

Live Oak Consulting

<u>Team Member Name</u>	<u>Year</u>	<u>Major</u>
Mia Barone	2021	Marketing
Steven Gooch	2022	Marketing
Laura Key	2022	Supply Chain Management

Advisor(s): Dr. Daria Panina

Topic: Shifting Seas: A Case for Sustainable Shipping Practices

Audience: Amazon - Dave Clark, CEO Worldwide Consumer and Kara Hurst, VP Worldwide Sustainability

Sustainable Development Goal

SDG #14: Life Below Water Conserve and sustainably use the oceans, sea, and marine resources for sustainable development.

Executive Summary

Amazon aims to be net-zero in carbon emissions by 2040 to support the Paris Climate Agreement. For Amazon to succeed in end-to-end net-zero practices, it requires redesigning and increasing investments in logistics capabilities to reduce plane and ocean shipping emissions. Their investment in Infinium, a net-zero biofuels producer, has the potential for long-term impact, but the fuels have not been produced at scale yet. Alternatively, slow steaming can help offset the ecological impact of Amazon's increasing maritime emissions immediately.

The ecological case for slow steaming is strong. Fuel combustion by cargo ships releases sulfur and nitric oxides into the ocean, causing acidification. Research shows that the impact of this release can be equal to or higher than the impact of carbon dioxide absorption from the atmosphere. Acidified water inhibits calcification of shellfish and coral, harming both ocean ecosystems and our food supply. Slow steaming, the 10% reduction of a ship's speed, reduces fuel requirements by 30%, causing less harm to the marine environment.

While this business model disrupts Amazon's traditional shipping strategy, it pleases customers interested in sustainable supply chains. Amazon ships approximately 3.2 million inbound shipping containers per year to warehouses globally, with 127.6 billion dollars in product inside. To compensate for the delayed shipping times, we propose more frequent, smaller shipments of each product to local warehouses. With freight forwarding, Amazon can combine small batches of multiple SKUs in containers, eliminating the need for holding additional safety stocks. By using carriers employing slow steaming and shipping in smaller batches, Amazon can indirectly save on shipping costs and save the environment at the same time.