

Table of Contents

- 03** Overview
- 05** What is Green Logistics All about?
- 07** The Environmental Impact of E-commerce
- 10** Why is Green Logistics Crucial, Now More Than Ever?
- 12** 10 Leading Supply Chains That are Going Green
- 16** Implementing Green Logistics in Your supply chain

Overview

// The greatest threat to our planet is the belief that someone else will save it. //

Climate change is real — as real as COVID-19. The exploitation of forests and farmlands for commercial use, excessive industrialization, improper waste disposal processes, and untapped burning of fossil fuels are just a few primary causes of this.

As a result of the rapid climate change, our planet is going through massive and evident depletion — intense drought, storms, heatwaves, rising sea levels, melting glaciers, and warming oceans are directly harming animals, destroying the places they live, and wreaking havoc on communities and livelihoods.

Did you know? Transportation is the largest source of carbon emissions in the United States. The transportation sector — comprising traffic from cars, trucks, planes,



trains, and boats now emits 1.9 billion tons of CO2 annually. More than three-quarters of the greenhouse gas (GHG) emissions associated with many industry sectors come from their supply chains.

Collectively, as humans, corporates, and societies, we are not only capable of but also responsible for controlling the devastating impacts of climate change on our environment. Many leading supply chains and corporate entities are therefore embracing sustainable logistics activities with the bigger vision of reducing carbon footprint and minimizing the business impact on ecology for generations to come.

Adopting green logistics is not only good for the environment and society at large, it is also more efficient and helpful in lowering operating costs. In this e-book, let us look at how green logistics is reshaping the future of supply chains, and how you can implement sustainable logistics practices at your enterprise.



What is Green Logistics All About?

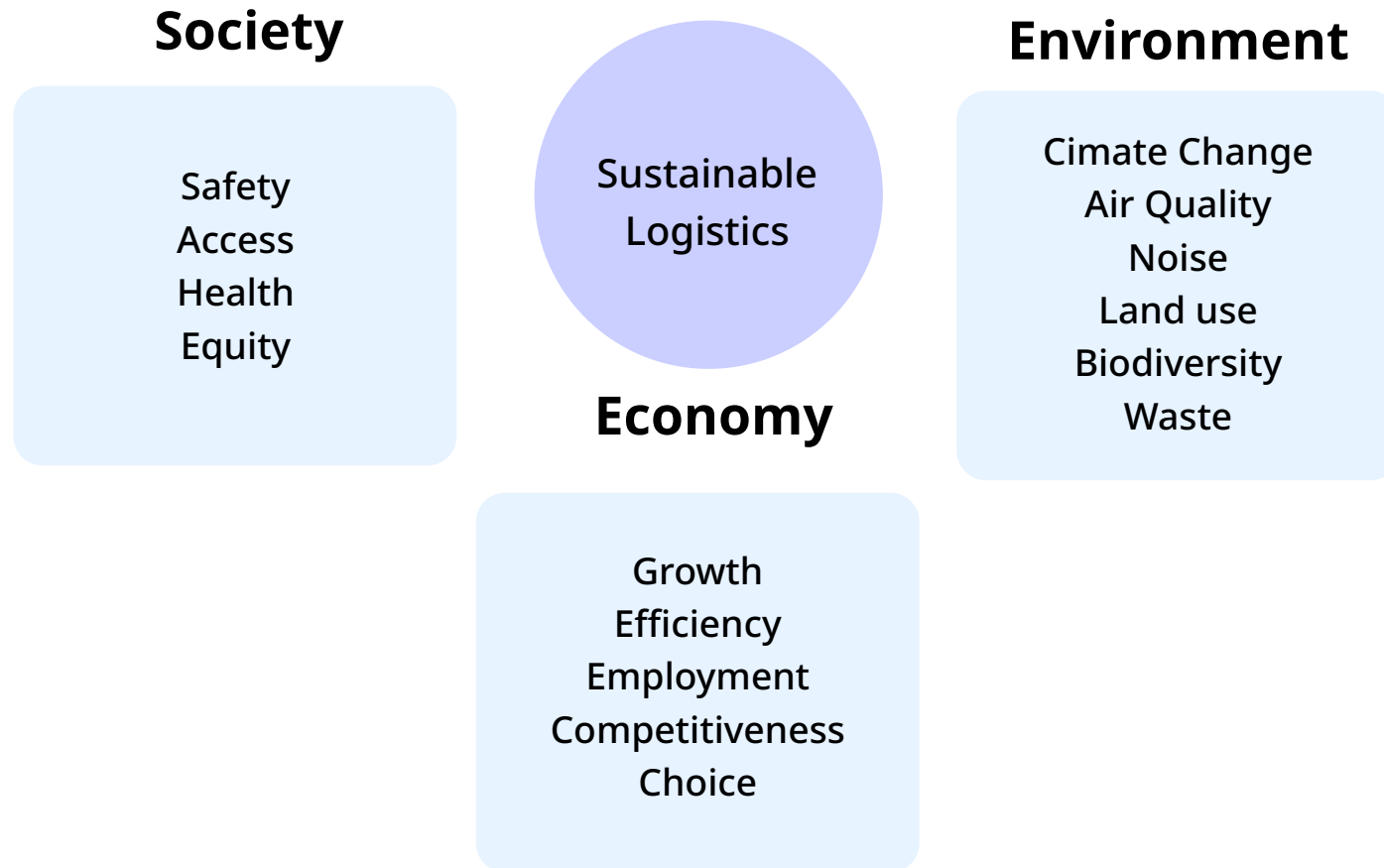
Logistics is the sum total of a number of small but significant activities that go on throughout the supply chain journey. The key elements of logistics include sourcing and procurement of raw materials, storage of raw materials and finished goods in company warehouses or distribution centers, packaging of finished goods for distribution, and their transportation from one point to another, say retail outlets or the customer's doorstep.

In simple terms, green logistics is the initiative taken by businesses to minimize the overall ecological impact of logistical activities. It covers reducing carbon footprint and ecological wastage in all activities of forward and reverse flows of products, information, and services from the point of origin to the point of consumption, and the transport, storage, and distribution of goods.

The primary objective of green logistics is to move and deliver raw materials and finished merchandise at the lowest possible cost while maintaining the highest standards and minimizing environmental impact in the process.

Apart from this, green logistics aims to measure the carbon footprint of logistics operations and establish standard procedures of sustainability in the organization. It also aims to reduce packaging waste and minimize air, soil, water, and noise pollution by analyzing the impact of each area of logistics, especially transportation.






Experts believe that green logistics is actually good logistics. It does good to both the environment and the business, building a legacy of sustainability. As protecting the environment becomes more important in today's fast-changing world, many businesses are going green and adopting environmentally friendly practices in logistics and supply chain management.

The Growth of E-commerce and its Impact on the Environment



Over the past decade, global E-commerce activities have grown profoundly, enabling people to buy and sell anything and everything virtually, with the help of internet and technology. Rapid internet penetration, a steep rise in the use of mobile devices, and the low cost of running an online marketplace are the primary factors that have contributed to this explosive growth of E-commerce.

Today, as much as 22% of the world's population shops online. Retail E-commerce sales are expected to reach \$5 trillion by 2021. E-commerce has well and truly become mainstream in our lives, especially since the pandemic overtook the world.



Online commerce is convenient and economical for both sellers and buyers alike, but its impact on the environment is often overlooked by consumers as well as corporates. The internet economy is a double-edged sword because it has a number of potential positive impacts coupled with potentially overwhelming negative impacts on the environment as well.

Experts believe that the positive impacts of E-commerce activities can be broken down into three main categories - Primary, secondary, and tertiary.

Primary Effects: E-commerce significantly reduces the use of building energy as it encourages sharing of infrastructure like equipment, Cloud networks etc. in all functions of sourcing and distribution of material flows. Companies providing online services or selling goods via E-commerce do not need physical locations, thereby largely preventing the release of greenhouse gases.

Secondary Effects: When traditional businesses embrace E-commerce and apply advanced information technologies, they become highly efficient with improved communication and fast response. The use of internet and technology allows businesses to better utilize its existing manufacturing capacity for large investments without making any kind of additional investments.

Tertiary Effects: E-commerce operations require fewer paper resources and use digital communication for placing orders, sending bills, paying bills, and so on. It leads to “paperless offices, paperless data management, and paperless transactions between customers”.



Having said that, there are also some serious concerns regarding the ecological imbalance caused by E-commerce logistics. E-commerce enterprises rely on a transportation system that is highly energy and pollution-intensive. Freight traffic via air, land, and railways utilizes high amounts of fuel and results in the emission of greenhouse gases in large quantities.

The cost of ordering goods online is negligible, but the electricity usage in running an online business is huge. Electricity generation is one of the largest contributors of many pollutants, especially sulfur dioxide, nitrogen dioxide, carbon dioxide, and harmful particulates.

To add to it is a huge challenge of packaging waste, that is shifted from companies to consumer homes, leading to huge amounts of residential waste tonnage for municipalities. The packaging used in e-commerce tends to be corrugated cardboard boxes, plastic bags and most of this waste primarily ends up in landfills.

By 2030, the demand for last-mile delivery is expected to grow 78% with online stores, e-grocers, and food delivery services competing to offer faster [home deliveries](#). This trend is being fuelled by growing urbanization – with 60% of people expected to be living in cities by 2030.

Customer expectations for same-day deliveries, flawless packaging of products, and instant gratification will only keep increasing with time. E-commerce companies, however, are at a battle of ethics — satisfy the customer at any cost, or fulfill expectations while using sustainable logistics.



Why is Green Logistics Crucial, Now More Than Ever?

'Go Green', 'Green Corporates', and 'Green Supply Chains' are trending buzzwords today. But why is adopting green practices in your supply chain essential, especially in today's dynamic and competitive business world?

Business activities have a direct impact on all aspects of climate change. Sustainability strategies such as sourcing eco-friendly products, green working spaces that save energy, or simply adopting paperless day-to-day operations: they all contribute to make the planet a greener place.

/// Saving our earth is Plan A. There is no Plan B. ///



Supply chain enterprises, too, are therefore, becoming more environmentally conscious and adopting green logistics systems, in order to reduce the negative impact of transportation, shipping, packaging, and distribution activities on the environment. Apart from this, businesses are also being pushed by customers, governments, and industrial groups to introduce sustainable business practices.

What is driving supply chains to go green?



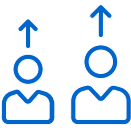
Customer Expectations - Customers today are more interested in buying eco-friendly products, organic foods, and prefer delivery packages that use minimum plastic and can be recycled. Customer expectations for eco-friendly products and practices are important drivers of greener supply chain management initiatives.



International Markets - Similarly, international market standards, for example, air and water quality standards, or e-waste management procedures also influence supply chain businesses to go green in order to stay at par with big international brands and gain a competitive advantage.



Government Laws - Regulations and laws enforced by governments worldwide on environmental damages, renewable resources, and industrial waste management have also pushed organizations to follow green supply chain practices.



Competitors - At the same time, the adoption of environmentally friendly logistics practices by global competitors and supply chain brands, as well as the cost advantages due to less wastage and recycling of resources is triggering green thinking in [modern supply chains](#).



Industrial Groups & Communities - Inducements by communities at large, and the demand for green practices by industrial associations, corporate groups, NGOs, and other stakeholders motivate companies to follow green practices in supply chain management.

10 Leading Supply Chain Businesses are Going Green

Every dollar saved through supply chain sustainability efforts is a dollar for profitability.

As sustainability takes the center stage, and businesses realize that adopting greener business practices is not just the need of the hour, but beneficial for enterprise efficiency and cost savings, hundreds of corporates have taken the green path. Some of the world's top supply chain enterprises have let go of traditional, energy-intensive, and pollution-prone logistics processes.

Agility Logistics

One of the world's top freight forwarders and providers of contract logistics, Agility Logistics provides free emissions reports to more than 800 customers. The company offers training on green logistics implementation and seeks to reduce emissions and waste along with its partner supply chains. Agility also participates in the Clean Cargo Working Group and the Sustainable Air Freight Initiative.

Cainiao Network Technology

Cainiao is the logistics arm of Alibaba Group Holding Limited, a Chinese multinational technology company specializing in e-commerce, retail, Internet, and technology. Cainiao is working towards the most comprehensive green campaign in China's logistics industry to date – Alibaba Green Logistics 2020. Enabled by world-class technologies, the campaign is aimed at improving material recycling, packaging, route planning, and delivery methods in order to achieve a greener future.

DHL Logistics

International courier, parcel, and express mail service provider and a global leader in logistics services, [DHL Logistics](#) is a pioneer when it comes to sustainable logistics practices. DHL's environmental protection program, GoGreen, focuses on minimizing carbon footprint and reducing air and noise pollution. The company has implemented several measures like improving fuel efficiency across its fleet, optimizing networks and routes, improving energy efficiency in buildings, and reducing waste from operations.

FedEx

FedEx is one of the world's largest international express transportation companies and is running several green logistics initiatives for reducing greenhouse gas emissions, minimizing waste, and reusing resources. FedEx has increased fuel efficiency by 22%, deploying 482 electric and hybrid-electric company vehicles. In 2012, the Solar Energy Industries Association recognized FedEx as one of the Top 20 commercial solar power users in the United States. In 2011, the company was also ranked #122 in Newsweek's Top 500 Greenest Companies

Hub Group

Hub Group provides robust end-to-end supply chain solutions such as intermodal, truck brokerage, and logistics services for varied business requirements. The company looks beyond intermodal conversion to include freight consolidation and route optimization, which greatly reduce the amount of carbon dioxide emitted. In 2018, Hub Group's multimodal strategy programs resulted in the avoidance of more than 1.7 million tons of CO₂.

Lufthansa Cargo

Lufthansa Cargo is a German cargo airline and a wholly-owned subsidiary of Lufthansa and ranks among the world's leading air freight carriers. The company has initiated an environmental strategy that focuses on reducing its specific CO₂ emissions by 25% by 2020 and aims for improvements in flight-related handling processes to reduce weight and save fuel.

Maersk

Maersk is a Danish international container shipping and an integrated transport and logistics company. It is the largest operating subsidiary of the Maersk Group. Maersk's sustainability strategy focuses on four different areas: climate change, inclusive trade, food loss, and ship recycling. The company has achieved a total 41% relative reduction in CO₂ emissions from the company's activities compared to its 2008 baseline. Maersk strives to reach zero net emissions from its own productions by 2050.

SAP

One of the world's leading multinational software corporations, SAP is committed to being a role model in reducing its own greenhouse gas emissions. In 2016, SAP has ranked a #1 software company in Dow Jones' Sustainability Index for its programs to cut emissions, energy-efficient initiatives, and shift to 100% renewable energy. SAP's focus on carbon emissions contributed to a cumulative cost avoidance of \$309.9 million since 2016.

Schneider

Schneider Electric is a European multinational company providing energy and automation digital solutions for efficiency and sustainability. The company is involved in a number of green initiatives for reduction of carbon footprint, energy-efficient processes, and sustainable resource utilization and is a charter member of the EPA's SmartWay program and a nine-time winner of its Excellence Award. Between 2017 and 2018, Schneider reduced fuel consumption by 5 million gallons.

Shippers Group

Headquartered in Dallas, Texas, The Shippers Group is a leading American third-party logistics company that specializes in warehousing and transportation services. As a part of its Zero Landfill Initiative, the company recycled 2,358 tons of cardboard, plastic, and paper, and reused 4,000 units of dunnage and airbags. Since 2007, The Shippers Group has recycled 4.7 million pounds of cardboard, chipboard, paper, and plastic, and the company has removed high-emission forklifts from its fleet and removed 206 metric tons of non-greenhouse gas emissions from the atmosphere.

Implementing Green Logistics in Your Supply Chain

Just like any other business strategy or long-term project, an effective and successful environmental strategy can be pulled off with careful planning and complete support of people within an organization. Adopting green logistics may require companies to revisit conventional ways of doing business, letting go of traditional practices, and adopting new-age technology for the sake of sustainability and eventually business efficiency.

Implementing a green logistics system should begin with establishing the concept of eco-friendliness in your supply chain, defining what exactly 'going green' means for your business, and setting goals accordingly. Once a clear long-term plan is developed, it is important to get the support of your workforce from the ground up and instill the sense that working towards a green supply chain is a permanent business value.



The typical supply chain of any product begins with the procurement of raw materials, manufacturing of finished goods, storage, distribution, and final-mile sale to the consumer. End-to-end green logistics implementation is possible if every logistical milestone in the supply chain journey is redefined with environmental consciousness and effective measures are taken to optimize each activity to reduce the overall ecological impact.



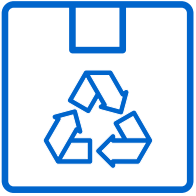
Ethical Sourcing

In recent years, ethical and sustainable sourcing of materials and products has gained a lot of importance in eco-friendly supply chain management. Ethical sourcing can be defined as a social responsibility of companies, wherein they evaluate their supplier relationships and partner with only businesses that focus on human, animal, and environmental wellness. For manufacturers, it means procuring green and sustainable raw materials, and for retailers or E-commerce sellers, it means promoting sustainably manufactured products and using green materials for packaging and deliveries.



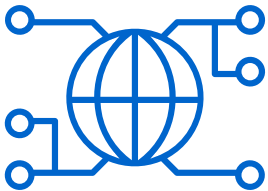
Sustainable Warehousing

Although often overlooked, warehouses and storage centers use huge amounts of energy in supply chains. According to the US Green Building Council, buildings use 41% of the energy in the U.S., and 29% is used for transportation. For companies that aim to implement greener practices, sustainable warehouse management is an important area to consider. This can be done by investing in lighting and equipment that cut energy use and maintenance costs while ensuring a productive workflow. The location of a company's warehouses also matter a lot. Building warehouses in cities instead of outskirts can reduce the need for additional infrastructure such as water and electricity connections, as well as increase proximity with urban customers.



Green Packaging

One of the biggest challenges faced by the shipping and logistics industry, especially by E-commerce, 3PL, and courier service providers is the management of the waste produced due to bulky, wasteful packaging of parcels. The modern customer is environment-conscious and demands orders to be delivered in eco-friendly packages that use minimal plastic and non-biodegradable materials. 42% of Americans are willing to pay more for sustainable paper products and packaging. Many companies are now using recycled cardboard and wrapping sheets, recycled plastic, and eco-friendly fillers to ensure eco-friendly and sustainable packaging of goods.



Network Optimization

Transportation is a highly energy-intensive activity in logistics. With the help of strategic network designing for distribution and delivery operations, supply chain companies can reduce fuel usage and fuel costs significantly, while reducing the time taken in transporting goods from point A to point B in logistics. [Strategic network optimization](#) focuses on optimizing physical flow of goods from one location to another, accurate placement of supply chain nodes, warehouses, and distribution hubs as well as [multi-echelon inventory optimization](#) across the supply chain, improving distribution efficiencies and reducing energy consumption for businesses.



Route Optimization

Day-to-day logistics involve route planning of hundreds and thousands of deliveries to various locations. Manual or pen and paper methods to plan delivery routes may not be accurate and often lead to longer routes and inefficient utilization of delivery vehicles. AI-driven route optimization solutions help in planning daily dispatches, and delivery routes taking into account real-world constraints such as zone-based restrictions, traffic conditions, and rider preferences, thereby resulting in faster deliveries, lesser miles driven and fuel cost savings. At the same time, [route optimization software](#) manages on-demand orders and [reverse logistics](#) in real-time, making the most use of the active fleet in a single trip.

Whether you are just starting out on the green supply chain journey, or have already initiated green logistics practices, there will always be scope for doing more to save the planet and adopting better and better practices for a sustainable future.

Locus offers a range of AI-driven route optimization software to help save fuel costs and reduce your carbon footprint.

Get in touch with our experts now.

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