For example, Malaysia's economic strength has been shipping, due to its location beside the Strait of Malacca.

In China there are already an estimated 32.7 million jobs or more than 4.15% of total national employment in "ocean-related sectors". Interestingly, The Economist's recent report refers to 9 million direct jobs in China's core "major ocean industries".

That's a good illustration of why it's so important to be clear about what we're measuring when talking about the blue economy. In this case, the Chinese government's higher figure factors in additional jobs in support areas (such as the scientific, research, education and ocean management service sectors), ocean-related enterprises (businesses with economic and technical links to marine industries), plus indirect and induced employment.

Seaweed is just one of China's many marine exports. It supplies 13.5 million tonnes of seaweed a year for gels, hydrocolloids and alginates to the global food industry.

China has a clear comparative advantage in bio-technology, genetic improvement of seaweeds and development of marine pharmaceuticals. But its "blue economy" challenges

include reducing coastal pollution so that it can maintain and increase the sustainable value of marine industries.

Opportunities and challenges for Australia

What about Australia? Well, with production of 2,000 tonnes of seaweed a year, the world is not depending on exports from us. Yet in several corners of the country (including South Australia and Wollongong, a few seaweed experimental enterprises are developing niche opportunities.

However, there are much bigger industries at work along our coastline. For instance, earlier this year the Reserve Bank of Australia said that liquified natural gas was expected to become Australia's second largest commodity export (after iron ore) by 2018. It's also been predicted that port visits by ships to Australia will double by 2030.

Tourism is another good example of the opportunities – and challenges – that lie ahead.

Speaking to a Chinese delegate at a recent blue economy workshop, I mentioned a luxury resort being built by a Chinese entrepreneur on Australia's Gold Coast, which is expected to bring in 30,000 Chinese tourists a year.

As a lady well across her national statistics, the delegate replied, "Actually, last year we only had 1.2 million people going abroad … not that many when you consider our population" (1.3 billion).

But does Australia have a framework to support such rapidly increasing use of our national biodiversity? Or are we just "the lucky country", with offshore gas for exports and beaches to attract tourists? Can we be more than a quarry and holiday destination for the world?

Like so much about the blue economy, those are questions we're yet to clearly answer.