

## Investment Opportunities in the Blue Economy

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For literally thousands of years, the ocean has served as a conduit for trade, transportation, and communications. Today, approximately 90% of the world's goods travel by sea. It's the most cost-effective way to ship items, with the smallest carbon footprint for moving goods per mile. That said, there is room for vast improvement from a climate and decarbonization perspective. In conjunction with World Ocean Day on June 8th, we'd like to focus on the shipping-related industry sector, its role in the "blue economy," and opportunities for investors.

### The Blue Economy 101

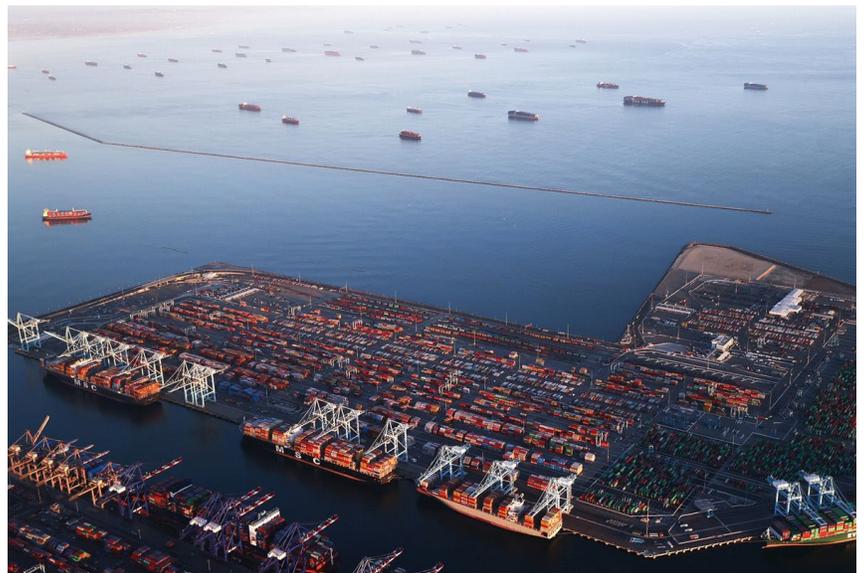
While "green business" is well known and an increased emphasis in investment circles, the term "blue economy" is less known, but of vital importance. In short, the blue economy is the subset of the ocean economy, which is focused on solutions that are sustainable, and have ocean-positive benefits.

### Room for Improvement

Despite its importance in global trade, shipping vessels are often woefully antiquated. To a great extent, the most significant advancements in ship building and propulsion systems occurred during World War Two. Only in the last five to 10 years have we seen a resurgence in upgrading shipping vessels to increase their efficiency. Meanwhile, the ocean transport sector is under significant pressure to reduce emissions and increase the sustainability of their operations, including ocean noise, waste streams, and energy efficiency. The need for increased efficiency and productivity is currently underscored by ports currently dealing with congestion that is reflected in historically high shipping costs and delivery delays.

### Case Study: The Port of Los Angeles

We recently visited the Port of Los Angeles, which occupies 7,500 acres of land and water with 43 miles of waterfront. It has ranked as the number one container port in the U.S. each year since 2000. Our goals were to get a better understanding of the complexities of the operation, supply chain issues, and decarbonization initiatives. Despite its scale and importance, we were surprised to find that only three of its 29 terminals are currently automated, resulting in vast inefficiencies. For example, non-automated facilities do not operate around the clock and rely on small trucks and forklifts that often use carbon-unfriendly diesel fuel. In contrast, automated facilities are more



**Congestion at Port of Los Angeles in October 2021. Source: Bloomberg**

productive and “greener,” typically running 24/7 using electric and hybrid machinery. We also learned that ports are increasingly using advanced scheduling similar to airlines, in which a ship cannot leave a port until it has an assured time to berth and unload. This prevents the need for anchoring offshore with engines idling. It has also increased the use of “slow steaming.” By knowing in advance when the availability will be to dock in a port, ships can reduce the throttle when crossing the Pacific basin. This helps to pare back CO2 emissions during the journey, as well as those associated with idling outside a port.

### **Investment Opportunities**

Given the global need to increase efficiencies and productivity, along with reducing carbon footprints, we have identified a number of compelling investment opportunities associated with the blue economy. For example, ports are significantly increasing infrastructure spending to accommodate today’s larger ships, and increased demand. Thus, a number of companies are responding to the need for increased automation at ports. And, enhanced technology used to increase the efficiency for the next generation of ships, as well as the monitoring and tracking of vessels to decrease idling is also yielding attractive investments.

### **Conclusions**

As ocean-based trade increases, so too does the environmental footprint of shipping and trade. While we have focused on maritime shipping and ports, there is a vast array of other blue economy initiatives. These include ocean renewable energy (such as power generated by waves, tides, currents, and wind), ocean biotechnology (using molecules that use living systems and organisms from the marine environment to develop or make products), and pollution reduction in coastal waters, such as removing contaminants and excess nutrients to restore ecosystem functions. Identifying the global winners from the losers will require thorough research of individual companies that can most efficiently deliver products and services to participate in the blue economy.

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*Mark J. Spalding is the President of The Ocean Foundation, a non-profit organization dedicated to reversing the trend of destruction of ocean environments around the world. The Ocean Foundation has been a decade-long partner to Rockefeller Asset Management bringing its deep climate and ocean expertise to provide scientific and policy validation and supports our idea generation, research, and engagement process.*

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