Unprecedented investments and incentives in electric vehicles (EVs) and the infrastructure to support them are already delivering real benefits to Americans. New tailpipe pollution standards for cars, SUVs, pickup trucks, and vans, along with incentives from the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA), are lowering vehicle costs, providing more choices for drivers, reducing air pollution and greenhouse gas emissions, and resulting in tens of thousands of new job opportunities.

With these changes, Americans are breaking the oil industry’s vehicle monopoly. But the industry is not going to go gentle into that good night. Oil interests are fighting with all they have to try and keep Americans addicted to gas-guzzling cars. And no legislation or regulation is written in stone.

We cannot let the oil industry prevail in rescinding federal EV incentives or gutting tailpipe standards. Instead, policymakers must ensure that Congress and future presidential administrations uphold—or expand—the current policies so American companies continue to innovate and Americans can prosper with more access to affordable and clean mobility.

This paper explains the ways that Americans are benefiting from investments in clean vehicles and what we stand to lose if these policies are reversed.
THE BIDEN ADMINISTRATION’S CLEAN VEHICLE TRIFECTA

Since 2020, we have seen three major advances in clean vehicles policy:

1. The BIL of 2021—also known as the Infrastructure Investment and Jobs Act—provides over $50 billion in federal resources to boost U.S. production and use of zero-emission EVs, including support for building battery manufacturing and recycling and the deployment of EV charging stations.¹

2. The IRA of 2022 provides federal tax breaks for consumers and businesses to buy EVs and install charging stations at homes and worksites.²

3. In 2024, the U.S. Environmental Protection Agency (EPA) finalized pollution standards that will require new vehicles produced for model years 2027 to 2032 to be cleaner than ever before, with lower tailpipe emissions for each subsequent year.

With these incentives, investments, and the EPA’s clean car standards, we can expect to see:

- a surge in EV sales over the next eight years—consisting of both battery electric and plug-in hybrid electric vehicles—reaching 10 million by 2032, two-and-a-half times what they would be without these policies, according to NRDC analysis;³
- savings for drivers on sticker price, fuel, and maintenance, resulting in $6,000 lifetime savings for a new vehicle in 2032, according to the EPA;⁴
- a reduction of nearly eight billion tons of greenhouse gas emissions over the next three decades, according to NRDC analysis, more than the entire U.S. economy emits in a year;⁵ and
- fewer heart attacks, lung illnesses, and asthma attacks, resulting in $13 billion a year in avoided health-care costs between 2026 and 2055, according to EPA.⁶

In addition to the benefits for consumers, these policies are leading to record investments and job growth. In just over three years, 353 new EV and battery manufacturing facilities have been announced, totaling $179 billion in investments in 37 states. These investments are expected to create or secure 191,000 jobs.⁷ In short, the Biden administration’s vehicle policies are good for the environment, good for health, good for the climate, and good for Americans’ wallets.

CLEANER VEHICLES MEAN LESS POLLUTION, A SAFER CLIMATE, AND BETTER HEALTH

In the United States, transportation is the economic sector emitting the most pollution, and on-road vehicles are responsible for more than 80 percent of the sector’s greenhouse gas emissions.⁸ Additionally, gas-powered vehicles are a leading source of nitrogen oxides and particulate matter, which create health-harming smog and soot. We cannot combat climate change and clean our air without dramatically reducing pollution from cars, trucks, and buses.

Fortunately, the technology for clean EVs and hybrids exists. To ensure these vehicles are available to consumers and get on the road, a combination of incentives and standards are necessary—and that’s what we now have.

Over the last three years, the federal government has set strong emissions standards to cut dangerous vehicle tailpipe pollution and made historically large investments in charging infrastructure and domestic EV manufacturing. It has also lowered the cost of a new EV by as much as $7,500 through IRA tax credits. This combination of actions means that the average new car will become much cleaner, cutting emissions by more than 50 percent from model year 2026 to model year 2032, as shown in Figure 1.

**FIGURE 1: NEW AUTOMOBILE CARBON POLLUTION WILL BE HALVED FROM 2026 TO 2032**

![Graph showing carbon pollution from 2026 to 2032](image-url)
As new, cleaner vehicles replace older, dirtier ones, the United States will avoid nearly eight billion metric tons of carbon pollution over the next three decades, as shown in Figure 2. Those savings are equivalent to the emissions from 67 coal-fired power plants operating for 30 years or 93 million of today’s gasoline passenger vehicles operating for 20 years. The carbon saved is more than the 6.3 billion metric tons of carbon pollution emitted by the entire U.S. economy in 2022. It’s important to remember that without these new vehicle policies, we would be much farther from reaching our climate goals.

The combination of EPA standards and investments from the BIL and IRA will also help improve people’s health by requiring new vehicles to emit less of the pollutants that cause smog and soot. By 2055, the policies will avoid the dangerous emissions of 8,700 tons of fine particles that infiltrate our lungs and 36,000 tons of nitrogen oxide pollutants that trigger asthma attacks and cause lost days of school and work each year. The EPA estimates that, with these policies in place, Americans will save, on average, $13 billion annually through 2055 in avoided health-care costs.

AMERICANS EVERYWHERE CAN GET ACCESS TO MORE CLEAN EVS AS PRODUCTION AND SALES GROW RAPIDLY

New federal vehicle tailpipe pollution standards will require that new automobiles emit less than half the carbon pollution of today’s vehicles by 2032. Automakers can produce cleaner gasoline vehicles to meet standards, but industry and government analysts project that manufacturers will continue to ramp up sales of EVs as the most cost-effective strategy to cut pollution.

Today, electric cars and light trucks are a small fraction of total light-duty vehicle sales. But, thanks to earlier emission standards that promoted innovation to reduce costs and improve performance, their market share has been growing rapidly. In 2023, 1.4 million plug-in EVs, which include battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), were sold (Figure 3). EVs are now nearly 10 percent of all new light-duty vehicle sales.
One reason for growing EV sales is that automakers are offering electric versions of many types of vehicles, giving consumers a lot of choice. For instance, there are 86 EV models offered today, ranging from compact cars to three-row SUVs and full-size pickup trucks. An additional 55 upcoming models have also been announced.\textsuperscript{14} With the combination of investments and tailpipe standards, the EPA projects that plug-in EVs could make up more than two-thirds of all light-duty vehicle sales in 2032 (Figure 4).\textsuperscript{15} On the flip side, without the federal and state emission standards, EV sales could stall out at less than 20 percent in the coming years because automakers will only be compelled to comply with the existing standards through model year 2026.\textsuperscript{16}

**FIGURE 3: PLUG-IN VEHICLE SALES BY CALENDAR YEAR, 2010–2023**

![Graph showing plug-in vehicle sales by calendar year from 2010 to 2023.](source)

*Source: Argonne National Laboratory, Light Duty Electric Drive Vehicles Monthly Sales Update via Office of Energy Efficiency and Renewable Energy*

**FIGURE 4: WITH POLICIES, EVERYONE HAS MORE CLEAN CAR CHOICES**

Policies will result in 27.4 million more EV sales by 2032

![Bar chart showing EV sales with and without policies from 2020 to 2032.](source)

*Source: NRDC analysis based on EPA final rule data*
THE NUMBER OF EV CHARGERS IS GROWING UNDER CURRENT FEDERAL POLICIES

While many EV owners conveniently charge their cars at home to fuel their daily commutes and errands, drivers are increasingly plugging into public chargers during extended trips. If we don’t continue to expand the number of public charging stations, we could hit a ceiling in EV growth. Fortunately, the number of charging ports has grown by 60,000 in just a few years to a total of more than 160,000 nationwide (Figure 5). Charging stations and their ports are poised to grow even more rapidly in the years ahead, as the BIL’s more than $7.5 billion in charging grants and the IRA’s charging station tax credits are used.

A recent Bloomberg analysis found that fast-charging stations—like those that can top off a car battery in 40 minutes or less—are deploying at increasing rates. The number of fast chargers installed and energized increased by 7.6 percent in the first quarter of 2024 compared to the last quarter of 2023, and now you can count at least one fast charger for every 15 gas stations on the road.17

**FIGURE 5: GROWING U.S. PUBLIC EV CHARGING INFRASTRUCTURE**

![Graph showing the growth of EV charging ports and station locations from 2007 to 2023.](source: afdc.energy.gov/data)
CLEANER, BETTER CARS SAVE AMERICANS MONEY AT THE PUMP

The EPA’s clean car standards will ensure that vehicles of all types will burn less gas and emit less pollution. The agency estimates that, on average across all vehicle types, owning a new 2032 vehicle will save drivers $6,000 over its lifetime compared to a 2026 vehicle.¹⁸

Owning an EV can save consumers even more. Fueling with electricity is cheaper than gasoline, and EVs have lower routine maintenance costs because they have fewer moving parts, they don’t need engine oil changes, and their brakes last longer due to electric regenerative braking. While EVs may have a higher sticker price today than comparable gasoline vehicles, their lower fuel and maintenance costs more than offset the difference. For example, according to an analysis by Atlas Public Policy, the cost of owning a 2024 gasoline Nissan Rogue crossover utility vehicle—one of America’s most popular cars—is $44,209 over seven years (the average time a new vehicle is kept by its original buyer).¹⁹

A similarly sized and capable all-electric Volkswagen ID.4 costs $37,110 ($7,099 less) over the same time (Figure 6).

Atlas Public Policy also found that EVs in other car segments—including compact cars, sedans, midsize SUVs, and pickup trucks—were cheaper over seven years compared to popular gasoline versions in the same categories.²⁰

Cleaner, more affordable new cars also result in a better deal for people purchasing used vehicles, because the fuel and maintenance savings continue over the life of the vehicle. Additionally, purchasers of used EVs may be able to take advantage of IRA tax credits to increase affordability.²¹

THE TURN TOWARD CLEANER VEHICLES PROMOTES INNOVATION AND SECURES AMERICAN JOBS

The transition from manufacturing polluting cars to clean EVs—backed by these strong emissions standards and investments—will create high-quality EV jobs in the United States. The standards create the certainty necessary for industry to make long-term and strategic investments in manufacturing EVs, as well as manufacturing and installing

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**FIGURE 6: ELECTRIC CAR OWNERSHIP IS CHEAPER THAN GASOLINE CAR OWNERSHIP**

<table>
<thead>
<tr>
<th></th>
<th>Volkswagen ID.4 Pro</th>
<th>Nissan Rogue SV</th>
</tr>
</thead>
<tbody>
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<td>Up-front Cost</td>
<td>$31,495</td>
<td>$29,700</td>
</tr>
<tr>
<td>Total Cost of Ownership</td>
<td>$37,110</td>
<td>$44,209</td>
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Source: Atlas Public Policy for NRDC
their charging infrastructure. Government incentives will catalyze the robust private investment that is necessary to scale up EV production as demand grows.

In just over three years, since January 2021, $179 billion in investments have been announced for 353 U.S. EV and component manufacturing facilities. These investments are expected to create or secure 191,000 jobs.22

As shown in the investment map developed by the BlueGreen Alliance Foundation (Figure 7), clean vehicle investments are happening across the country, but especially in the historic automotive manufacturing centers of the Midwest and Southeast. The size of the circles at each location scale in proportion to the amount of investment.

Growing EV deployment will also spur charging infrastructure investments and associated jobs. An analysis by the International Council on Clean Transportation projects that the next decade could see approximately 160,000 new jobs in building, installing, and maintaining the millions of home chargers and thousands of public chargers needed to support the projected growth in EV vehicle sales.23

**FEDERAL CLEAN VEHICLE ACTIONS ARE SECURING A MORE PROSPEROUS FUTURE FOR ALL AMERICANS**

The United States now has a clean car policy package to benefit all Americans. With strong pollution standards, robust investments in manufacturing and charging infrastructure, and vehicle purchase incentives, we will all reap the rewards of a healthier environment, new jobs, and cheaper transportation. We must protect these benefits against any future attempts to undermine or repeal these crucial policies. This is the right road for our shared prosperity—let’s stay on it.

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**FIGURE 7: MASSIVE INVESTMENTS IN EV AND BATTERY MANUFACTURING ARE SECURING JOBS NATIONALLY**

Source: BlueGreen Alliance Foundation’s EV Jobs Hub
Endnotes


3  U.S. EPA, “Optimization Model for Reducing Emissions of Greenhouse Gases from Automobiles (OMEGA): OMEGA v2.5.0,” accessed April 12, 2024, https://www.epa.gov/regulations-approaches/optimization-model-reducing-emissions-greenhouse-gases. NRDC calculated the difference in EV sales by running EPA's OMEGA under two scenarios and finding the difference between them. One scenario, which NRDC refers to as “With Policies” included the IRA and EPA's final multi-pollutant emissions standards for model years 2027–2032 light-duty and medium-duty vehicles. It was compared to a “Without Policies” scenario that included only the prior standards through model year 2026 and excluded the IRA.


5  U.S. EPA, “OMEGA v2.5.0.” NRDC calculated cumulative reductions from 2027 to 2055 of 7.9 billion metric tons by running EPA's OMEGA under the “With Policies” and “Without Policies” scenarios described above and finding the difference in emissions.


9  U.S. EPA, “OMEGA v2.5.0.”

10  We assume that a coal-fired power plant emits 3.89 million metric tons of carbon dioxide per year and a passenger vehicle emits 4.2 metric tons of carbon dioxide per year.


12  Office of Transportation and Air Quality, Regulatory Announcement.


18  Office of Transportation and Air Quality, Regulatory Impact Analysis.


20  Ibid.


22  BlueGreen Alliance Foundation, “EV Jobs Hub.”