

Delivering Jobs

The Economic Costs and Benefits of Improving
the Fuel Economy of Heavy-Duty Vehicles

EXECUTIVE SUMMARY

Medium- and heavy-duty trucks account for only 4 percent of all vehicles on U.S. highways. Yet these trucks consume more than 20 percent of the diesel and gasoline used to power all vehicles on the nation's roads—or more than 37 billion gallons of fuel.

Unlike the fuel economy of cars and light trucks, the federal government has never regulated the fuel economy of medium- and heavy-duty vehicles. As a result of those missing standards and other market failures, these vehicles currently average about six miles per gallon, and have made only modest gains in fuel economy over the past 30 years. That means this segment of vehicles represents a huge untapped resource for saving fuel.

In its recent *Climate 2030* report, the Union of Concerned Scientists (UCS)—a nonprofit that analyzes environmental and security challenges—found that widespread adoption of existing and near-term efficiency technologies could boost the average fuel economy of medium- and heavy-duty trucks to 9.7 mpg by 2030. What's more, by investing in those technologies, the United States could save a total of 100 billion gallons of diesel and gasoline from 2010 to 2030, with annual savings reaching 11 billion gallons in 2030.

To investigate the economic impact of improving the efficiency of medium- and heavy-duty trucks, UCS collaborated with CALSTART, a consortium that focuses on clean transportation technology, and MRG & Associates, a resource analysis and planning firm. Building on results from *Climate 2030*, these analysts evaluated the effects of investments in advanced truck technologies on jobs across the nation, gross domestic product, and truck owners themselves.

These analyses show that the economic benefits of investing in advanced fuel-efficiency technologies far outweigh their costs. In fact, making trucks more fuel-efficient could save their owners money at the pump, create tens of thousands of jobs across the economy, reduce the nation's dependence on petroleum, and help combat climate change.

Jobs and Economic Growth




Widespread deployment of more-efficient trucks would create **63,000 additional jobs by 2020, and 124,000 jobs by 2030. All states would see net job growth.** California, Texas, Florida, New York, Ohio, Illinois, Pennsylvania, Indiana, and Michigan would lead the way, with each adding more than 4,000 jobs by 2030.

Fuel and cost savings from advanced trucks would **spur a \$4 billion increase in annual gross domestic product by 2020 and a \$10 billion increase by 2030.**

Savings for Truck Owners

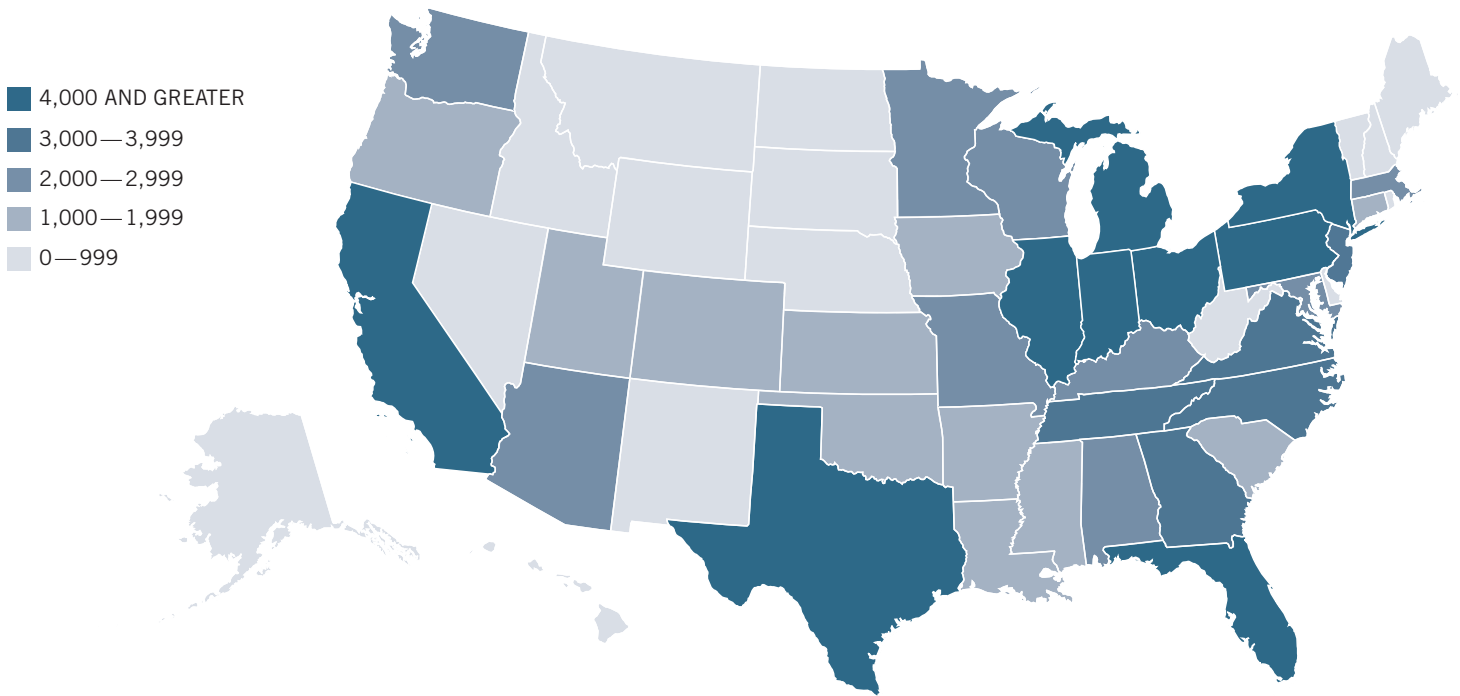
Owners of advanced heavy-duty tractor-trailers could **save \$120,000 or more per truck over eight years, after paying back their initial \$62,000-per-truck investment.** Owners of large fleets of package delivery trucks or long-haul tractor-trailers could save hundreds of millions of dollars over 8 to 12 years.

By ramping up investments in more-efficient trucks to \$4.7 billion in 2020 and



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STATE BY STATE JOB GROWTH IN 2030 FROM MORE-EFFICIENT TRUCKS



\$13.5 billion in 2030, the nation would reap **annual savings of \$10 billion by 2020 and \$24 billion by 2030**—over and above the initial costs of the technology.

Energy Security and Climate Benefits

Investments in efficient medium- and heavy-duty trucks could **save a total of 100 billion gallons of diesel and gasoline from 2010 to 2030**. Annual fuel savings in 2030 alone could top 11 billion gallons.

Those fuel savings would **reduce global warming emissions by a total of 140 million metric tons in 2030**—the equivalent of removing 21 million of today's cars and trucks from the road.

However, our analyses also show that despite the cost-effectiveness of truck fuel-efficiency technologies and the benefits these technologies provide to the nation in the form

of jobs and economic growth, market barriers have prevented and, unless addressed, will continue to prevent their widespread adoption. These barriers include the common industry practice of considering only short-term fuel savings—often over the first two years or less—and uncertainty regarding the future price of fuel. Newer technologies face additional challenges, including high incremental costs and lack of good information on technology performance, reliability, and resale value.

These findings suggest that the nation needs strong, smart, and consistent policies to overcome market barriers and realize the powerful economic and environmental benefits of advanced truck technologies. Such a package would include performance standards for trucks as well as incentives that spur the industry to speed the development, production, and use of cost-effective fuel-efficiency technologies.

The fully referenced report is available on the UCS website at www.ucsusa.org/deliveringjobs.

The Union of Concerned Scientists is the leading science-based nonprofit organization working for a healthy environment and a safer world.



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