

Why must a pear cross three continents before reaching a lunchbox?

From a climate perspective, long-distance food miles seem like a bad idea, but **Professor Riccardo Crescenzi** and **Oliver Harman** (Department of Geography and Environment and Global School of Sustainability) argue that a well-governed Global Value Chain can reduce, rather than increase, environmental harm. And a Green Global Value Chain* (GVC) can benefit the local economy, as well as the environment.



One of the most viral images of global trade is a meme: a plastic cup of fruit, with three labels: "Grown in Argentina, Packaged in Thailand, Sold in the USA" posted on Reddit in 2020.

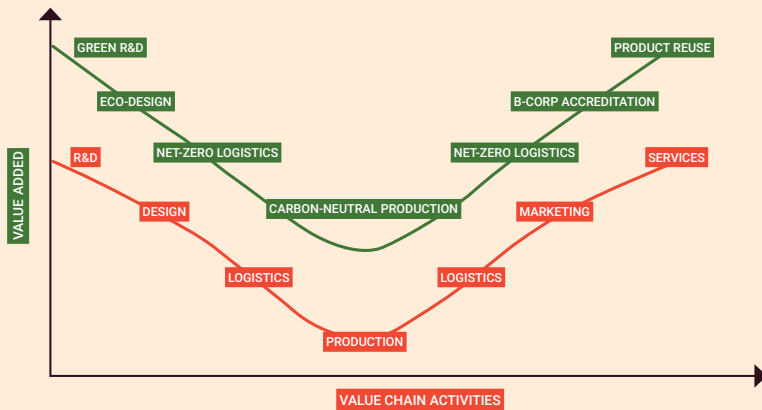


Advantages	over	Alternatives
 Shipping one container per mile by sea = 0.095 tonnes of CO ₂ emissions Truck = 3.24 tonnes of CO ₂ emissions		 Distance pear can be shipped further by sea for the same emissions 34x
		In Argentina: Larger farms more likely to invest in renewable energy systems. Well suited climate No need for heated greenhouses/artificial irrigation.



Argentina
\$216 million (0.47% of total exports)

USA
\$142 million (0.00007% of total exports)



The lower curve (red) shows the conventional smile curve. The upper curve (green) shows how environmentally upgraded versions of each function can capture additional economic value. The gap between the curves represents the green upgrading premium, which varies with regulatory stringency and consumer preferences.

Greening Global Value Chains

Supply chains can address sustainability at every stage, including eco-design, carbon-neutral or energy-efficient production, net-zero distribution, and supporting the final consumer with reuse, recycling, or circularity.

This approach can apply to any sector, not just those producing green products or within green industries, and to any region.

Research shows that environmental upgrading does not have to be a trade-off. By taking advantage of what a region already does well, GGVCs can add additional economic value, a process they call green upgrading.

GGVCs require deliberate efforts by firms, investors, and policymakers to embed environmental goals into global production.

* Global Value Chains (GVCs) describe the geographically dispersed web of activities that take a product or service from conception through production to end use. These activities – ranging from design, marketing, logistics, and after-sales – are increasingly fragmented across countries, creating dense networks of firms, regions, and workers that contribute value at various points in the chain.