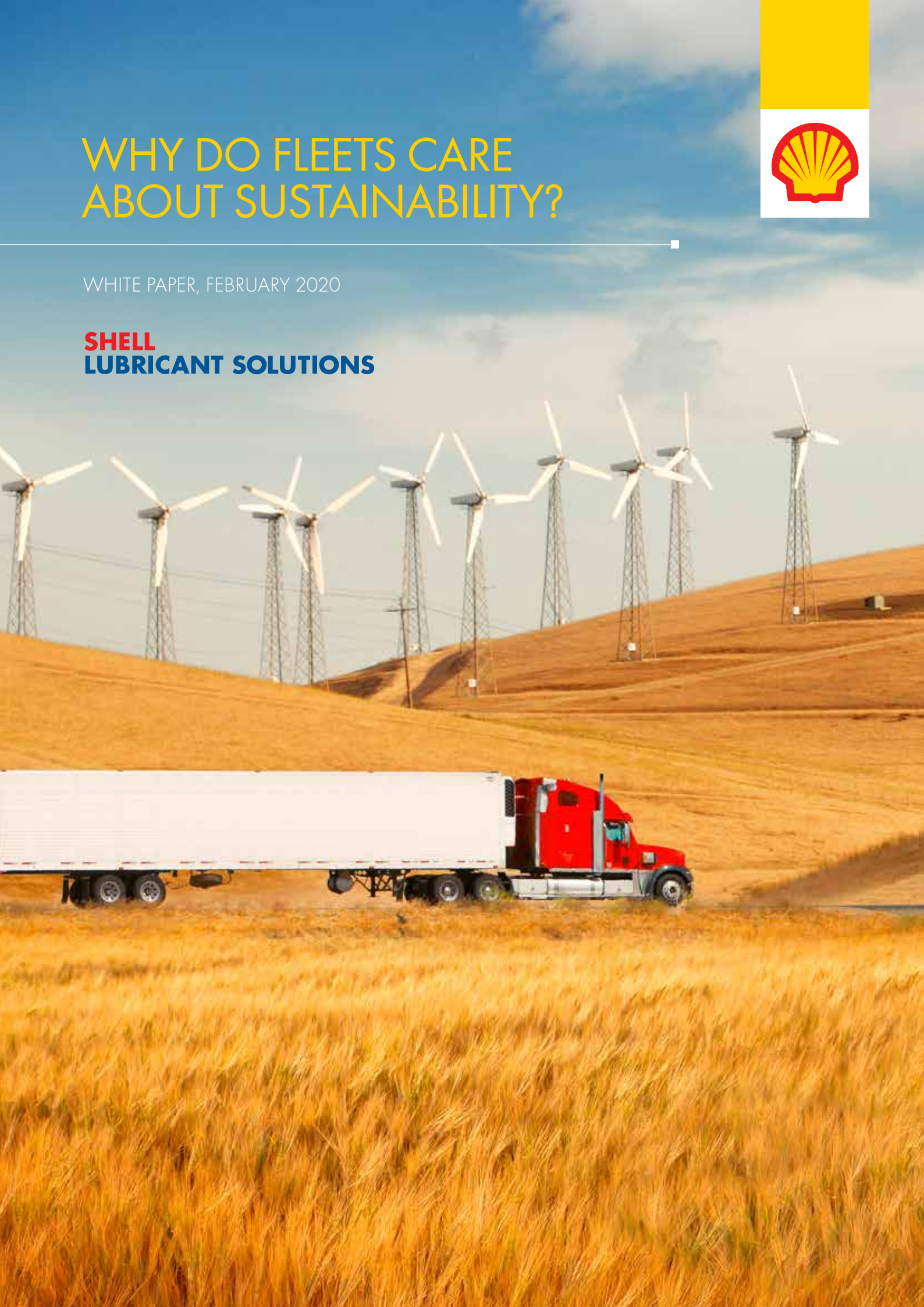


# WHY DO FLEETS CARE ABOUT SUSTAINABILITY?

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# WHAT IS SUSTAINABILITY?

“ **SUSTAINABLE DEVELOPMENT** MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS. ”



**For businesses, the foundation of sustainability is taking action to be around tomorrow – planning responsibly for the long-term success of the company and the marketplace.** Three bottom-line items companies that need to consider when developing plans for a sustainable future are society, economy and environment. According to one sustainability executive:

“ **THE ‘TRIPLE BOTTOM LINE’** IS A FRAMEWORK – A VISIONARY, YET VERY MUCH ‘COMMON SENSE’ FRAMEWORK – FOR HOW COMPANIES CAN INCREASE THEIR CHANCES OF SUCCESS FOR YEARS, DECADES, MAYBE CENTURIES TO COME. ”

Transport is a significant contributor to the economic well-being of the marketplace. Nearly 70% of freight by tonnage, and more than 80% by dollar value, is hauled by trucks in the USA. Grocery stores, e-commerce and coffee shops, for example, would not exist without trucking. In enabling commerce, transport is also a significant contributor to carbon dioxide emissions: trucking is estimated to account for 7% of all US greenhouse gas emissions.

Freight needs to be moved by truck, and the trucking supply chain involves emissions. However, the industry recognizes the need for improvement, so alternative energy choices are rapidly entering the marketplace.

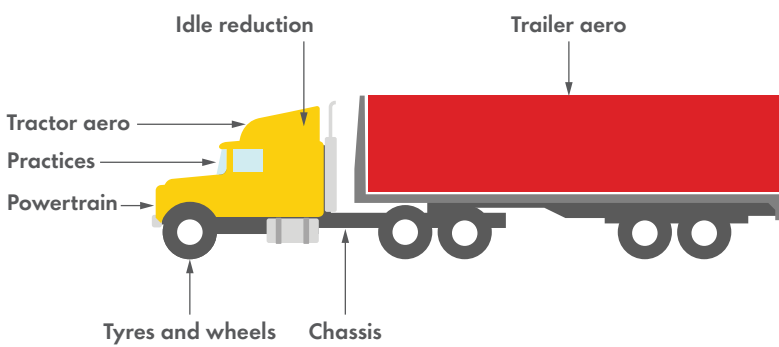
Fleets are also continually looking for efficiency gains and are using less fuel to carry more freight each year. NACFE’s *Annual fleet fuel study* has tracked 20 major fleets’ investments in some 90 efficiency improvement technologies since 2003 (Figure 1).

NACFE’s 2017 “Run on less” initiative demonstrated that great drivers using best driving practices equipped with current diesel technology trucks could see a fuel economy higher than 10 mpg in real-world operations. This represents a 37% improvement over NACFE’s average of 7.28 mpg for 20 leading-edge fleets and a 55% improvement over the estimated national fleet average of 6.42 mpg in 2018.

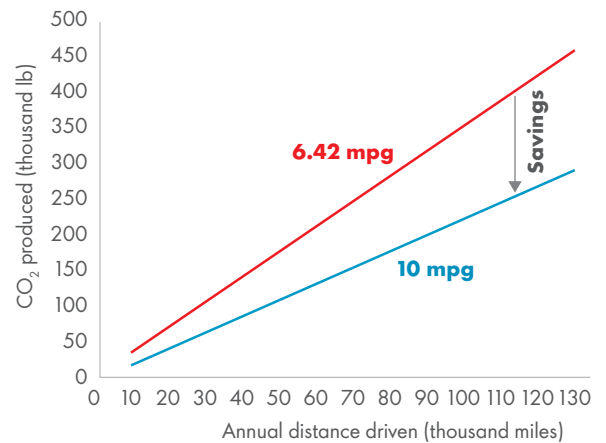


“ **THE GLOBAL ENERGY SYSTEM IS CHANGING**, BOTH TO MEET GREATER DEMAND AND TO RESPOND TO ENVIRONMENTAL STRESSES. THE BIG CHALLENGE FOR SOCIETY, SIMPLY PUT, IS HOW TO PROVIDE MUCH MORE ENERGY WITH MUCH LESS CARBON DIOXIDE. ”

Ben van Beurden, Chief Executive Officer, Royal Dutch Shell plc



**FIGURE 1:** Fleets’ technology adoption over time.



**FIGURE 2:** CO<sub>2</sub> reduction through improved efficiency.

Improving fuel efficiency directly reduces emissions from trucks. Each gallon of diesel not used reduces emissions by 22.44 lb of carbon dioxide (CO<sub>2</sub>). A truck averaging 90,000 miles per year would save 112,635 lb of CO<sub>2</sub> at 10 mpg compared with at 6.42 mpg (Figure 2).

NACFE has described the feasibility of battery electric trucks in a series of guidance reports. A diesel truck would need to achieve about 19 mpg to have parity with a heavy-duty battery electric one. Hydrogen fuel cells, renewable natural gas and even renewable diesel are making progress as ways to reduce CO<sub>2</sub> emissions despite increasing freight demands.

Using drivers better is also an opportunity for better sustainability. Drivers are critical to moving freight. Time lost waiting to load and unload, or for maintenance or repair, or because of accidents, traffic or weather all increase fuel use and, therefore, emissions. Drivers are most efficient when actually driving. Improving their utilization is another important focus of fleets.

Improving trailer capacity can improve sustainability. Increasing the amount of freight hauled per trip reduces a vehicle’s fuel economy but improves its freight ton efficiency: the amount of fuel used to move each ton of goods over each mile, measured in ton-miles/USgal. Denser

packaging, improved load planning and optimized routes can all help to improve the freight ton efficiency, reduce emissions and improve energy efficiency.

Fleets each have a variety of duty cycles, including last mile, urban, regional and long haul. There is no single right energy answer; rather there is a range of solutions, each optimized for specific duty cycles resulting from regional factors and trade-offs.

Shell is supporting fleets with the solutions that are right for them.

