EXECUTIVE SUMMARY
CRACKING THE GASOLINE CODE

Using new gasoline consumption data to lift the most gasoline-burdened Americans and cut gasoline use faster and more efficiently

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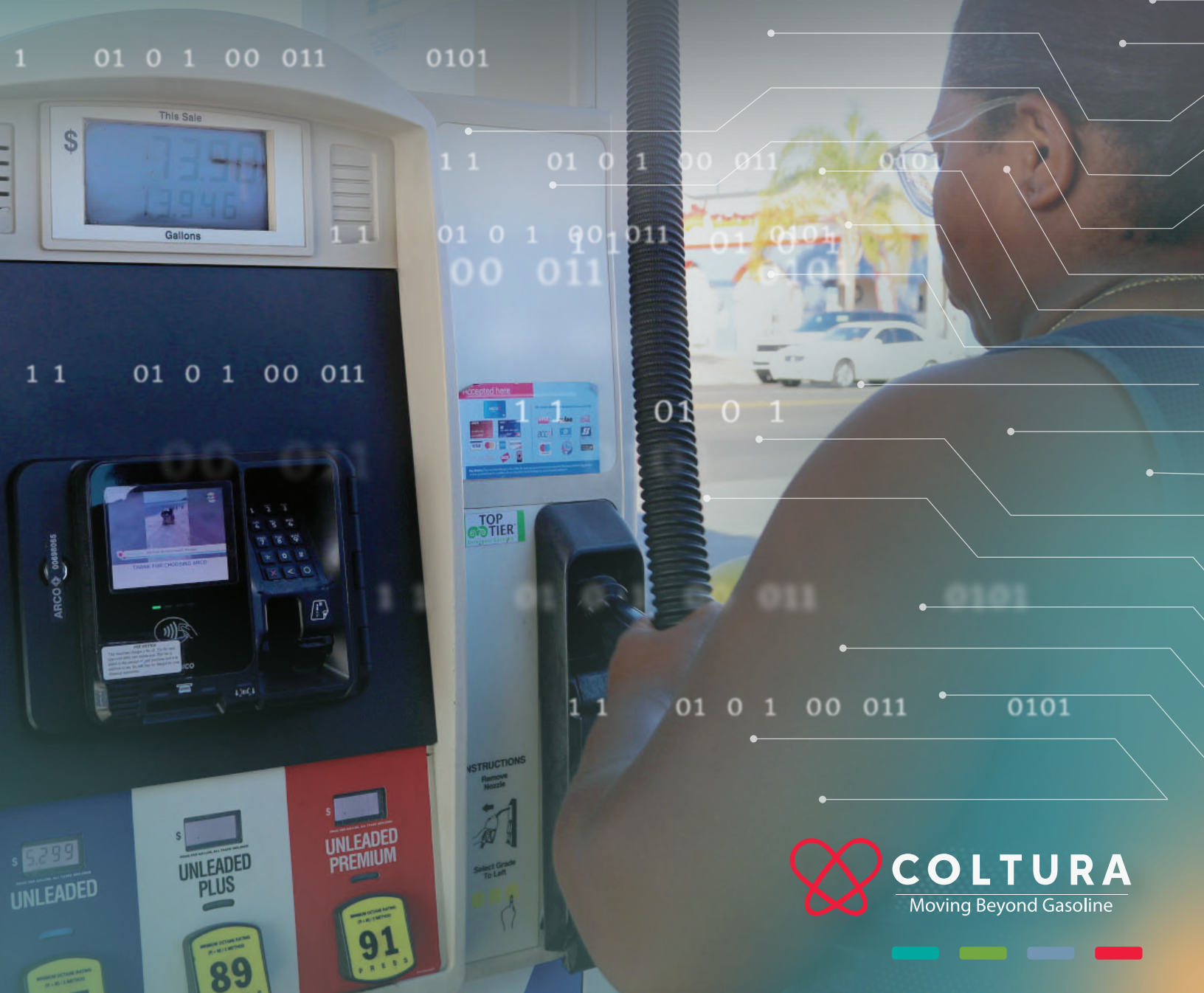


COLTURA
Moving Beyond Gasoline

Photo: Tracie Rodriguez

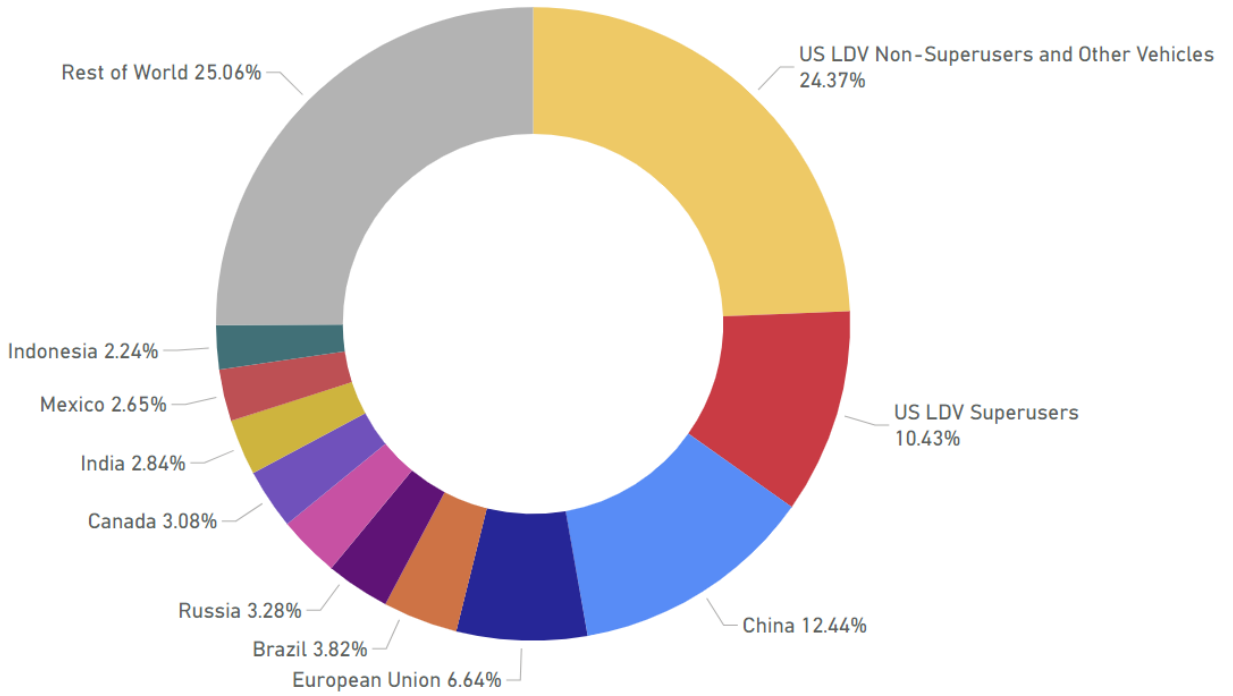
I. Executive Summary

Extreme levels of gasoline use are deeply woven into American society. The US burns 370 million gallons of gasoline every day – three times more than China and far more than any other country.[1] Gasoline use causes one-sixth of US carbon emissions and costs US households more than $450 billion a year. Gasoline use is not going down nearly fast enough to meet climate goals.

Driving America's stratospheric gasoline use are drivers in the top 10% in terms of their gasoline consumption ("Gasoline Superusers"). Superusers collectively use 35% of all gasoline used in private light-duty vehicles (LDVs) and individually spend on average 10% of their household income (on average $530 per month) to purchase it.

The 21 million US Gasoline Superusers make up just 0.24% of the world's population, but they use 10.4% of the world's gasoline – nearly as much as all of China.

Superusers Consume 10.4% of the World's Gasoline



Gasoline consumption by country/region, with US Superusers denoted in red. Source: EIA 2021-2022, Coltura analysis.

Switching from a gas-powered vehicle to an electric vehicle (EV) is an excellent way to displace large amounts of gasoline. There is a major opportunity to reduce gasoline use faster with new, data-driven strategies for accelerating Superusers' switch to EVs.

This report reveals what a new dataset tells us about Americans' consumption of gasoline. It shows in granular detail:

- How geography, income, vehicle type, and demography correlate with the volume of gasoline a person uses;
- The financial burden of gasoline purchasing on the people who use the most gasoline; and
- The outsized climate and social equity benefits from converting the drivers who use the most gasoline to EVs.

We recommend that governments 1) make gasoline reduction a central goal and metric of policymaking and 2) pivot away from inefficient one-size-fits-all EV policies to data-driven ones which prioritize the switch of the biggest gasoline users to EVs. Policies prioritizing the biggest gasoline users for EVs maximize the vehicle emissions and air pollution avoided per EV, bring financial relief to the drivers who spend the biggest share of income on gasoline, and maximize diversion of cash flow away from oil companies and toward EVs and cleaner energy.

Findings:

Gasoline Consumption

- The top 10% of US private light-duty vehicle drivers in terms of their gasoline use ("Gasoline Superusers") consume 40 billion of the 115 billion gallons of gasoline used annually by all US private light-duty vehicles. Superusers use 35% of the gasoline – more than the bottom 72% of drivers combined.[2]
- Annually, Superusers drive on average 40,242 miles and burn 1,895 gallons of gasoline, versus non-Superusers at 8,598 miles a year and 392 gallons.

Superuser Demographics and Vehicles

- 57.7% of Superusers (12.1 million) live in rural areas or small towns, while 9% (1.9 million) live in major cities. The rest of the Superusers live in suburbs and mid-sized cities.
- In rural areas, an average of 19.1% of drivers are Superusers, whereas in major cities an average of 5.4% of drivers are Superusers.
- Black drivers represent 12.4% of Superusers and 9.9% of non-Superusers. Asian drivers represent 3.3% of Superusers and 5.9% of non-Superusers. The percentage of White, Hispanic, and other race Superusers is proportional to their overall share of the population.
- Superuser vehicles get on average 19.5 miles per gallon (MPG), versus non-Superuser vehicles at 23 MPG.
- The five most common Superuser vehicles are the Chevrolet Silverado, Ford F150, GMC Sierra, Ram 1500, and Jeep Grand Cherokee.

Superuser Driving

- Superusers drive on average 116 miles on weekdays and 97 miles on weekends, versus non-Superusers at 24 miles on weekdays and 24 miles on weekends.
- Superusers make on average 5.1 daily trips on weekdays and 4.2 daily trips on weekends, versus non-Superusers at 3.4 daily trips on weekdays and 3.2 daily trips on weekends.

Superuser Income, Gasoline Expenditures, and Savings

- The majority of Superusers (58.2%) have household incomes of less than $100,000 and 42.9% of Superusers earn less than the national median household income of $74,580.[3]
- Superusers spend on average 10.2% of household income on gasoline, versus non-Superusers at 3.5%.
- Superusers spend on average $530 per month on gasoline, versus non-Superusers at $110 per month.
- Superusers would save on average $4,318 a year in fuel costs (the difference between gasoline costs and equivalent electricity costs where they live) by switching to an EV.
- Black Superusers spend on average 14.5% of income on gasoline, followed by Hispanic Superusers at 12.6%, White Superusers at 9%, and Asian Superusers at 6.2%.

Superuser Readiness to Switch to EVs

- 86.1% of Superusers live in single-family homes, where there are typically fewer barriers to installing Level 2 EV charging.
- 86.3% of Superusers drive on average fewer than 150 miles/day – a distance well within the range of modern EVs.

Impact of Superusers Switching to EVs

- A Superuser switching to an EV displaces on average 5.3 times as much gasoline as a non-Superuser switching, with the result that many fewer total EVs are required to achieve climate targets.
- An average Superuser switching to an EV achieves a net CO2 reduction of roughly five times as much as the average non-Superuser switching (11.3 metric tons per year, versus a non-Superuser at 2.3 metric tons per year).
- All Superusers switching to EVs would reduce net carbon emissions from light-duty vehicles by 243 million metric tons a year – or 3.8% of all US carbon emissions.[4]
- Cutting US gasoline use in half would require 79 million drivers switching to EVs if the biggest gasoline users switched first, versus 191 million drivers if the biggest gasoline users switched last.
- All 21 million Superusers switching to EVs would avoid the use of 40.5 billion gallons of gasoline a year and shift $149 billion in consumer spending annually away from gasoline expenditures and toward the EV transition and cleaner energy.

Policy Recommendations:

Policymakers should:

- Establish gasoline reduction as a primary climate goal and metric.
- Employ detailed gasoline use data to focus EV and transportation policies on the biggest opportunities to reduce gasoline consumption.
- Maximize the climate and equity impacts of every EV by prioritizing gasoline-burdened Superusers' switch to EVs.
- Spur utilities to prepare for the added electric demand required by the conversion of the biggest gasoline users to EVs.

In order to ensure that the positive economic and environmental impacts of EVs are maximized, it is critical to understand at a granular level the who, what, where, and why of gasoline use in the US. Coltura's data shows that putting a premium on programs to help the most gasoline-burdened drivers switch to EVs will save those drivers more money and avoid more pollution while optimizing the impact of public and private investments in cleaner transportation.

Visit data.coltura.org for a detailed gasoline consumption map, data insights, and EV cost savings calculator.