

15 DOWN & DIRTY WAYS TO GET GREEN NOW

Ready to reduce your company's carbon footprint and cut waste in the supply chain? These steps will help you plant the seeds.

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Fending off climate change is an immense and complex project. But it's easy to plant one tree. Dig a hole, lower the root ball, shovel back the dirt, add water, and voila! The world is that much greener. Like gardening, supply chain management offers many practical opportunities to improve the health of the earth. Here are some ideas.

Packaging

1. Shrink the dunnage. Sometimes you can't help but leave a little space around a packaged product, especially if it's fragile or irregular in shape. But creative shippers or their third-party logistics (3PL) providers can find ways to reduce the material needed to fill the void. For instance, when Boxzooka, a Secaucus, New Jersey-based firm that provides e-commerce and warehousing services, took over fulfillment for a customer, the packaging process the company requested called for about 30

feet of paper dunnage per order. "We implemented a new type of paper and a machine that crinkled up the paper in an automated format," says chief executive officer Brendan Heegan. "This process ends up using about 12 feet of paper per order instead of 30."

2. Skip the box. Rather than place product in a branded package and then insert that in a shipping box, one of Boxzooka's e-commerce merchants might design a small shipping box, or polyethylene envelope (poly mailer), printed with its own logo. The merchant ships its product to Boxzooka in bulk. "Then we ship it out the door to the end consumer in their branded shipping boxes or poly mailers," says Heegan. A customer who decides not to keep the product can send it back in the same mailer.

Some e-commerce merchants

use a different tactic to remove packaging from the returns process. "Offering a packageless dropoff solution is a good way to reduce cardboard boxes," says Ann Starodaj, senior director of sustainability at Optoro, a Washington, D.C., firm that offers a technology platform for managing product returns. A customer takes the unwanted product to a retail store or other dropoff point, which consolidates numerous returns into one shipment.

3. Right-size your boxes.

"Reducing the size and volume of packages is super important for an e-commerce retailer," says Heegan. The smaller the box, the less cardboard it consumes, and the less space it takes up during transport. Shrink enough boxes, and you could cut the number of trucks your operation puts on the road. Boxzooka works with e-commerce merchants to help



them ship in smaller packages.

French firm Quadient, with U.S. headquarters in Milford, Connecticut, provides automated systems that build shipping boxes tailored to the dimensions of each outbound item. "One customer eliminated 92 truckloads annually by implementing the solution," says Sean Webb, business development executive for the Packaging by Quadient product line.

Warehousing

4. "Green up" your physical facility. Boxzooka has taken numerous steps to reduce emissions and waste in its two warehouses. For example, it uses LED lighting and motion sensors to reduce energy consumption. And the company recycles all the materials it can, including plastics, aluminum, and wooden pallets.

Trucks used to arrive at Boxzooka's facilities once or twice weekly to pick up dumpster loads of cardboard for recycling. But new equipment that bales and compacts the cardboard has reduced those trips significantly.

"Now we fill the capacity of multiple dumpsters once monthly," Heegan says.

5. Adjust your scheduling. The

hours of operation in a warehouse can impact how much energy that facility consumes.

"We keep all our business consolidated into one shift, or sometimes we flex and do an extended shift," says Heegan. The company finds that running, for example, one shift with 30 associates is more environmentally sustainable than running three shifts with 10 associates each.

"Or maybe we'll do a 10-hour shift instead of two eight-hour shifts, with different people coming in and overlapping one another," he adds.

Besides the number of hours a warehouse operates, choosing specific hours can also have an impact.

"If you have the right air conditioning and you're a food vendor in the summer, you might want to do some of your work at night when it's coolest," says Kevin Beasley, chief information officer at VAI in Ronkonkoma, New York, which provides an enterprise resource planning solution and related software.

Strategy

6. Enlist a 3PL. Without incurring significant costs, a company

can reduce its carbon emissions by operating more efficiently, says Mark Kunar, executive vice president at DHL Supply Chain North America in Westerville, Ohio.

In fact, by making better use of transportation and warehouse capacity, reducing the aggregate distance traveled by each transportation unit, and eliminating unnecessary use of resources, a company can reduce costs, move inventory faster, and become more responsive to customer demand, while also helping to green the planet, he says.

"Shippers can do this by evaluating the tools that can provide the biggest network and capacity benefits," Kunar says. Or they can rely on tools deployed by supply chain partners.

"DHL Supply Chain, for example, deploys services such as an optimization tool, network design consulting, and the ability to broker loads for backhauls to match capacity," he adds.

Companies that use 3PLs would do best, environmentally and otherwise, to rely mainly on one partner rather than spread their business across several, says Andrew Lynch, president of Zipline Logistics, a 3PL based in



Columbus, Ohio.

That 3PL can then take a big-picture approach to making your operation more efficient. "Allow your partner to work with you in a strategic way, and you'll be surprised at what kind of sustainability initiatives come about," Lynch says.

7. Measure your current state. "Take a look at your business and understand its impact from a sustainability standpoint," says Webb of Packaging by Quadient. "How many trees are being impacted? How much plastic are you using in your solution?"

Experts in the field, such as companies that manufacture packaging materials, can help with those calculations. With a clear picture of your current impact on the environment, you can set goals for improvement.

Transportation

8. Get smart about routing. Trucks that lose less time in peak-hour traffic burn less fuel. So do trucks that seize backhaul opportunities rather than pull empty trailers. "Many supply chain applications incorporate artificial intelligence (AI) to quickly analyze backhaul and truck routing options," says VAI's Beasley.

9. Choose a primary LTL carrier. A company that ships even moderate volumes of less-than-truckload (LTL) freight might use six LTL carriers to send its freight to different markets, says Lynch. Each of those companies sends a truck to pick up one or two pallets, returns that freight to its terminal, and then sends it back out again.

Zipline can work with a customer to identify one LTL carrier that provides good service to perhaps 85% of its markets. Based on that volume, Zipline negotiates an attractive rate for the freight.

"Then we can bring in one trailer and pick up all the LTL shipments in one day, as opposed to having multiple trucks driving in and out," Lynch says. "That's a great way to take four or five trucks off the road for that individual shipper. And that has a significant impact on their overall carbon footprint."

10. Join SmartWay. Run by the U.S. Environmental Protection Agency (EPA), the SmartWay program helps carriers, 3PLs, and shippers adopt transportation practices that reduce their carbon footprint. A registered company reports its transportation-related carbon emissions to the EPA, which ranks its performance

against other companies in its business sector.

"Asset-based capacity providers give the EPA their carbon footprint scores based on miles run, waste, and diesel usage," says Zipline's Lynch. "Then, as a third-party participant, we do our best to funnel business toward the more efficient carriers."

Shippers in the program maintain their scores by working directly with SmartWay carriers or with 3PLs that use those carriers.

Participation in SmartWay is one tactic shippers can use to understand the emissions generated by their operations and by their suppliers. "Shippers should challenge suppliers to specify reduction benefits from solutions posed or delivered (baseline versus improvement), and to incorporate visibility on emissions tracking and reduction as a standard within their warehousing and transportation management systems," says DHL's Kunar.

11. Urge carriers to do the right thing. "By adding alternative fuel and drive-train solutions to your transportation requests for proposals, for example, and rewarding providers who are



prepared to offer them, shippers can help to drive the market and to make these solutions more accessible, economically viable, and appealing in the future,” says Kunar.

Large shippers might encourage smaller carriers, or the 3PLs that use those carriers, to invest in tools such as SmartWay-certified or electric vehicles and alternative fuels. Then they could reward these green efforts with volumes on key routes. Such tactics might cost more in the short term, but could pay off in the future.

12. Consolidate freight. Rather than fulfill small to mid-sized orders with separate LTL shipments, a shipper can put all the freight bound for a single market on one truck, which then delivers orders to multiple customers.

“We saved our customers about 1.2 million miles in 2018 through operating this way,” Lynch says.

Reverse Logistics

13. Minimize transportation. When a customer returns an item to a brick-and-mortar store, Optoro’s technology helps the merchant decide immediately how to dispose of that product.

“If it’s not worth shipping back

to the return center, and it’s best to donate it from the store, then donate it from the store,” says Starodaj.

That decision, high in the reverse supply chain, can reduce the use of truck transportation. It may also cut waste by averting accidents that can occur when shipping miscellaneous products to a returns center. “Say a bottle of detergent leaks over everything,” Starodaj says. “That all needs to be thrown out.”

14. Rescue returned product. For most retail goods, the part of the life cycle that harms the environment most is manufacturing. “The best thing you can do is try to extend the life of that product,” says Starodaj.

If the first buyer doesn’t want it, get it to a secondary consumer. Then no one needs to make a second product to satisfy the second person’s need. “From a waste and carbon footprint perspective, reuse is huge,” she says.

Along with its returns platform, Optoro operates two “re-commerce” channels. One sells returned merchandise to consumers, and the other to businesses. Also, merchants often donate returned items, Starodaj

adds.

Advanced Data Science

15. Use cognitive automation. Traditional forecasting tools aren’t accurate or agile enough to match manufacturing to customer demand in today’s highly volatile markets, says Ram Krishnan, chief marketing officer at Aera Technology. Based in Mountain View, California, Aera provides solutions based on AI to enhance supply chain management.

When a company doesn’t understand true customer demand, it may order more materials than it needs, and manufacture and ship more product than customers will buy—wasting resources and increasing its carbon footprint, Krishnan says.

AI, or cognitive automation, can help a company quickly assemble and analyze large volumes of data from diverse sources to get a true picture of customer demand. Then, as supply chain systems execute on that forecast, the AI system provides advice about course corrections to make in real time to account for demand fluctuations.

“You produce and ship the right amount of product, constantly optimizing and improving,” Krishnan says.



VAI offers predictive analytics software that reduces waste by determining how much product to buy and when to buy it, based on future need. “If you’re bulk buying and that product sits in your warehouse for a year, that has a carbon footprint effect,” says

Beasley. “That space is being used, heated, and cooled.”

On the other hand, if you order product only as you need it, you put more trucks on the road. Predictive analytics software can help a company strike the optimal

balance.

“Instead of getting a delivery from a vendor two or three times a week, maybe I can get it every 10 days or every two weeks if I can predict what my product turnover will be,” he says.

