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Before the
Senate Committee on Environment & Public Works,
Subcommittee on Clean Air, Climate, and Nuclear Safety

Hearing on
"Cleaner Vehicles: Good for Consumers and Public Health"

April 18, 2023

Thank you Chair Markey, Ranking Member Ricketts, and members of the Clean Air, Climate, and Nuclear Safety sub-Committee of the Senate Environment and Public Works Committee, for inviting Consumer Reports (CR) to testify in support of the benefits that the proposed Environmental Protection Agency (EPA) Greenhouse Gas (GHG) Standards for Model Years (MY) 2027-2032 will bring to American consumers. .

1. Summary

The proposed EPA GHG Standards for MYs 2027-2032, if finalized, would bring more cleaner, cost-saving transportation technologies to consumers. The rule would save consumers money on fueling costs while reducing spending on healthcare tied to air pollution, and reducing spending on climate disaster recovery tied to greenhouse emissions.[1] These cost savings are particularly important for overburdened communities, such as low-income communities.

In order to reduce emissions, policies that help clean vehicles such as electric vehicles (EV) reach consumers as quickly as possible are vital. By giving consumers more options for cleaner, cost-saving transportation technologies, we empower them to make decisions that will benefit their wallets—and lower emissions.

Investments from the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (BIL) will address challenges consnumers face in adopting EVs more widely, such as charging infrastructure and affordability. The recent EPA proposal, in harmony with the IRA and BIL, will support the necessary transition to a cleaner transportation sector.

2. About Consumer Reports

Consumer Reports (CR) is an independent, nonprofit and nonpartisan organization that works with consumers to create a fair and just marketplace. Known for its rigorous product testing and ratings, CR also advocates for laws and corporate practices that are beneficial for consumers. It surveys millions of Americans every year, reports extensively on the challenges and opportunities facing today's consumers, and provides ad-free content and tools to 6 million members across the United States. CR is dedicated to amplifying the voices of consumers to promote safety, digital rights, financial fairness, and sustainability.

[1] *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*, EPA, 2023, https://www.epa.gov/system/files/documents/2023-04/lmdv-multi-pollutant-emissions-my-2027-nprm-2023-04.pdf

3. Introduction

CR's surveys and analyses show that consumers care about their impact on the environment and want access to cleaner and less polluting technology.[2] Air pollution and greenhouse gas (GHG) emissions have adverse impacts on the health of consumers, the environment, and climate. GHG emissions are contributing to extreme weather events such as extreme heat, flooding, and drought. Criteria pollutants such as ozone and particulate matter cause health issues such as respiratory diseases, lung cancer, pre-term births, and neurological damage. These issues disproportionately affect overburdened communities such as low income communities and communities of color.

These impacts can show up in various ways that will increase costs for consumers, not only for fuel and energy use, but for other consumer costs, such as healthcare and insurance. Providing consumers with cleaner and more energy-efficient technologies can dramatically lower these costs, and doing so will enable them to make purchasing decisions that save them money. Cost savings are especially critical for low-income households which spend a disproportionate amount of their income on energy bills.[3]

Transportation accounts for 28% of GHG emissions[4]—more than any other sector in the US. EPA's greenhouse gas standards for vehicles offer a highly cost-effective way to drastically reduce these emissions. These standards have already been extremely successful. Over the past two decades, clean car standards which include EPA's GHG standards, harmonized with the Department of Transportation (DOT) National Highway Traffic Safety Administration's (NHTSA) Corporate Average Fuel Economy (CAFE) standards, have delivered $7,000 in lifetime fuel savings and a 30% reduction in greenhouse gas emissions from the average new vehicle. At the same time, vehicles became safer, larger, more powerful; but, most impressively, all of those improvements were delivered with no inflation-adjusted increase in vehicle prices.[5]

In December 2021, EPA finalized GHG standards for MY23-26. CR estimates that those standards will save consumers an average of $2,400 over the lifetime of new vehicles purchased in MY26.[6] EPA's latest proposal for standards for MY27-32, released last week, builds on this

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[2] *More Americans Would "Definitely" Get Electric Vehicles*, Consumer Reports, July 7, 2022, https://advocacy.consumerreports.org/press_release/more-americans-would-definitely-get-electric-vehicles/

[3] *Low-Income Households, Communities of Color Face High "Energy Burden" Entering Recession*, ACEEE, 2020, https://www.aceee.org/press-release/2020/09/report-low-income-households-communities-color-face-high-energy-burden

[4] *Sources of Greenhouse Gas Emissions*, EPA, 2021, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.

[5] *Vehicle Price Trends, Fuel Economy and Safety Improvements Come Standard*, Consumer Reports, February 21, 2023, https://advocacy.consumerreports.org/wp-content/uploads/2023/02/CR-Vehicle-Price-Trends-Feb-21-2023.pdf.

[6] *Press Release, Biden administration follows through with improved greenhouse gas emissions standards – a win for consumers and the climate*, Consumer Reports, December 20, 2021, https://advocacy.consumerreports.org/press_release/biden-administration-follows-through-with-improved-greenhouse-gas-emissions-standards-a-win-for-consumers-and-the-climate/.

momentum to supercharge the consumer savings and emissions reductions. Due to the rapidly improving economics of EVs, EPA estimates that these new standards will deliver another $12,000 in consumer savings from the average new vehicle in 2032.[7]

4. The Proposed EPA Greenhouse Gas Standards for Model Year 2027-2032 are Achievable

EPA's proposal for MY27-32 light-duty vehicle greenhouse gas standards are strong, achievable, technology-neutral performance standards. EPA's analysis found that electric vehicles (EVs) are likely to be the most cost-effective compliance pathway to meet these standards—but not the only option—for automakers. EPA estimated that an EV-only compliance pathway would require 67% of vehicles sold to be EVs by 2032. However, automakers can also use a mix of improvements in internal combustion fuel efficiency, conventional hybrids, plug-in hybrids (PHEV), and even hydrogen fuel cell electric vehicles (FCEV) to comply with these standards.

EPA's analysis of existing automaker EV commitments shows that the industry was already on track to deliver around 50% EVs by 2030. These rules simply reflect a slight boost to the trajectory the industry was already telling its shareholders it was on, made possible by the historic investments in the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) of 2022.

Further, investments from the IRA and BIL will address challenges faced by consumers in adopting EVs more widely, such as charging infrastructure and affordability. The IRA allocates $370 billion in climate and clean energy investments to expand tax credits and incentives to deploy more clean vehicles, support domestic EV supply chains, and build out EV charging infrastructure across the country. And the BIL provides $7.5 billion to expand public charging infrastructure across the US: $5 billion of that is for a nationwide network of 500,000 EV charging stations, and $2.5 billion is for publicly accessible alternative fuel infrastructure including EV charging stations. The IRA and BIL, in harmony with the recent EPA proposal, will support the necessary transition to a cleaner transportation sector.

CR estimates that an EV-only compliance pathway would result in the production of enough EVs for approximately 25% of Americans to own one by the end of 2032. In a 2022 nationally representative survey of 8,027 US adults, CR found that 36% of Americans were already "definitely" or "seriously considering" an electric vehicle if they were to buy or lease a vehicle today, indicating that consumer demand may already exceed what is needed to comply with these standards.[8]

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[7] *White House Fact Sheet: Biden-Harris Administration Proposes New Standards to Protect Public Health that Will Save Consumers Money, and Increase Energy Security*, April 12, 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/12/fact-sheet-biden-harris-administration-proposes-new-standards-to-protect-public-health-that-will-save-consumers-money-and-increase-energy-security/

[8] *More Americans Would "Definitely" Get Electric Vehicles*, Consumer Reports, July 7, 2022, https://advocacy.consumerreports.org/press_release/more-americans-would-definitely-get-electric-vehicles/

5. Consumer Benefits of EVs

Consumers are rapidly recognizing the significant benefits that EVs can provide. At an average gas price of $3.50/gallon, we estimate that an electric SUV would deliver an average of $1,700 in fuel and maintenance savings every year.[9] A 2020 analysis by CR found that the most popular EVs were already cheaper to own than the most popular and highest-rated gasoline vehicles in their class, even factoring in higher purchase prices. These savings were delivered, despite higher purchase prices, due to EVs saving an average of 60% on fuel and 50% on repairs and maintenance.[10] On average, the study found that EVs sold at that time would save consumers around $6,000 to $10,000 over the lifetime of the vehicle. Importantly, the study found that while EVs were usually cheaper to own for a first owner who drove the vehicle for the first six years, the largest chunk of the savings flowed to a second owner who purchased the vehicle used. This is because used vehicle buyers will pay less of a premium to purchase an EV, while seeing similar fuel savings, and even greater maintenance cost savings due to increasing maintenance requirements for older vehicles.

While some consumers have expressed concerns about the cost of battery replacements, the data on existing EVs to date has found that they are usually rare.[11] Most EVs today come with an 8 year, 100,000 mile warranty and automakers are designing their EV batteries to last at least 15-20 years.[12] EPA's GHG rule will apply the 8 year/80,000 mile warranty requirement for "major emissions control components" from the Clean Air Act Section 207 to electric vehicle powertrains. They also include further requirements on battery durability and the inclusion of consumer facing battery state-of-health monitoring to allow consumers to track the health of their EV battery.

Cost savings are not the only reason EVs are becoming so popular. EVs also offer a more satisfying driving experience with instant torque and smooth, silent acceleration. In CR's latest satisfaction ratings, 4 of the top 10 vehicles have a plug, achieving scores similar to popular sports cars including the Chevrolet Corvette, Porsche 911, and Mazda Miata.[13] Almost as importantly, not a single plug-in vehicle made it onto the list of top 10 least satisfying vehicles.

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[9] *New Consumer Reports analysis shows rising gas prices ramp up savings for EV owners*, Consumer Reports, March 10, 2022, https://advocacy.consumerreports.org/press_release/new-consumer-reports-analysis-shows-rising-gas-prices-ramp-up-savings-for-ev-owners/

[10] *Press Release, New analysis from CR finds that the most popular electric vehicles cost less to own than the best-selling gas-powered vehicles in their class*, Consumer Reports, October 8, 2020, https://advocacy.consumerreports.org/press_release/new-analysis-from-cr-finds-that-the-most-popular-electric-vehicles-cost-less-to-own-than-the-best-selling-gas-powered-vehicles-in-their-class/.

[11] *New Study: How Long Do Electric Car Batteries Last?* Recurrent, 2023, https://www.recurrentauto.com/research/how-long-do-ev-batteries-last

[12] *How Long Do Electric Car Batteries Last?* Autotrader, March 2023, https://www.autotrader.com/car-tips/how-long-do-electric-car-batteries-last

[13] *The Cars People Love Most*, Consumer Reports, February 2, 2023, https://www.consumerreports.org/cars/car-reliability-owner-satisfaction/most-satisfying-cars-on-the-market-car-owner-satisfaction-a8149304159/.

6. Key Drivers of the EV Market

Because of these performance and ownership cost benefits, consumer demand for EVs has been soaring, increasing by 350% between 2020 and 2022. Unfortunately, automakers have not kept up. There are now 45 consumers for every EV being manufactured who say they would "definitely buy" an EV if they were to buy or lease a new vehicle today.[14] The end result of this mismatch between supply and demand is that consumers who do want an EV right now have to deal with a tangled mess of long waitlists and dealer markups. Automakers are making investments to improve supply, but unfortunately the growth in supply has been lagging the growth in demand.

We see four major trends that will likely make EV demand outpace EV supply: 1) purchase cost for EVs is declining, 2) infrastructure is expanding, 3) consumers are gaining more experience with EVs, and 4) automakers are investing in new models and increased production. These trends tend to reinforce one another in a virtuous cycle.

Initial purchase cost is currently one of the top barriers to EV ownership.[15] Yet a combination of technological advancements, consumer demand, automaker efficiencies, economies of scale, and government tax incentives are helping to drive down the costs of EVs. Many auto industry analysts and observers have estimated that cost parity between EVs and conventional gasoline vehicles will be achieved sometime this decade. Recent analysis from the International Council on Clean Transportation (ICCT) estimated that even without any tax incentives, EVs with 300 miles of range per charge will achieve cost parity in all light-duty vehicle classes before 2030.[16]

What's more, the IRA will offer tax credits of up to $7,500 for the purchase of new EVs that meet certain manufacturing, vehicle pricing, buyer income, and critical minerals requirements. A separate study from the ICCT estimated that these tax credits would make the average new qualifying EV cheaper than the average new conventional vehicle no later than 2025, resulting in a large boost in EV demand.[17]

Another major barrier to EV adoption is the lack of widespread, reliable charging infrastructure. The BIL provides $7.5 billion to help deploy EV charging infrastructure throughout the country. Also, as more EVs are sold, there will be more demand for infrastructure—and more revenue generated by it—which will likely help catalyze further private investment. The EPA GHG standards can be especially helpful in solving the chicken-and-egg problem with infrastructure. By guaranteeing that greater numbers of electric vehicles will be manufactured in the coming

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[14] *Excess Demand, The Looming EV Shortage*, Consumer Reports, March 2023, https://advocacy.consumerreports.org/wp-content/uploads/2023/03/Excess-Demand-The-Looming-EV-Shortage.pdf.

[15] *More Americans Would "Definitely" Get Electric Vehicles*, Consumer Reports, July 7, 2022, https://advocacy.consumerreports.org/press_release/more-americans-would-definitely-get-electric-vehicles/

[16] *Assessment of Light-Duty Vehicle Cost and Consumer Benefits In the United States in the 2022-2035 Timeframe*, The International Council on Clean Transportation, October 2022, https://theicct.org/wp-content/uploads/2022/10/ev-cost-benefits-2035-oct22.pdf.

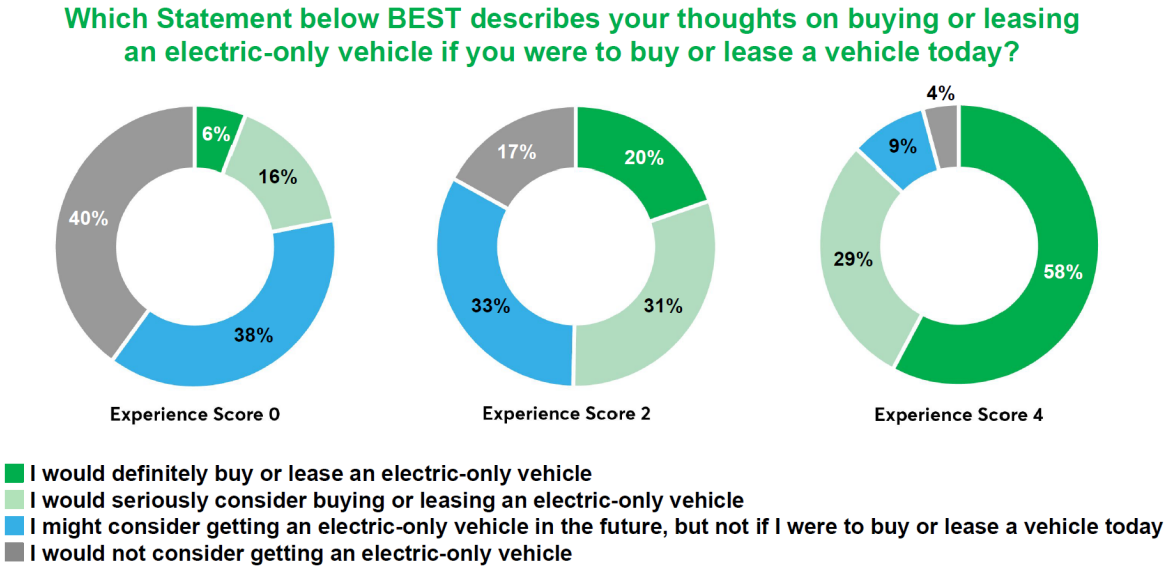
[17] *Analyzing the Impact of the Inflation Reduction Act on Electric Vehicles Uptake in the United States*, The International Council on Clean Transportation, January 2023, https://theicct.org/wp-content/uploads/2023/01/ira-impact-evs-us-jan23-2.pdf.

years, the new standards will help give private industry the confidence it needs to invest in infrastructure, knowing that greater demand for reliable charging infrastructure is on the way.

Private corporations are already beginning to see the opportunity that EV charging can provide. Walmart, 7-11, Starbucks, and Subway have all recently announced major EV charging initiatives. As consumers become more confident in the availability and reliability of the charging network, their interest in purchasing an EV is likely to increase.

Direct experience with EVs is one of the strongest, but also most underappreciated drivers of purchase interest. This is illustrated in Figure 1, in which the three pie graphs represent low, medium, and high levels of experience with battery electric vehicles. CR found that consumers with the most direct experience were almost ten times as likely to say they would "definitely buy" an electric vehicle today as consumers with no direct experience (58% vs 6%).[18] More EVs on the road means more opportunities for Americans to gain more direct experience and exposure to EVs. Right now, broad consumer experience with EVs is very limited, but that is likely to change as more people see family, friends, and neighbors bring home their first EV.

Figure 1. Survey Results on EV Demand by Experience with BEVs



Finally, as purchase interest goes up, automakers are likely to respond by delivering more electric options, in more vehicle classes, and at more price points. We're already seeing significant growth in the number of EV models that will become available to consumers over the next few years.[19] Many automakers have also significantly boosted their long term EV

[18] *More Americans Would "Definitely" Get Electric Vehicles*, Consumer Reports, July 7, 2022, https://advocacy.consumerreports.org/press_release/more-americans-would-definitely-get-electric-vehicles/

[19] *Automakers Are Adding Electric Vehicles to Their Lineups. Here's What's Coming*, Consumer Reports, March 10, 2023,

commitments in recent years, and it seems likely that more will follow suit. As of January 2023, automakers and battery makers plan to invest $860 billion in the transition to EVs by 2030, including $210 billion in the U.S, according to an analysis by Atlas Public Policy.[20] As automakers deliver more volume, economies of scale and intensified competition for customers will further feed cost declines, which will feed back into the cycle and lead to increased EV demand.

7. Risks to Automakers from Moving Too Slowly

Despite the rapid growth in consumer demand, consumers can't buy vehicles that don't exist. It is critical that automakers rapidly scale up EV production to keep pace with growing demand. It remains unclear how consumers will respond if the supply of EVs is insufficient to meet their demand, but it may prove disastrous for automakers to assume that consumers will buy whatever they build. CR's car buying survey from March and April 2022 found that 30% of licensed drivers who were then in the market to buy or lease a new (and not a used) vehicle were not even considering a conventional, non-hybrid vehicle.[21] Given the demand dynamics just discussed, it seems unlikely that this number will stop growing anytime soon. Analysis of sales data over the past few years further suggests that demand for Internal Combustion Engine (ICE) vehicles is already declining precipitously. Sales of new ICE vehicles dropped by 26% from 2019 to 2022, while combined sales of BEVs, PHEVs, and conventional hybrids increased by 144%. BEV sales alone increased by 244%.[22] This is illustrated in Figure 2 below.

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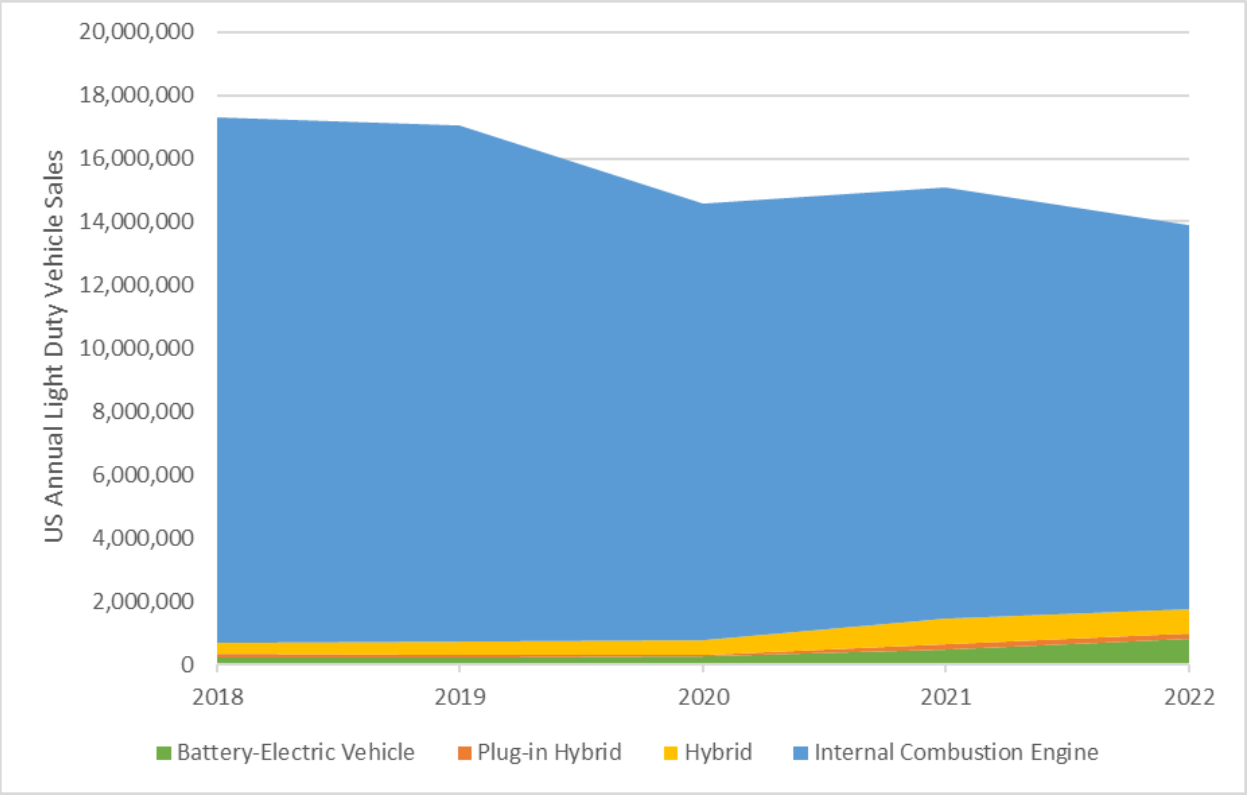
https://www.consumerreports.org/cars/hybrids-evs/why-electric-cars-may-soon-flood-the-us-market-a9006292675/.

[20] *$210 Billion of Announced Investments in Electric Vehicle Manufacturing Headed for the U.S.*, Atlas EV Hub, January 12, 2023, https://www.atlasevhub.com/data_story/210-billion-of-announced-investments-in-electric-vehicle-manufacturing-headed-for-the-u-s/.

[21] *Car Buying: A National Representative Multi-Mode Survey, 2022 Results*, Consumer Reports, May 2022, https://article.images.consumerreports.org/prod/content/dam/surveys/Consumer_Reports_Car_Buying_March_2022.pdf.

[22] *Excess Demand, The Looming EV Shortage*, Consumer Reports, March 2023, https://advocacy.consumerreports.org/wp-content/uploads/2023/03/Excess-Demand-The-Looming-EV-Shortage.pdf.

Figure 2. US Light-Duty Vehicle Sales by Powertrain Type from 2018-2022



It's not possible to determine what percentage of the reduction in ICE vehicle sales should be attributed to reduced demand vs. what percentage is due to supply chain disruptions caused by the COVID-19 pandemic. However, pandemic-related supply chain issues have now largely been resolved, and they affected EV supply as well, so the picture should soon become clear. Recent data showing both depressed sales of ICE vehicles and rapidly rising dealer inventories suggests that consumer demand for conventional vehicles is unlikely to rebound to anywhere close to prior levels.[23] If these trends continue, automakers that don't rapidly scale up their electrified offerings may find themselves rapidly losing market share, which could hamper their ability to successfully scale up their EV production.

Without standards that keep the industry on a good trajectory to successfully complete a transition to an electrified future, there is much greater risk of the industry running into another situation like 2008. In the few years before 2008, the industry failed to adapt to a rapid shift in consumer demand due to soaring oil prices, got stuck with millions of vehicles consumers no longer wanted, and ended up needing a massive government bailout. These EPA standards can act as a backstop to help ensure that even the laggards in the industry stay on a path that keeps up with rapidly growing consumer demand for electric vehicles.

[23] *February New-Vehicle Inventory Climbed While Sales Grew and Prices Retreate*d (A total of 730,000 more vehicles were manufactured than sold between February 2023 and February 2022), Cox Automotive, March 16, 2023, https://www.coxautoinc.com/market-insights/new-vehicle-inventory-february-2023/.

8. Light-Duty Standards Summary

EPA's proposed GHG light-duty standards for model year 2027-2032 will hit the accelerator, helping to drive automakers to catch up to consumer demand for cleaner vehicles. We see these rules as a win-win for consumers and the climate, putting over $1 trillion back into consumers pockets, while delivering massive reductions in air pollution and GHG emissions.[24]

9. Heavy-Duty Vehicle Proposal

Under EPA's proposed "Greenhouse Gas Standards for Heavy-Duty Vehicles - Phase 3", which were announced at the same time as those for light-duty vehicles, manufacturers must reduce the total amount of greenhouse gas emissions from all new heavy-duty vehicles sold in the U.S. starting in model year 2028. Together with the light duty vehicle standards discussed above the EPA projects that the proposed standards would avoid nearly 10 billion tons of CO_2 emissions, and notes that this is especially significant for communities that have faced the greatest burden of poor air quality.

These rules are critical in reducing GHG from one of the highest polluting subsectors of the transportation market, and they are even more critical in reducing harmful air pollution in communities most impacted by heavy duty vehicle traffic. Due to historically discriminatory policies such as redlining, overburdened communities are disproportionately located in areas near ports, freeways, and high-traffic corridors. Transitioning the vehicles going through these corridors to zero-emission will benefit the communities living around through reduced air pollution and improved air quality.

A recent investigation by CR and the Guardian[25] on the rapid expansion of large Amazon warehouse facilities across the United States showed that these warehouse facilities are disproportionately built in communities of color, and low income communities. This further increases the air pollution these communities are exposed to due to medium and heavy duty vehicle traffic to and from the warehouses. EPA's heavy duty rule will help to mitigate air pollution in these communities, protecting the health of these vulnerable communities and reducing public and private spending on health.

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[24] *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*, EPA, 2023, https://www.epa.gov/system/files/documents/2023-04/lmdv-multi-pollutant-emissions-my-2027-nprm-2023-04.pdf

[25] *When Amazon Expands, These Communities Pay the Price*, Consumer Reports, 2021, https://www.consumerreports.org/corporate-accountability/when-amazon-expands-these-communities-pay-the-price-a2554249208/