



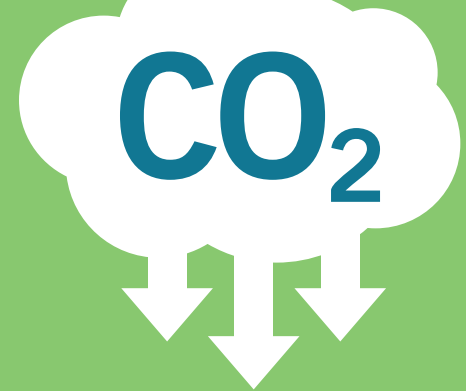
# Fueling Sustainability in Manufacturing Supply Chains

Shipping Strategies to Increase Fuel  
Efficiency and Reduce Carbon Footprint

# Going Green is Going Global



A report from the Intergovernmental Panel on Climate Change (IPCC) found that some effects of climate change are now irreversible, but “strong and sustained reductions in emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gasses could quickly make air quality better, and in 20 to 30 years global temperatures could stabilize.”



Companies have to act now. And the good news is – they are.

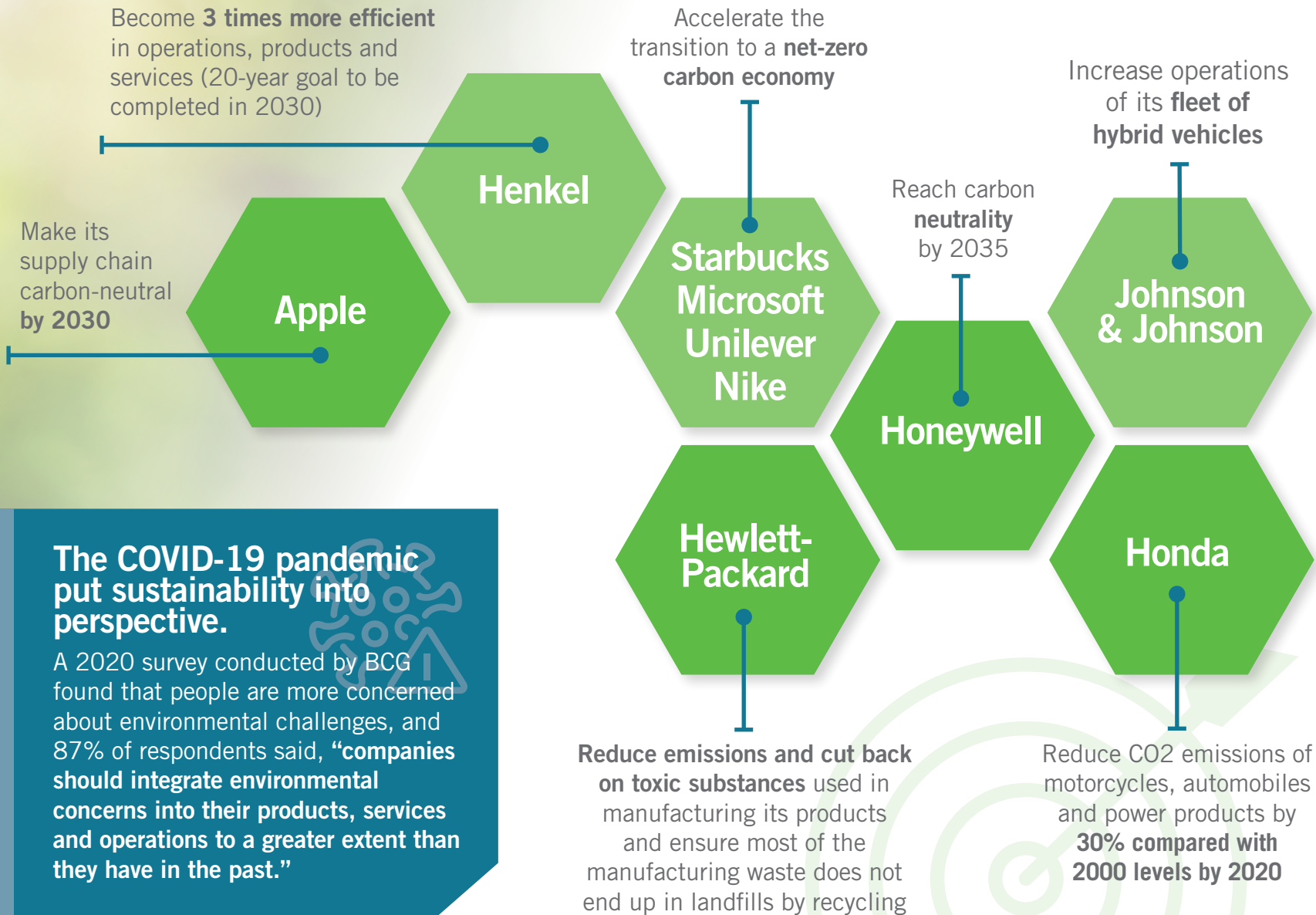
81%

of global shippers

have increased sustainability initiatives over the last three years, according to a recent research report.



# Manufacturers with Big Sustainability Goals



## The COVID-19 pandemic put sustainability into perspective.

A 2020 survey conducted by BCG found that people are more concerned about environmental challenges, and 87% of respondents said, “**companies should integrate environmental concerns into their products, services and operations to a greater extent than they have in the past.**”

# Sustainability is Good for Business

## Bottom-Line Benefits of Sustainability for Manufacturers

**Consumer appeal:** Sustainability concerns drive purchasing decisions.

92%

A study by Cone found that 92% of consumers are more likely to **trust a company that supports environmental issues.**

50%

DHL found that 50% of consumers **ask for corporate social responsibility (CSR)** information as a part of the purchase process.

92%

Forbes poll found that 92% will be more likely to **trust a company that supports environmental issues.**

70%

Nearly 70% of purpose-driven shoppers will pay an added premium of **35% or more for sustainable purchases**, such as recycled or eco-friendly goods, according to IBM.

Going green and focusing on sustainability is more than the right thing to do. It has bottom-line benefits.

75%  
of millennials

The Clinton Global Initiative and Microsoft found that more than three-quarters of millennials are concerned about the environment and **are willing to spend more on “green” products.**

# Tax incentives:

The US government, a number of state legislatures, and some European and Asian countries offer tax incentives to manufacturers for implementing sustainable practices.

Here's just two examples:

- 1** The federal Business Energy Investment Tax Credit (ITC) is for businesses that build or purchase new renewable energy-producing equipment. Incentives vary by technology.
- 2** Business that purchase plug-in hybrid or all-electric vehicles are eligible for the federal Qualified Plug-in Electric Drive Motor Vehicle Credit.

# Bottom-Line Benefits of Sustainability for Manufacturers

## Cost-savings:

By switching to more efficient manufacturing processes, equipment, energy and supply chain partners, companies save time and money – all of which translates to larger profit.



By installing solar panels, the average American business can cut energy costs by 89% according to market data from EnergySage.



Lightweight, compact or less packaging saves on material costs and shipping costs.



Optimizing shipping via a transportation management system saves on fuel and labor costs.

# A Big Difference

Energy saving and fuel efficiency reduces carbon emissions in manufacturing. Over the past 30 years, the amount of energy it takes to produce one dollar of goods has dropped by 50%. However, more can be done.

## To be more sustainable, manufacturers must know where they're starting from.

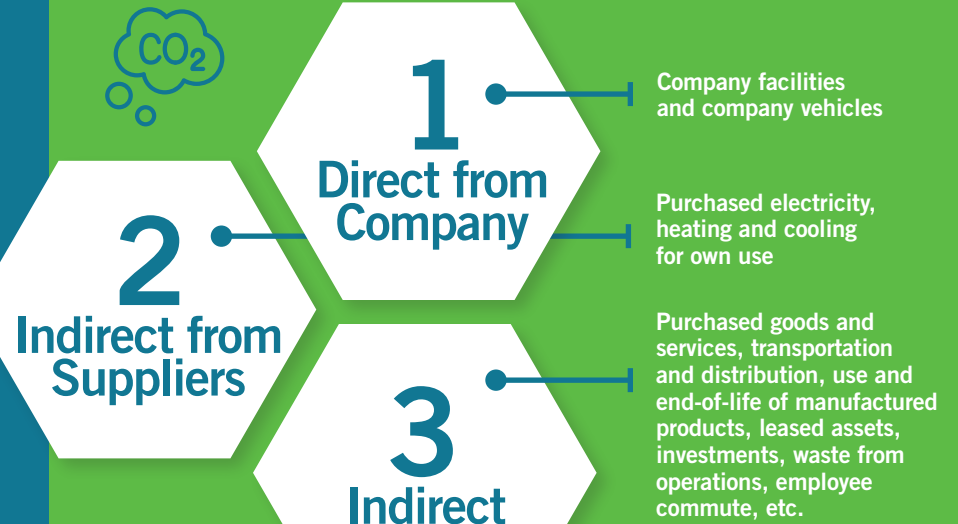
The National Association of Manufacturers (NAM) recommends all manufacturers start their sustainability initiatives with an energy audit. Every facility should be able to **reduce its energy consumption by 10-20%** on average, according to NAM.

**At least 30%** of the industry's overall savings can be realized by simply making changes to behavior and procedures – without the need for capital expense.

## Engage Your Supply Chain

A company's supply chain accounts for **11.4 times** the amount of carbon emissions that the operational emissions of that company on average.

### Types of Carbon Emissions



# Become More Fuel Efficient

Caterpillar developed a new technology that reduces emissions while boosting fuel economy by nearly **25%**, according to NAM. By using this technology, one fleet operator expects annual fuel savings of up to **\$1.2 million**, while another operator increased its fuel economy by **23%**, with fuel usage going from **5.2 to 6.4 miles per gallon**.

**97%**

Natural gas reduces carbon monoxide emissions 90 to 97 percent.

**1%**

Compressed natural gas (CNG) is natural gas fuel that has been compressed to **than 1% of its volume**.

Switching to compressed natural gas or electric vehicles can result in a large ROI – environmentally and profitably.

**60%**

Fleet electrification can **eliminate 155,000 tons of CO<sub>2</sub>**, a 60% reduction in carbon emissions.

**50%**

Natural gas vehicles can **reduce noise by as much as 50%** compared to diesel vehicles.

**98%**

98% of natural gas comes from **North America**.

**1%**

Every 1% increase in natural gas production can **create 35,000 jobs**.



# Turn to Advanced Transportation Technology

Next-generation technology is the best way for manufacturers to implement sustainable initiatives and benefit from them. Transportation management software (TMS) systems increase fuel and operational efficiency, and reduce the overall carbon footprint.

## Leverage the power of AI.

TMS platforms deliver better efficiency, cost savings, productivity and service, all while increasing a company's environmental-friendliness.

### Lower Empty Miles & Deadhead

- TMS systems equipped with AI technology help with route planning, maximizing driver productivity and increasing dispatch efficiency.

### Reduce Fuel Waste

- Idle trucks waste expensive fuel and emit a lot of CO2, but with AI algorithms, you can determine the best possible time to arrive at a facility and reduce wait time and carbon emissions.

### Optimize Loads & Routes

- TMS platforms with AI are better equipped to maximize truck capacity and ensure full loads and backhaul routing.

### Improve Access to Data

- Load, route and rate data helps with forecasting demand, allowing for truck and driver optimization, while real-time driver/traffic data can reduce idling and speeding and direct drivers around construction or accidents.

### Increase Automation

- Automate traditionally manual processes and simplify access to large amounts of data, without using paper to print spreadsheets.

## PCS TMS Users Achieve:

90%+ Automation Levels

7,566,809,112 Optimized Miles

14 TB of Transportation Data Feeding AI & Machine Learning

Manufacturers evaluating TMS options want intelligent automation, real-time visibility and system connectivity to better understand energy and fuel consumption; increase driver and trailer utilization; and **improve truck routing and overall sustainability.**

New advancements in TMS systems can **deliver market advantages** that enable manufacturers to provide their customers with the environmentally conscious products and great service they value and expect.

# How PCS Delivers Sustainability

Manufacturers benefit from using TMS systems that integrate with internal and external systems to improve data collection and analysis to make environmentally friendly transportation and logistics decisions.



“From integrated accounting to an end-to-end platform, PCS helps trucking companies get the job done more efficiently.”

– Heather Johnson | Director of Operations, Pinch Flatbed





**For more information on how shippers and carriers can use the AI-driven TMS platform to connect reach higher levels of collaboration through data sharing, transparency, and automated workflows, contact PCS Software.**

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