



Greening Global Value Chains

Production of goods today is mostly fragmented into different locations, with each country specializing in a small part of the value chain. The completion of any single good depends on parts and services that come from different economies in the upstream and downstream production processes – collectively known as global value chains. Such processes have allowed for great efficiencies to be reaped, while at the same time allowing developing economies to find production niches in different parts of the value chains, according to their capabilities and cost structures. This has been a key engine for global growth in the past three decades.

But such specialization is not without costs. The fragmentation of production across multiple locations means that parts and products must be transported across multiple borders, multiple times. International trade logistics today contributes around 4-5 percent of global carbon dioxide emissions (or around 2 gigatons per year). Adding local freight to the mix, this figure is even higher – the transport sector contributes around 16 percent of emission. There is thus an urgent need to green logistics in line with climate change goals.

Production itself also contributes to emission and environmental costs. Upstream extraction of commodities and manufacturing activities, which underpin global trade, also produce large carbon greenhouse gas emissions. As policy makers act on meeting their nationally determined targets under the Paris Agreement, there will be more scrutiny of emissions not just of domestic sources but also up and down the global value chain. There will be pressures to maintain common and high standards that account the social, environmental and carbon impact of global value chains. At the heart of this is the sustainability and future of global trade.

In short, the system of global value chains will have to undergo a fundamental remake to be sustainable. With an ever-tightening constraint, it becomes even more important to scale up renewable energy sources to match manufacturing processes. Greener manufacturing will become a key competitive advantage. From extraction to production to logistics, global value chains will have to move towards net zero emission in the coming decades.

The pandemic also brought about accelerated changes in automation and digitalization. The impact of automation on shifts in global trade is still relatively nascent and will continue to play out over the coming years. Early studies have shown that this could reduce production opportunities for developing economies. The pandemic also exposed within and across countries divides in digital infrastructure and connectedness. Investing in digital infrastructure and preparing developing economies for a digital and more sustainable future is an imperative.