



OPERATIONS

Energy Efficiency Is Key to Better Logistics

Logistics providers have discovered that sustainability in the supply chain delivers a good ROI.

[Adrienne Selko](#) | Jul 29, 2018

For a long time now, corporations and their supply chains have been required to prove that they are acting in a sustainable, environmentally-friendly way.

Most every company issues a corporate social responsibility (CSR) report detailing what they have done over the year to comply with the expectations of all of their stakeholders. Those expectations, however, have become heightened as of late due to a variety of factors. The board of directors is getting pressure from shareholder resolutions that are closely examining the supply chain. Retailers such as Walmart have rigorous standards

and will only purchase from suppliers who meet these standards. And customers, many of whom are Millennials, want to know the sourcing of the products they buy and will make decisions based on a company's sustainability record.

The result is that companies must balance the expectations of these groups with the need to make a product that consumers want and are willing to pay for.

This is where it gets tricky, according to Yossi Sheffi, director of the MIT Center for Transportation and Logistics. "While studies show that consumers want sustainable products, only 5%-10% will actually pay a price differential for that," Sheffi says. "And forget about it if the performance of the sustainable product isn't as good as the less sustainable product. Consumers won't trade quality and performance for sustainability."

All is not lost, according to Sheffi, author of the recent book, *Balancing Green: When to Embrace Sustainability in a Business (and When Not To)*. There is a way to satisfy all of the stakeholders and still see a good ROI. The answer, he says, is easy and achievable—energy.

"Cutting energy costs is the poster child for this," says Sheffi. "In many cases, devising ways to become energy-efficient involves activities that benefit the environment and simultaneously cut costs. Whether you replace light bulbs or have fuel-efficient trucks, the ROI happens quickly."

What makes the convergence of these two objectives ideal is that energy is often the largest cost any company incurs. Reducing energy costs often reduces GHG emission. And finding alternative energy, which again reduces GHG emissions, is the next step.

The ROI of Natural Gas

This solution has not been overlooked by logistics companies. They have been both reducing their energy usage and investing in alternative fuels. About 11% of carriers

have vehicles that use a fuel other than diesel or biodiesel blends, according to a 2016 survey by ATRI.

Lately they have upped their game and many have in place ambitious goals for 2020.

For example, UPS is aiming to have 25% of its new vehicles run on alternative fuel or be an advanced technology vehicle, such as hybrid trucks that uses materials that improve fuel efficiency. The company also set a new goal that by 2025, 40% of all ground fuel will be from sources other than conventional gasoline and diesel, an increase from 19.6% in 2016.

“Over the years, we have seen an increase in our stakeholders wanting to know what we are doing to address our environmental impact,” explains Patrick Browne, UPS’s director of global sustainability. “We are in an ideal position to address the issue as we have 119,000 trucks on the road daily. We are in the middle of everyone’s supply chain. So, we are currently collaborating with our entire supply chain to reduce the overall environmental impact.”

In fact, the company helps its supply chain both measure its carbon impact but also provides solutions, such as right-sizing packages to maximize trailer capacity and thus reduce the number of deliveries.

Alternative energy has long been a goal at UPS. The company has been investing in alternative energy use for its vehicles for years and is continually seeking new efforts. In June 2018 the company announced that it will invest \$130 million to buy 730 compressed natural gas vehicles and build five more domestic CNG fueling stations as the industry shifts from petroleum-burning vehicles to those that use less-polluting alternative fuels.

Over the past ten years UPS has invested more than \$1 billion in alternative-fuel and advanced-technology vehicles and fueling stations. The company operates approximately 9,300 alternative fuel and advanced technology vehicles worldwide. The company's fleet includes electric, hybrid electric, hydraulic hybrid, compressed natural gas (CNG), liquefied natural gas (LNG), propane and lightweight fuel-saving composite body vehicles. In addition to its use of alternative vehicles, UPS uses millions of gallons of lower-carbon footprint renewable diesel and renewable natural gas (RNG) in its fleet each year.

Looking forward UPS's corporate vision entails a future smart logistics network of advanced technology vehicles and facilities powered by more diverse and sustainable energy sources, including on-site solar, off-site wind, renewable natural gas, renewable hydrogen, and renewable diesel delivered via advanced energy system infrastructure.

Ryder is also making great strides when it comes to using alternative fuels. In its most recent CSR report, the company said it has increased the size of its natural gas rental and lease fleet by nearly 100%. Currently the company's natural gas fleet numbers 1,000 (twice what it was in 2013). The company has logged over 90 million miles using natural gas and has replaced more than 13 million gallons of diesel fuel with lower emission, domestically-produced natural gas.

FedEx also has ambitious goals. By 2020 it wants to obtain 30% of its jet fuel to use alternative fuels. This will help the company achieve its goal of reducing aircraft emissions intensity 30% by 2020. The first delivery of commercially viable and available alternative jet fuels is anticipated in 2020. That is part of an overall vehicle efficiency goal of a 50% reduction (from a 2005 baseline) by 2025.

Deutsche Post DHL Group is enlisting its subcontractors in its emission reduction activities. With a goal of reducing emissions to zero by 2050, the company has pledged

to increase the carbon efficiency of its own activities and those of its transport subcontractors by 50% globally by the year 2025, as compared to the 2007 baseline.

The company is also involved in biofuel shipping and as part of its green freight initiative, DHL Global Forwarding has joined with the GoodShipping Program, a global initiative to decarbonize the container shipping industry by changing the marine fuel mix, which exclusively collaborates in making ocean freight transports more environmentally friendly. This service became active in 2018.

Last-Mile Delivery

Building on their push to incorporate alternative fuels as an emission reduction strategy, logistics companies are increasing their focus on one of the highest cost areas they face: last mile delivery.

Browne says that by 2050 over two-thirds of the population will live in cities. Add to that the double-digit growth of e-commerce over the last several years and solving the challenges posed by last-mile delivery is of utmost importance. UPS has been working on the issue in Europe as these older cities present major challenges.

In Hamburg, Germany, for example, UPS put a container in the city center and in the morning delivers packages to that location. Then using electric bikes couriers deliver the packages around the city. In the U.S., UPS has tested this model in Portland, Pittsburg and Ft. Lauderdale. The company also announced recently that it has joined Work House Group to build 50 plug-in electric delivery trucks.

Sustainable transportation is a key component of future development of many cities. “As cities become smart cities, we are involved in helping them to develop the logistics part of these plans,” explains Browne.

All of these programs using alternative sources that reduce energy consumption are both good for the environment as well as good for business, which is exactly the point Sheffi has been making. “These programs, based in energy, have good ROIs and create a win-win situation,” Sheffi says.

Browne wholeheartedly agrees. “We consider our environmentally-friendly policies as a competitive edge,” says Browne. “It puts us in a strong position with our suppliers as well as our customers.”

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