Bio Market Insights

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BLUE BIOECONOMY SPECIAL

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OCEAN OUTLOOK: BLUE ECONOMY GROWTH AREAS TO WATCH

Jim Cooper, CTO and Managing Partner at accelerator Braid Theory, gives an insider's view on investment opportunities in the ocean economy.

A relatively nascent but growing area of technology, nestled between deep-tech and various industrial sectors, is bluetech—ocean-related technologies. In 2016, estimates indicated growth in the 200% range by 2020, but by early-2020 it became clear that investment was nearer 420% growth year-on-year since 2016.

Bluetech and its connected industries in the Blue Economy represents a relatively greenfield and blue-sky opportunity for investors and industry. Yet few have the domain expertise to understand all its moving parts.

It's better to describe the Blue Economy and Bluetech in reverse order. Bluetech is applied to solve problems in the Blue Economy: bottlenecks, issues around regulatory affairs, climate change and as sources of food and energy. By contrast, those industries that comprise the Blue Economy include everything from aquaculture and fisheries, to shipping and logistics, ocean-based energy systems, coastal resilience, and even defence.

Over the past decade, I have worked with ocean-related incubators and accelerators to commercialise emerging technologies. As we have seen the growth in the broader Blue Economy sector, several areas stick out which are ripe for investment and a coming growth trajectory. Here is an overview of areas I've seen growing at astonishing rates.

Synthetic Biology

Synbio is 'building-with-biology' by creating new products from living organisms, or new tools to capture a part of that genetic engineering. Biofuels, bioplastics, value-added food ingredients, circular economy, alternative proteins, novel chemicals, biomanufacturing and biocircuitry, are all emerging and creating unicorns in the process.

Circular Economy

Circular economy is turning waste products into utility. These could be old fishing gear into nylon-based clothing, digested seafood waste turned into biofuels, and a host of other applications.

Kelp

Macroalgae can be turned into a myriad of products including value-added food ingredients, food products from kelp (like seaweed snacks), biopolymers, tuning the kelp strains to produce more lipids, polysaccharides and optimising lighting for yield.

Shipping and logistics decarbonisation

Shipping today is a complex web of transnational agreements, ports, shipping lines and intermodal freight systems, which relies heavily on petroleum or coal. Logistics is the engine of trade, and efforts are being made to reduce or eliminate carbon, or allow for offsets. This movement began many years prior to COP26, when shippers were increasingly being restricted by port visits and bunkering as well as the cost of fuel. New engineering is driving the adoption of decarbonisation, and "net-zero' goals.

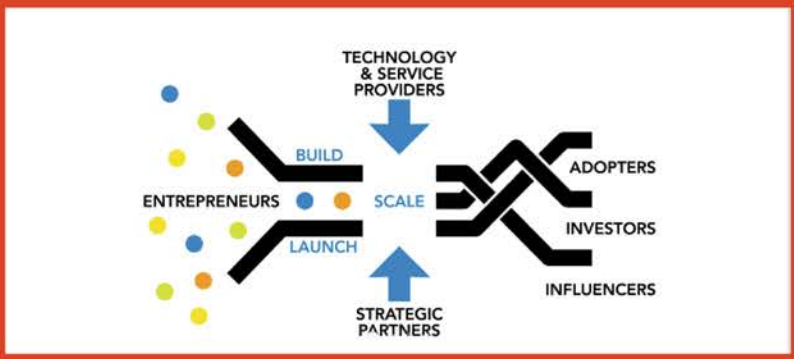
Coastal Resilience and Coral Restoration

Sea-level rise is coming, and, in fact, is already here. Storm surges, coastal erosion, and subsidence will cost coastal communities, both directly and to insure property in low-lying areas or areas subject to climate change. The situation is much worse for coral which is dying off due to factors related to climate change, including invasive species, acidification, higher temperatures, disease, pests, and human activity, like the destruction of mangroves or run-off. Several startups are confronting coral loss, especially where tropical communities are seeing loss of revenue from tourism. Tourists love to see the reef landscape, but where will they go when the reefs are stripped of life? Other companies are building concrete-related products to strengthen tide pools and revetment walls.

Enabling technologies

Finally, we cannot do anything in the Blue Economy without good quality data. This is acquired from a network of sensors, satellites, human inputs, piles of documents and forms, all linked by another network layer of dashboards, apps, algorithms, AI and machine learning, which packages the information, to make it useful for those in the field. This data is used for everything from determining poisonous algal blooms for aquaculture, to LiDAR which measures the water column in oceanography and bathymetry.

There is an ocean of opportunity in today's Blue Economy. We are only limited by our thinking to solve the challenging problems of our day—whether that is port congestion, or ocean plastic pollution. Facing these challenges head on, are a dedicated group of startups and scale up companies, which form a vanguard for our oceans. It is their ingenuity and entrepreneurship that are giving us a vision of what a positive tomorrow may look like.



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