March 20, 2017

*Attention: California Air Resources Board*

**Re: California's Advanced Clean Cars Midterm Review and the Appropriateness of the Model Year 2022–2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards**

Environmental Defense Fund (EDF) appreciates the opportunity to submit comments on the California's Advanced Clean Cars midterm review. We submit these comments on behalf of our more than 1 million members nationwide –including numerous members in California—who are adversely impacted by the serious human health, environmental and economic effects of climate change, and who will realize extensive cost savings, energy security and consumer benefits as a result of the federal and California clean car programs. EDF is a non-profit, non-partisan, non-governmental environmental organization that combines law, policy, science, and economics to find solutions to today's most pressing environmental problems. These comments build from EDF's submission to the Environmental Protection Agency (EPA) on its Proposed Determination regarding the Appropriateness of the model year (MY) 2022-2025 light-duty greenhouse gas emissions standards under the midterm evaluation.[i]

Climate change poses an urgent threat to public health and welfare and it is critical to secure rapid reductions in emissions of carbon dioxide from passenger vehicles, which currently account for more than 20 percent of the United States' carbon pollution.[ii] We applaud California's leadership in finalizing the historic Phase 2 fuel economy and GHG standards in 2012, which reflect strong collaboration among the EPA, the Department of Transportation (DOT), auto companies, and the workers who manufacture cleaner cars. These protective standards are also strongly supported by millions of Americans, as they will significantly reduce climate pollution while saving families and businesses more than a trillion dollars at the pump.

In 2008, automobile companies faced substantial layoffs and potential economic collapse.[iii] Meanwhile, oil prices surged from roughly $40 per barrel in 2004 to more than $130 per barrel in the summer of 2008.[iv] This helped to drive even deeper consumer

demand for more efficient vehicles—demand that American auto companies were not well positioned to satisfy because at the time, they did not offer a wide range of efficient vehicles.[v] The Obama Administration provided financial assistance for General Motors and Chrysler, which helped these automakers to rebound.[vi] During this time, manufacturers and autoworkers publicly supported new Clean Car standards—requirements that would improve vehicle fuel efficiency, save consumers money, and help reduce manufacturers' vulnerability to oil price shocks in the future.[vii]

These investments have already begun to pay off as vehicle fleets are more efficient than ever before and new technologies swiftly enter the marketplace, and prices decline.[viii] Meanwhile, the auto industry has rebounded, adding nearly 700,000 direct jobs since mid-2009—jobs that further support several million indirect jobs throughout the economy.[ix] In addition, vehicle exports are up and sales are at an all-time high.[x] As many foreign nations adopt standards that will drive improved passenger vehicle efficiency around the world, the MY2022-2025 standards ensure U.S. automakers are positioned for continued global competitiveness.

In these comments, EDF highlights the strong technical and economic foundation supporting EPA's final determination that the 2022-2025 standards remain appropriate under the Clean Air Act (CAA); information that likewise supports the continued appropriateness of California's MY 2022-2025 standards. Accordingly, we refer throughout these comments to data in the technical assessments and conclusions from the proposed and final determinations. We likewise highlight the importance of California's continued leadership in establishing standards that enable deployment of cost-effective technologies needed to bring significant emissions reductions from the transportation sector.

## I. California's Pioneering Leadership

California has a long history of establishing clean car standards that protect human health and the environment, advance low pollution technologies and are highly cost-effective. California's leadership is rooted in a firm bipartisanship. Over 40 years ago, during the development of the Clean Air Act in 1967, it was Republican Senator George Murphy of California who sponsored legislative language guaranteeing California's continued ability to establish state-based clean car solutions to help ameliorate California's unique air pollution problems:

> "I am particularly grateful for the recognition that the committee has given to the State of California by accepting an amendment offered by me which recognizes the State's unique problems and pioneering efforts by granting a waiver from the

> Federal preemption to the State of California, and thus insuring that the State will be able to continue `its already excellent program to the benefit of the people of that State.'"

California has continued to demonstrate bipartisan leadership in providing clean air protections for the state, which the National Academy of Sciences characterized as a "laboratory for emissions control innovations."[xi] Under section 177 of the Clean Air Act, other states have likewise adopted California's standards. California has also collaborated with the Environmental Protection Agency, the Department of Transportation, auto companies, the United Auto Workers, and numerous other states to forge a landmark national program reducing climate pollution from cars nationwide. The success of that collaboration is reflected in the broad support for the national program.

## II. Clean Car Standards Will Enhance Energy Security and Curb Climate Altering Gases

The United States consumes nearly a quarter of the oil consumed in the entire world, and more than all European nations combined.[xii] More than 70 percent of the oil we consume is used for transportation,[xiii] with the nation's fleet of cars and light trucks consuming more than 9 million barrels of oil per day.[xiv] Nearly half of the oil consumed by Americans every year is used driving our passenger cars and light trucks. The federal Clean Car standards will enhance our nation's energy security by reducing oil consumption by 2 million barrels per day by 2025.[xv] This is almost as much oil as we import from OPEC countries (net imports were 2.65 million barrels per day in 2015).[xvi] Security experts agree that our nation's dependence on oil is a threat to security and more efficient cars and trucks will help reduce that threat. According to Retired Lt. General Richard Zilmer:

> *"Over-reliance on oil ties our nation to far-flung conflicts, sends our troops into harm's way, and endangers them once they're in conflict zones. Ensuring that the cars and trucks we drive every day go farther on every gallon of gas makes our nation stronger."*[xvii]

The Clean Car standards are also a crucial component of U.S. efforts to reduce carbon pollution and help avert the most damaging effects of climate change. The science is clear: rising concentrations of heat-trapping gases like carbon dioxide in the atmosphere are destabilizing our climate and causing severe negative impacts to our health and wellbeing. The Clean Cars program will eliminate an estimated 6 billion metric tons of carbon dioxide over the life of the vehicles subject to the standards,[xviii] which is more than a year's worth of U.S. carbon dioxide emissions.[xix] Without the standards, emissions from the transportation sector would rise considerably.

It is critical that the Clean Car standards are fully implemented—in both California and nationally—so Americans can realize these energy security and climate benefits.

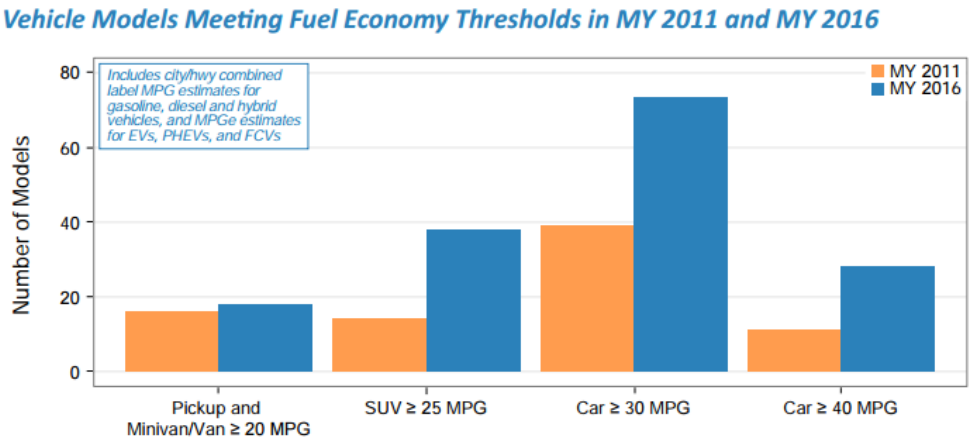
## III. Clean Car Standards Benefit American Families, Including Low-income Families

Strong fuel economy and GHG standards for passenger cars benefit consumers by saving them money at the pump. Because of these savings, consumers are demanding more efficient models and automakers are delivering them. And more efficient models in the new car market leads to more efficient options in the used car market, helping lower-income families save money on fuel as well.

The current national light-duty vehicle standards are already saving consumers money at the pump. For example, each F-150 bought in 2015 will use about 180 fewer gallons of gas a year than prior models, and will save its owner eight trips to the gas station and $300 to $700 per year, depending on the price of fuel.[xx]

And the 2022-2025 standards will provide even greater savings – allowing families who purchase a new vehicle in 2025 to save a net $1,650 over the lifetime of that vehicle compared to a vehicle just 3 years older.[xxi] These savings could double depending on future oil prices. And the nearly 86 percent of Americans who finance their new vehicles purchase with a 5-year loan are expected to realize immediate cost savings.[xxii] Over the life of the entire federal Clean Cars program, the fuel cost savings to American families and businesses will add up to $1.7 trillion,[xxiii] which is more than double the funds injected into the economy by the American Recovery and Reinvestment Act.[xxiv] These fuel cost savings enable greater investment in local communities.

Because of these fuel cost savings, consumers continue to rate fuel economy as one of their top criteria when shopping for a new car[xxv] – in a 2016 national poll, 81 percent of consumers said they support the Clean Car standards.[xxvi] And consumers have more choices in fuel-efficient models across the fleet today (see figure below). There are more than twice as many SUV models that achieve 25 mpg or more in MY2016 than there were in MY2011. The number of car models, where at least one variant has a combined city/highway label fuel economy of at least 30 mpg, has grown from 39 models in MY 2011 to more than 70 models in MY2016. And the number of car models with 40 mpg or more has more than doubled (comprised of hybrid, electric, plug-in hybrid electric, and fuel cell vehicles). There are 18 MY2016 pickup and minivan/van models for which at least one variant of the model has a combined city/highway label fuel economy rating of 20 mpg or more.[xxvii]



Source: EPA's Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 – 2015

Strong fuel economy and GHG standards for new vehicles likewise benefit used-vehicle purchasers by resulting in an expansion of more efficient vehicle choices in the used market. That is, the choices of today's new-vehicle purchasers will determine which vehicles are available to tomorrow's used vehicle purchasers, and determine the fuel economy of the fleet for many years after the original purchase date. Strong fuel economy and GHG standards lead automakers to offer more diverse sets of products, including more efficient models,[xxviii] which will have the co-benefit of increasing the supply of fuel-efficient used vehicles available for purchase. More efficient used vehicle choices will help ensure all Americans are able to purchase and benefit from fuel saving technologies.

## IV. The Technical Findings Set Forth in EPA's Determination and Technical Support Document and California's Midterm Review Report Strongly Support Retaining Existing MY2022-2025 GHG Standards

EPA's Final Determination is the culmination of its multi-year review of the GHG standards established for MY2022-2025—a review that was undertaken in partnership with the California Air Resources Board (ARB). The October 15, 2012 final rule establishing the federal GHG standards for MY2017-2025 required EPA to conduct a Midterm Evaluation (MTE) of the MY2022-2025 standards in light of the subsequent technological developments reflected in the record before the Agency.[xxix] In July 2016, EPA, together with NHTSA and ARB, issued a Draft Technical Assessment Report (TAR) as the first formal step in the MTE process.[xxx] The final step in the MTE process was for EPA to make a final decision to affirm or adjust the standards as appropriate.[xxxi] On November 30, 2016, EPA issued a proposed determination seeking comment on its conclusion that "the GHG standards currently in place for MY2022-2025 remain

appropriate under the Act and rulemaking to change them is not warranted."[xxxii] On January 12, 2017, the Administrator signed her determination to maintain the current GHG emissions standards for 2022-2025 vehicles. This final determination found that automakers are well positioned to meet the standards at lower costs than previously estimated. And the Administrator chose to "retain the current standards to provide regulatory certainty for the auto industry despite a technical record that suggests the standards could be made more stringent."[xxxiii] On January 18, 2017 ARB staff released California's Advanced Clean Cars Midterm Review report confirming that "the current national 2022 through 2025 model year GHG standards can be readily met at the same or lower cost than originally projected and manufacturers will likely continue to make progress towards even more cost-effective solutions."[xxxiv]

In the TAR, the agencies examined a wide range of factors, including technology advancements, the penetration of more fuel-efficient technologies in the marketplace, consumer acceptance of these new technologies, trends in fuel prices and the vehicle fleet, employment impacts, and others. Both EPA and NHTSA performed independent analyses, but reached the same conclusions:[xxxv]

- "A wider range of technologies exist for manufacturers to use to meet the MY2022-2025 standards, and at costs that are similar or lower, than those projected in the 2012 rule."

- "Advanced gasoline vehicle technologies will continue to be the predominant technologies, with modest levels of strong hybridization and very low levels of full electrification (plug-in vehicles) needed to meet the standards."

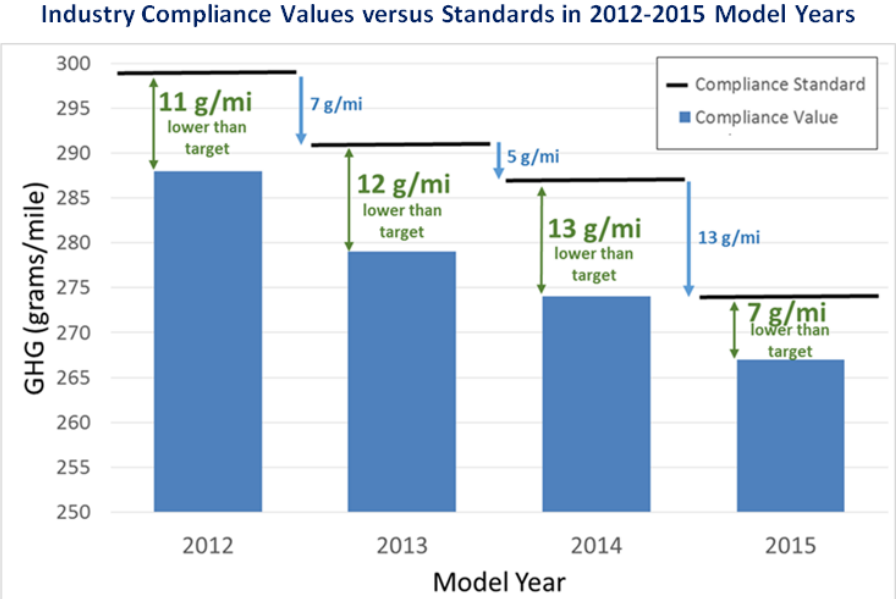
These conclusions were based on analyses that reflected the most current data and assessment of the feasibility of the 2025 standards. The TAR confirms that the auto industry is bringing new technologies to the market at a faster pace and at lower cost than the agencies projected in the 2012 rulemaking. As a result, EPA's primary analysis shows MY2025 compliance costs (incremental to MY2021) significantly lower than those projected in the final rule ($252 lower for cars and $197 lower for trucks).[xxxvi]

In its Proposed Determination, accompanying Technical Support Document (TSD), and resulting Final Determination, EPA considered over 200,000 public comments as well as extensive additional studies conducted by the Agency and others. As a result, EPA updated technology costs, effectiveness, modeling, consumer impacts, and other aspects of its analysis supporting the Proposed and Final Determinations.[xxxvii] The robust analyses supporting the Final Determination are comprehensive, based on the most current data available, and strongly confirm the conclusions reached in the TAR. In fact, the primary

analysis shows per vehicle compliance costs to be significantly lower than those projected in the final rule and slightly less than those included in the TAR.[xxxviii]

The Determination continues to show, as did the TAR, that auto manufacturers and suppliers are developing and deploying fuel efficient technologies at a much faster rate than was forecasted in the 2012 final rule. The auto industry as a whole has exceeded the fuel economy and GHG standards in each of the last four years (i.e., model years 2012-2015 – see figure below). These improvements have come while other metrics of vehicle performance have continued to improve, including acceleration times and durability.[xxxix]

In addition to the industry as a whole exceeding today's standards, new technologies are being utilized that allow a number of individual vehicle models to meet standards all the way out to 2025.[xl] Today there are over 100 car, SUV, and pickup versions on the market that already meet 2020 or later standards.[xli] Over 25% of projected MY2015 production already meets the 2018 model year CO2 emission targets. Furthermore, 19 of 20 manufacturers (representing 99% of MY2015 sales) carried a positive compliance credit balance into MY2016.[xlii] This has occurred while the industry has experienced record sales.[xliii]




Source: EPA, Greenhouse Gas (GHG) Emission Standards for Light-Duty Vehicles: Manufacturer Performance Report 2015

While EPA concluded that the MY2022-2025 standards will be met with advances in gasoline vehicle technologies (such as engine and transmission improvements, light-weighting, and better aerodynamics), several new technologies were included in the Draft TAR analysis that were neither foreseen nor included in the analysis supporting the 2017-

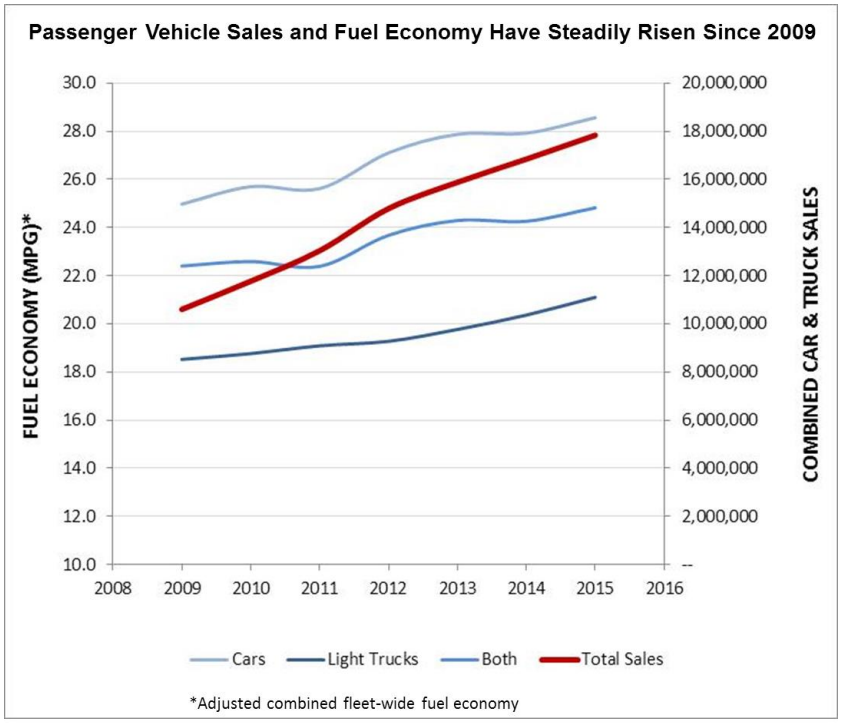
2025 final rule. Examples of these technologies include the application of direct injection Atkinson Cycle engines to non-hybrids and greater penetration of continuously variable transmissions (CVT).[xliv] The Proposed Determination shows that these additional technologies contribute to lower cost compliance pathways. Auto manufacturers have steadily innovated and improved vehicle performance for decades.[xlv] All the evidence suggests that these trends will continue and that manufacturers will continue to develop cost effective fuel-efficient technologies. As a result, emerging technologies not accounted for in the Agency's analysis will continue to enter the marketplace, further underscoring the reasonableness of the standards. Variable compression ratio engines, dynamic cylinder deactivation, and P2-configuration hybrids are examples of technologies that are currently under development that have the potential to reduce GHG emissions in the 2020-2025 timeframe, while delivering valuable savings to consumers.[xlvi]

The TAR, Proposed Determination, Technical Support Document, and Final Determination provide a compelling basis to reaffirm the MY2022-2025 GHG standards and even suggest that more stringent standards could be justified. However, we urge ARB to affirm the current standards and focus efforts to strengthen the standards for MY2026 and beyond. We agree and support the staff's conclusion that the current MY2022-2025 standards remain appropriate. Given the substantial and compelling record, we recommend that the Board 1) conclude that changes to the national or California GHG standards are not appropriate and 2) reaffirm California's commitment to the current federal standards for MY2022-2025.

## V. The Auto Industry Has Made a Dramatic Return to Profitability and Added Jobs

During the height of the economic recession in 2008, the American auto industry was on the verge of collapse, and in response the Obama Administration provided the industry with financial assistance that helped it to rebound.[xlvii]

Today, the auto industry has returned to profitability at the same time fleetwide fuel economy has climbed to its highest level ever (see figure below). Drivers in the United States bought more cars in 2016 than ever before. In total, about 17.5 million cars and trucks were sold last year, overtaking the 17.3 million sales in 2000 and far outpacing the 10.4 million sales in 2009, when taxpayers paid billions to bail them out.[xlviii]




Source: Created by EDF from data available from Wards Auto[xlix] and the EPA Fuel Economy Trends Report[l]

During its return to profitability the auto industry also added jobs. Since the recession, overall job growth in the industry has been strong, aiding a recovery of U.S. manufacturing as a whole. The U.S. auto industry has added nearly 700,000 direct jobs since mid-2009 – and these jobs support several million indirect jobs throughout the economy.[li] The direct jobs added include more than 300,000 added jobs in motor vehicle and parts manufacturing and 380,000 added jobs at auto dealers. This brings total manufacturing employment in the industry to 930,000 – representing nearly 50 percent growth since 2009, and bringing employment at auto and parts dealers to 2 million, which is its highest level ever. Indeed, auto-manufacturing jobs accounted for 40 percent of all net jobs added in U.S. manufacturing since the recession. While jobs are not yet up to the levels reported in 2000, the past seven years have seen the first period of sustained growth in automotive manufacturing jobs since then.[lii]

For example, Ford's F-150, one of the best selling pickup trucks in America, has helped support jobs across the automotive supply chain. Ford reports that the MY2015 F-150 is more powerful than earlier models. It also gets an average of 21 percent better fuel economy and uses 17 percent less fuel compared to 2010 models that were built before the current standards took effect. The fuel economy savings from just the new F-150s

sold since 2011 save 5 million barrels of oil a year and cut carbon emissions by 2.3 million metric tons.[liii]

As part of achieving the first phase in fuel economy standards, Ford developed and deployed a number of new technologies, including its "EcoBoost" line of redesigned engines. And for the second phase of standards Ford is using innovative design and materials—advanced high-strength steels and high-strength military-grade aluminum—to make its F-150 lighter and stronger. Emissions gains have also come from suppliers of more efficient components, like advanced electrical steering (EPS) systems.

An analysis by the BlueGreen Alliance summarized some of the jobs that Ford has supported through its innovation in the F-150.[liv]

- Cleveland, Ohio: Ford's Engine Plant No. 1 employs 1,600 people
- Saginaw County, Michigan: Nexteer, supplier of EPS system, employs 5,000 people, largest employer in the county, after coming back from bankruptcy.
- Alcoa, Tennessee: Alcoa, aluminum producer, invested $275 million and added 200 jobs to expand its rolling mill.
- Davenport, Iowa: Alcoa, invested $300 million in facility where the aluminum is further customized to facilitate bonding between aluminum components.
- Dearborn, Michigan and Kansas City: Ford's Truck Plant and Assembly plant, invested $1.1 billion and added 900 workers before any aluminum body trucks could roll off the line. Kansas City Assembly, represented by United Autoworkers (UAW) Local 249, currently employs 6,450 hourly employees, the highest ever since the plant opened in 1951.
- Cleveland, Ohio: ArcelorMittal, steel mill, employs 1,900 people today after being mothballed in 2009.

There are also numerous other signs of economic health in the auto industry. The granting of patents by the United States Patent and Trademark Office (PTO) is often cited as a measure of inventive economic activity. The Clean Energy Patent Growth Index (CEPGI), published quarterly by the Cleantech Group at Heslin Rothenberg Farley & Mesiti P.C. provides an indication of the trend of innovative activity in the Clean Energy sector from 2002 to the present. The CEPGI tracks the granting of U.S. patents for the following sub-components: Solar, Wind, Hybrid/Electric Vehicles, Fuel Cells, Hydroelectric, Tidal/Wave, Geothermal, Biomass/Biofuels and other clean renewable energy. In 2015, Hybrid/Electric Vehicle (HEV) technologies grew more than all others with a 30 percent increase in patents over 2014. HEV technologies were granted nearly 700 patents and fuel cell technologies were awarded more than 800 patents. The majority of these patents were granted to large automakers, including GM, Ford, Toyota, and Honda.[lv]

Exports are also up. Factories in the US exported 2.1 million cars in 2015 – the highest number ever. About half of those went to Canada and Mexico, with other exports going to Asia and the Middle East.[lvi] In fact, Honda is shipping more models out of the country than it imports.[lvii] And some automakers are expanding production to meet greater demand abroad.

## VI. Clean Car Standards Will Continue to Benefit and Protect Automakers, Parts Suppliers and Workers

In addition to the current robust economic health of the auto industry, there is also strong evidence that automakers and their parts suppliers will remain profitable under the future Clean Car standards and will be better safeguarded against fuel price shocks. This market stability helps support employment stability for American autoworkers.

In a 2016 analysis, Ceres forecast automaker pretax profits under 5 different fuel price scenarios under the recently affirmed 2022-2025 standards. They concluded that the top 3 U.S. manufacturers (Ford, GM and Chrysler) will be profitable under the current standards in all fuel price scenarios in the study, including the "very low" price scenario. They also found that U.S. automakers will fully recover their compliance costs at any fuel price above the Energy Information Administration's long term forecasted "low price".[lviii]

Suppliers make up a significantly larger portion of the U.S. economy and a larger share of U.S. employment than do the automakers. Suppliers make many of the fuel efficiency technologies that help enable compliance with strong standards—indeed as much as 80% of automaker compliance investments are paid to suppliers of fuel-saving technologies. And the regulatory certainty of maintaining the current standards is especially valuable to the suppliers making the majority of fuel-saving technology investments in research, development, and production capacity.[lix]

In addition, studies have shown that fuel efficiency standards insulate the auto market from fuel price shocks – and that market stability translates into employment stability. In a marketplace without standards, not all manufacturers produce fuel-efficient models. For example, the U.S. automakers relied disproportionately on less efficient vehicle lines before the Clean Car standards began in 2012. When fuel prices spike in the absence of fuel economy standards, more fuel-efficient vehicles are in greater demand, shifting demand across manufacturers and disrupting sales and employment. Recent peer-reviewed research suggests that fuel-economy and GHG standards have led U.S. automakers to offer more diverse sets of products that are competitive under a wider range of fuel prices, making them better positioned to manage significant fuel price swings.[lx] For autoworkers and parts manufacturing workers, strong standards safeguard

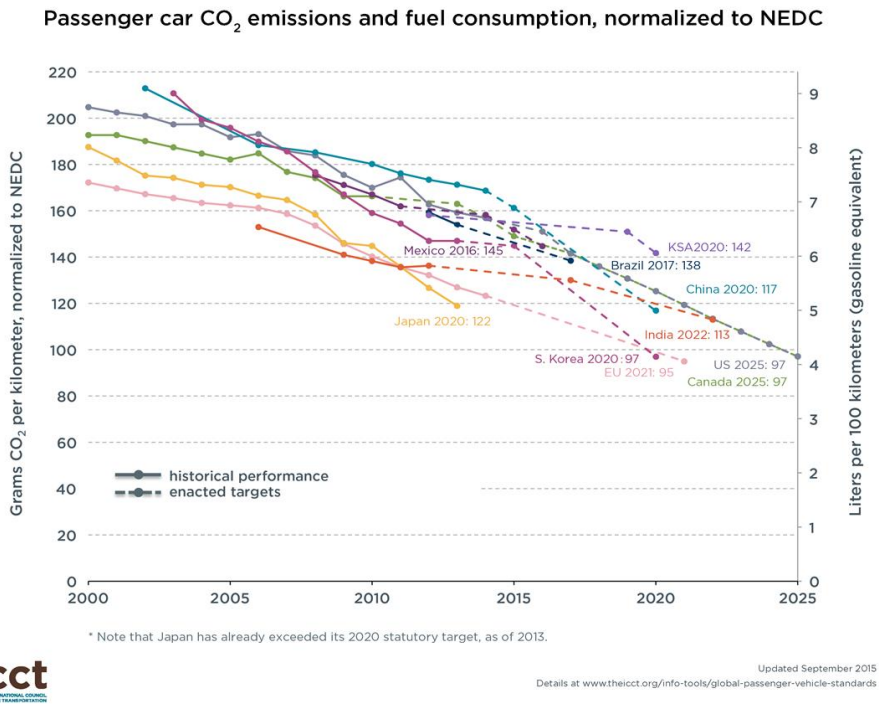
the industry against negative impacts associated with unanticipated changes in the price of fuel, which could otherwise lead to adverse employment impacts.

To evaluate how the current fuel economy and GHG standards help stabilize against future fuel price spikes, Ceres estimated the net losses of weakened standards in the event of a price spike. The analysis concluded that profits by the three largest U.S. automakers (Ford, GM and Chrysler) from U.S. new vehicle sales could fall more than $1 billion per year in response to fuel price shocks without the Clean Cars program.[lxi] And because as much as 80 percent of automaker compliance costs are paid to suppliers of fuel-saving technologies, this analysis concluded that suppliers could lose up to $1.42 billion in the case of a fuel price shock. [lxii] Conversely, Ceres found that the U.S. automakers stand to make significant profits under the Clean Cars program, even under low fuel price scenarios, as discussed above.[lxiii]

## VII. Clean Car Standards Help Ensure That Automakers Retain Their Global Competiveness

The Clean Car standards are essential to ensuring U.S. automakers remain competitive in the global marketplace and that American autoworkers have a strong position in the years ahead. The strong fuel economy and GHG standards have led U.S. automakers to offer a more diverse and more efficient set of vehicles, which in turn, helps to ensure their fleets remain attractive to consumers in the years ahead. [lxiv]

Strong fuel economy and GHG standards are essential if the American auto sector is going to keep pace with global trends. Many other nations have adopted standards that will drive improved passenger vehicle efficiency in line with the U.S., while some nations are planning to go farther faster. This includes a range of developed and developing countries, including: Canada,[lxv] the European Union[lxvi], China,[lxvii] and India[lxviii] and South Korea[lxix] (see figure). These trends are particularly notable when one considers that the largest market growth will occur in China and India, which together could add nearly 15 million in additional vehicle sales each year in 2025.[lxx] This is almost as many vehicles as were sold in the United States in 2015. Any backtracking on the 2025 standards would therefore risk leaving U.S. manufacturers behind.




Source: ICCT, *See* http://www.theicct.org/sctp-ldv-e

## VIII. Post-2025 GHG Standards Would Help Secure Long-term Reductions in Climate Emissions

EDF encourages California to begin developing post-2025 greenhouse gas standards for passenger vehicles. Additional greenhouse gas reductions from the light-duty vehicle sector post-2025 will be critical to secure long-term reductions in emissions of climate-destabilizing pollutants both nationally and in California. And the current state of technology together with the pace of technology development support stronger standards in the post-2025 timeframe.[lxxi]

The need for post-2025 standards is illustrated in Figure V.I from EPA's proposed determination. The "Business-As-Usual" curve, which assumes no additional greenhouse gas or fuel economy standards after 2025, leads to overall GHG emissions reductions through about 2035, with growth beginning around 2040 and continuing in the post-2050 time frame. However, maintaining the 4.5 percent annual stringency rate of improvement reflected in the current program would yield long-term GHG emissions reductions close to the upper bound Intergovernmental Panel on Climate Change (IPCC) projection of what is necessary to maintain the global temperature rise to 2 degrees C.[lxxii]

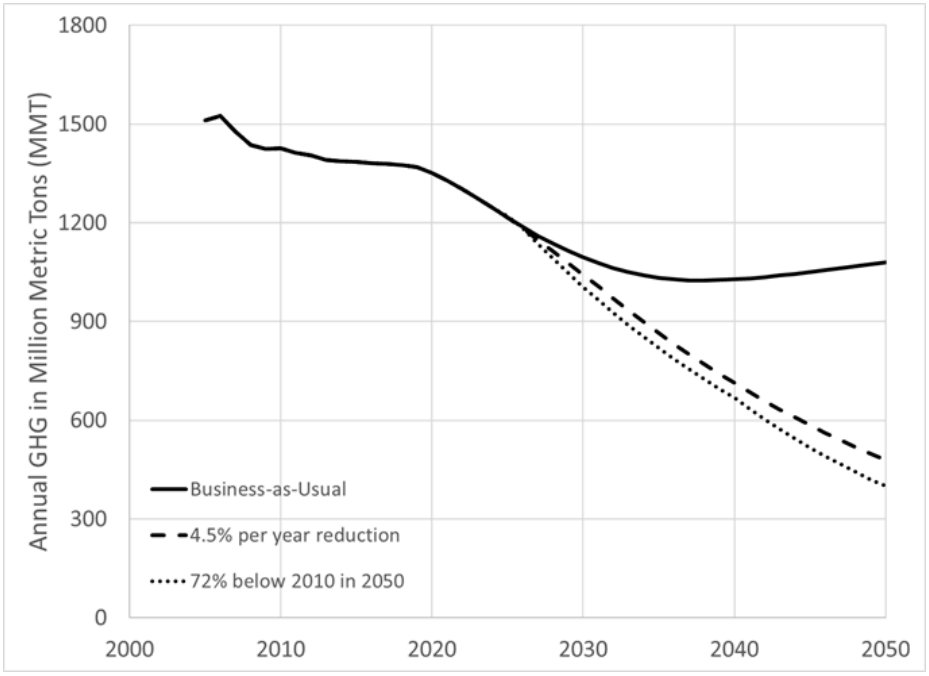



**Figure V.1 Light-Duty Vehicle Plus Upstream Fuel GHG Emissions to 2050**

Data in the TAR and the Proposed Determination also support manufacturers having the technology now or in the near future to deliver cleaner, more efficient vehicles beyond the 2025 standards, as discussed in our comments above, our comments on EPA's Proposed Determination, and our comments on the Draft TAR.[lxxiii]

Additionally, to inform EDF's thinking about possible reductions beyond 2025, we contracted a study that examines what $CO_2$ reductions may be possible in 2030 considering conventional and ZEV technologies, vehicle cost, and fuel savings.[lxxiv]

## IX. Conclusion

The robust Phase 2 program finalized in 2012 by ARB, EPA and NHTSA will provide significant fuel cost savings to American families and businesses, improve our climate security, and deliver cleaner air to communities while bolstering the auto industry and insulating it from future fuel price volatility. The standards are supported by a broad coalition of stakeholders, including manufacturers, advanced technology innovators, labor, security groups, faith-based groups, moms, consumers, environmental groups and science-based organizations. And the robust technical and economic record strongly supports the continued appropriateness of the Phase 2 standards. California's leadership is critical to ensure science-based standards are in place to protect Californians and accordingly, we urge the Board to leave undisturbed the 2022-2025 Clean Car standards and to develop post-2025 standards that will continue to drive down harmful greenhouse gas emissions from the transportation sector.

Thank you for the opportunity to submit these comments. If you have any questions, please contact Hilary Sinnamon at (208) 720-3218 or hilary@redmtngroup.com.

Sincerely,

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Alice Henderson
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Martha Roberts
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Hilary Sinnamon
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Special Projects Director and Lead Attorney

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[i] Comments by Environmental Defense Fund on EPA's Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm

[ii] EIA, Annual Energy Outlook (2016), Tables 18 and 19 *See* https://www.eia.gov/forecasts/aeo/tables_ref.cfm.

[iii] https://obamawhitehouse.archives.gov/sites/default/files/uploads/auto_report_06_01_11.pdf (last accessed March 10, 2017).

[iv] http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=D

[v] Meghan R. Busse et. al., "Who is Exposed to Gas Prices? How Gasoline Prices Affect Automobile Manufacturers and Dealerships." (March 2016) See http://web.mit.edu/knittel/www/papers/patp_latest.pdf (last accessed March 10, 2017).

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[viii] U.S. Environmental Protection Agency, National Highway Traffic Safety Administration, California Air Resources Board, "Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025," (July 2016). ["Draft TAR"]

[ix] BlueGreen Alliance, "Backgrounder: Sound Vehicle Standards & Policies Drive Strong Job Growth, *A summary of research and analysis of the impact of CAFE standards on job growth in the United States*." (June 2016). See https://www.bluegreenalliance.org/resources/sound-vehicle-standards-policies-drive-strong-job-growth/ (last accessed March 10, 2017)
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[xiv] EIA, Annual Energy Outlook (2016) Table 7 *See* https://www.eia.gov/forecasts/aeo/tables_ref.cfm
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