

Public Citizen * Safe Climate Campaign

November 23, 2009

Ms. Lisa Jackson, Administrator
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Mr. Ronald Medford, Acting Deputy
Administrator
National Highway Traffic Safety Administration
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Comments on Proposed Rulemaking To Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, Notice of Proposed Rulemaking, 74 FR 49454, September 28, 2009, Docket No.EPA-HQ-OAR-2009-0472 and NHTSA-2009-0059

Dear Administrator Jackson and Acting Deputy Administrator Medford:

Public Citizen respectfully submits these comments on proposed greenhouse gas emission and fuel economy standards for passenger cars and light trucks for model years 2012-2016, pursuant to the agreement reached by representatives from the Environmental Protection Agency (EPA), National Highway Traffic Safety Administration (NHTSA), the California Air Resources Board (CARB), and representatives of the auto industry. The commitment of EPA, NHTSA, CARB, and the auto industry to move forward with these standards to reach 250 grams of carbon dioxide per mile (gCO₂/mi) by 2016 would be a historic achievement for climate protection.

The proposal attempts to reconcile the authorities of EPA under the Clean Air Act (CAA) and NHTSA under the Energy Policy and Conservation Act (EPCA) to regulate greenhouse gas emissions and fuel economy from light duty motor vehicles.¹ The proposed program would attempt to align the two programs as closely as possible given the agencies' differing authority to set and enforce standards. The proposal also rightly maintains the right of California to promulgate its own standards after the commitment period ends, and for other States to enforce California's standards. This right is foundational under the CAA, and must not be challenged by these or any subsequent standards set under this new National Program, as described in the agencies' Notice of Intent in May 2009, and outlined in the Notice of Proposed Rulemaking (NPRM).²

The agencies' treatment of various details in knitting the programs together will set an important precedent for future rulemakings. We urge the agencies to give careful thought to the structure of this program, with an eye toward additional gains needed beyond the 2016 model year.

We have the following concerns and suggestions regarding the proposal:

- The multiple mechanisms for automakers to earn and trade credits will undermine gains.
- Additional disclosure of year-by-year compliance data would improve transparency.
- Electric vehicle emissions must reflect real-world values.

¹ 42 U.S.C. 7521 et. seq. Energy Policy and Conservation Act (EPCA) Pub. L. 94-163 (Dec. 22, 1975)

² 42 U.S.C. 7543 & 74 Fed. Reg. 24007 (May 22, 2009) & 74 Fed. Reg. 49454 (Sept. 28, 2009).

- The agencies must assert a logic for setting standards in the future that is defensible and meets the demands of both statutes.
- NHTSA's safety analysis is misleading.

Credit Programs and Trading Mechanisms Will Undercut Gains

Under the proposed standards, automakers would have multiple ways of earning credits that reduce the level of standards with which they must comply. Each credit would undermine gains from the program. Automakers have the technology and capacity to comply with the level of standards without these credits; therefore, they should have little or no opportunity to earn credits that reduce their level of compliance. Credits applied to the fuel economy program are constrained by the Energy Independence and Security Act (EISA).³ The EPA has a stronger statutory charge to issue protective standards, so the agency must not allow automakers more ability to evade standards than what is permitted by EPCA as amended by EISA.

EPA requested comment about whether compliance credits might create an incentive for automakers to expand production of cleaner vehicles.⁴ A strong, technology-forcing mandated gain would better encourage the industry to expand production of these vehicles. The higher the level of standards set for model years 2012-2016, the better positioned the industry will be to make even greater improvements in fuel economy for the period after 2016.

Backstop

Reaching the agency's proposed standard of 250 g CO₂/mi is predicated on the fleet mix of 67 percent cars and 33 percent light trucks in 2016, versus a fleet mix of 51 percent cars and 49 percent light trucks in 2008.⁵ Some of this shift in the market will result from the reclassification of a large number of vehicles that were previously categorized as light trucks to passenger cars, which will take effect in the 2011 model year, consistent with the final rule for 2011 fuel economy standards.⁶ Many of these affected vehicles are two-wheel drive versions of vehicles that are also sold in a four-wheel drive configuration.

This creates a problem for automakers in manufacturing and marketing these vehicles. Automakers would have to build a two-wheel drive version of a vehicle to fit on the "car curve" or meet the footprint-based target for fuel economy set for the passenger car fleet versus the light truck fleet. There is significant overlap of footprints which are on both curves. If automakers successfully build two-wheel drive versions that get the better fuel economy required on the car curve, it calls the two-fleet rule into question. Automakers may respond to reclassification by simply ceasing to offer two-wheel drive configurations of certain SUVs, which would distort the fleet mix and ultimately result in lowering fuel economy and raising greenhouse gas emissions.

For this reason, the new standards should include backstops, or some other adjustment mechanisms to ensure that there is a firm level below which individual automakers and the economy-wide

³ Energy Independence and Security Act (EISA) Sec. 104(g)(3). Pub. L. 110-140 (Dec. 19, 2007).

⁴ 74 Fed. Reg. 49526.

⁵ Environmental Protection Agency. *Draft Regulatory Impact Analysis, Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*. (2009) at 8-12.

⁶ 74 Fed. Reg. 14196 (Mar. 30, 2009).

fleet of vehicles could not fall. The agencies already build in an expectation value based on analysis of the extent to which it is estimated that automakers will apply credits. EPA discusses several backstop options in its Advanced Notice of Proposed Rulemaking (ANPRM) on greenhouse gas regulation under the CAA. An approach that EPA outlines that could be most effective would have the standards automatically reset to account for increases in emissions that are inconsistent with agency projections at the time of promulgation:

For example, at the time of promulgation, EPA could assume a certain average industry-wide carbon dioxide g/mi emissions level for 2011–2012. If, in 2013, EPA found that the average industry-wide emissions level in 2011–2012 was higher than projected in the final rule (and therefore the carbon dioxide emissions reductions were lower than projected because of higher than projected average footprint levels), then the backstop provisions would be triggered and the footprint curves for future years (say, 2016 and later) would be automatically changed to be more stringent and/or flatter in shape. This approach would reframe the backstop issue in terms of industry-wide emissions performance, rather than in terms of individual automaker emissions performance.⁷

A mechanism similar to this would prevent greenhouse gas emissions from rising because of unanticipated shifts in the fleet mix. We urge EPA and NHTSA to adopt backstops for greenhouse gas emissions and oil consumption to ensure that the goals of the program are met, and to discourage manufacturers from continuing to use the light truck loophole to undermine advances in fuel economy and reductions in greenhouse gas emissions.

Averaging, Banking, Borrowing, Transfer and Trading

The agencies both propose to allow manufacturers to bank, borrow, transfer and trade credits. Automakers have availed themselves of the option to bank and borrow credits for their respective car and light truck fleets since the fuel economy program started in 1978. EPCA, as amended by EISA, provides clear restrictions on the extent to which credit transfer and trading can degrade the level of fuel economy a manufacturer achieves in a given model year. Although the CAA does not have a specific restriction regarding credit transfer and trading, EPA does not propose limiting it. EPA also proposes to adopt the three years of carry-back and five-years of carry-forward from the fuel economy standards in the interest of harmonizing the two programs. EPA need not water down the stronger statutory authority of the CAA to suit NHTSA's standard setting under EPCA. The CAA expressly requires that EPA issue protective standards to ensure public health and welfare. It is particularly egregious to then extend the weaknesses of EPCA further than NHTSA has in its standards.

EISA extended the carry-forward window from three to five years, and allowed for credit transfer between fleets and trading among manufacturers. These changes were made based on recommendations in the 2002 National Academy of Sciences (NAS) evaluation of the fuel economy program.⁸ Since credit trading and transfer will not occur under the fuel economy program until the 2011 model year, we have no data on how manufacturers might use this program. There is significant uncertainty about whether automakers would actually trade credits and the implications of creating a market for these credits. To the extent that credits are traded among manufacturers in both programs, we urge that EPA limit the level by which credit transfer and trading may reduce a manufacturer's standard, in line with the limitation contained in the fuel economy program.

⁷ 73 Fed. Reg. 44452 (Jul. 30, 2008).

⁸ National Academy of Sciences. *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*. (2002).

Banking, borrowing, transfer and trading also obfuscates automakers' compliance with the program. In the fuel economy program, banking and borrowing alone, without transfer and trading, make it nearly impossible to know whether a manufacturer has complied in a particular model year. The long window in which automakers can trade credits back and forth obscures compliance in a given model year, impeding clear reporting of whether automakers are meeting or falling short of standards. Based on publicly available data, Public Citizen was not able to verify that Ford, GM, Chrysler and Nissan had complied with standards for several model years from 1978-2007. An analysis of records of automaker use of carry-forward and carry-back credits used from 1978-2008 Public Citizen obtained from NHTSA through a Freedom of Information Act (FOIA) request, revealed that Detroit manufacturers avoided \$3.1 billion in CAFE fines that otherwise would have been paid, and delayed oil savings associated with these shortfalls.⁹

The agencies should improve compliance transparency by providing end-of-year compliance data for each model year. Manufacturers who are out of compliance but intend to return to compliance in a future model year should be identified in this report. Knowing where each manufacturer stands at the end of each model year will assist the public and the agencies in establishing the technologically feasible and economically practicable level of standards for subsequent model years. This will also help agencies and the public evaluate whether the standards that have been promulgated years in advance have kept pace with the advancement and adoption of technology. Knowing whether automakers have fallen short or exceeded standards will help establish the technologically feasible level of standards for model years after 2017.

Early Action Credits

EPA proposes four opportunities for automakers to bank early windfall greenhouse gas emission credits for model years 2009-2011: (1) averaging credits, (2) air conditioning credits, (3) advanced technology vehicle credits, and (4) off-cycle credits. The averaging credits are divided into four pathways from which EPA proposes manufacturers may choose a pathway for earning early credits. Manufacturers must choose one pathway only, but they can wait until 2011 to choose it.¹⁰

The four pathways for averaging credits are based on over-compliance for fleets of vehicles either (1) nationwide, (2) in California and the other states which have adopted California's standards under Section 177 of the CAA ("177 states"), (3) states outside California and the 177 states, or (4) to forego all California-based credits and earn CAFE credits in states outside California and the 177 states. Pathways 1 and 2 allow manufacturers to earn credits for over-compliance with the California standards either nationwide or in California and the 177 states. Pathways 3 and 4 would allow manufacturers to apply credits for over-compliance with CAFE standards in states outside California and the 177 states. Early credits would be permitted to be traded and transferred without limitation. The only limitations on early credits are automakers would have to clear any deficit for model years 2009-2011 before it could apply credits to model year 2012 and beyond, and credits would be subject to the five-year carry-forward limit.

We object to granting any credits for exceeding standards in California and the 177 states in 2009-2011. Manufacturers exceeding these requirements need not be rewarded in the National Program, which does not take effect until 2012. We recommend that if EPA grants any early action credits that it

⁹ Based on Public Citizen's analysis of documents obtained from NHTSA in an Oct. 6, 2009 FOIA request. Estimated fines were calculated by multiplying credits used times the appropriate fine amount for that year. The fines are the total for Ford, GM, and Chrysler's domestic passenger, import passenger and light truck fleets from 1978-2008.

¹⁰ 74 Fed. Reg. 49535-39.

use a hybrid of Pathways 2 and 3, where manufacturers would earn credits for exceeding compliance with the California baseline, but only for the fleet of vehicles sold outside California and the 177 states.

No CAFE-based credits should be granted for model years before 2011. The EISA clearly prohibits the trading and transfer of credits earned in these model years, and we believe this could function as a backdoor means by which automakers could trade credits that would otherwise be nontransferable.¹¹ If CAFE-based credits are granted for any of the alternatives, we urge that EPA bar these credits from transfer or trading.

Advanced Technology Vehicle Credits

EPA's proposed credits for advanced technology vehicles such as plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (EVs) must reflect real environmental benefits, must not be overly generous, and should be worth no more than the real world greenhouse gas reductions. EPA proposes to give credits for these vehicles by applying a multiplier which could range between 1.2 and 2, while valuing the EVs as having 0 gCO₂/mi, and assigning PHEVs 0 gCO₂/mi, for the "electric portion" of operation.¹² Part of EPA's motivation in offering this credit is to encourage manufacturers to produce these vehicles. But efforts to encourage production should not undermine the fundamental goal of reducing greenhouse gas emissions. There are other, better incentives for automakers to build these vehicles, and many of the major automakers have already announced plans to offer PHEVs and EVs. Some analysts project that more models will be offered that plug-in than hybrid electric vehicles in 2011.¹³

Based on publicly-announced plans for introducing EVs and PHEVs into the vehicle fleet, the 0 gCO₂/mi valuation of electric operation, combined with a multiplier of 2 could offset a manufacturers' compliance burden by as much as half, in the case of Nissan's Leaf EV, to a third for GM's Volt PHEV. EPA acknowledges that the real greenhouse gas impact of EVs is not zero, and therefore, providing such a large volume of credits could actually result in greater greenhouse gas emissions from gasoline vehicles than if these vehicles were not introduced into the fleet. EPA should not establish a regime in which efforts to encourage production of EVs and PHEVs undermine the overarching goals of improving fuel economy and reducing greenhouse gas emissions.

If EPA applies a multiplier for these vehicles, we suggest that it should not be higher than 1.2 times the greenhouse gas emissions associated with a vehicle, and that it should phase out over the course of the program. A multiplier that phases out by 2016 retains the incentive to introduce EVs and PHEVs with less diminution of compliance with the standards. Phasing out the multiplier sends a signal to the industry that these credits will not continue into the standards for model year 2017 and beyond. This is appropriate given that these vehicles, while considered "advanced" today, would not be considered advanced a few years from now, when the next round of standards is being considered. To the extent that these credits entice manufacturers to build these vehicles sooner, phasing out the credits would also encourage manufacturers to build more of these vehicles earlier in the program to capture the greatest value of credits.

EPA should include in its final rule some more detailed discussion of its intent to update its fuel economy labeling program to include estimates of mpg equivalents for EVs and PHEVs. While we

¹¹ *Supra* note 3, at Sec. 104(g)(5).

¹² 74 Fed. Reg. 49534.

¹³ Ken Bensinger. "Electric Vehicles are Charging Up the Automotive Industry." *Los Angeles Times*. (Oct. 25, 2009).

appreciate that EPA is currently working on this proposal, we urge that the agency make some mention of its thought process in this matter. The automakers have already made public claims about expected mpg equivalents for EVs and PHEVs. If EPA is silent on this matter, then the public message is that the claims made by the industry are correct.

We urge that EPA develop a means for estimating full fuel cycle emissions, including upstream emissions from electricity production for EVs and PHEVs. Emissions for electric vehicles for compliance accounting should be measured by multiplying vehicle efficiency (kWh/mi) by a grid emission factor (gCO₂/kWh), yielding emissions in gCO₂/mi. The grid emissions factor should be applied on a state or regional basis to vehicles in the states in which they are first sold. This would account for differences in greenhouse gas intensity of electric power generation in different parts of the country. It would also encourage deployment of these vehicles in the regions where they will provide the biggest decrease in greenhouse gas emissions. EPA should publish state or regional greenhouse gas emission factors for multiple model years, and the agency should provide an opportunity for public comment on the emission factors. This will permit automakers to plan for compliance taking into account the emissions of EVs and PHEVs.

The EPA should develop a similar methodology for estimating the upstream fuel emissions component for hydrogen fuel cell and hydrogen combustion vehicles. A fuel emission factor must be estimated in gCO₂/kgH₂. The hydrogen emission factor should take a weighted average for different production methods of hydrogen. Emissions from hydrogen fuel cell or combustion vehicles would be estimated by multiplying the vehicle efficiency in kgH₂/mi by the emission factor.

Off-Cycle Emission Credits

EPA proposes to give automakers credits for certain advanced technologies that may reduce greenhouse gas emissions from motor vehicles, but for which the reductions cannot be measured by EPA's current five-cycle emissions test. Examples of such technologies are active aerodynamics, adaptive cruise control and solar panels on hybrids. The EPA does not provide details on how it proposes to estimate the value of these credits or the greenhouse gas emission reductions related to any given technology. Presumably, the credits would vary for each specific technology and specific vehicle on which it is installed.

The agency cites creating a market incentive for these technologies as motivation for providing them. While we acknowledge that it is possible that such credits may encourage manufacturers to install these technologies, we are skeptical that the credits would be sufficient to significantly increase technology penetration. Moreover, the setting of a strong, mandatory standard alone would provide ample incentive for manufacturers to pursue cost-effective technologies that reduce greenhouse gas emissions. In addition, manufacturers are likely to market vehicles with these technologies for reasons other than their environmental impact. For example, active aerodynamics can reduce road noise, something which may resonate strongly with consumers. Automakers have already begun to market adaptive cruise control as a safety technology, not an efficiency technology. There is especially little reason to give credits for technologies that automakers intend to install anyway.

EPA cites no quantitative estimate of the greenhouse gas emission reductions associated with these technologies, presumably because no sufficiently rigorous estimates are available. The agency has not developed tests to estimate the actual greenhouse gas emissions reductions from these technologies in a real world context. The proposal does not even suggest that EPA has contemplated how it would estimate real world emission reductions from these technologies. Without its own framework, the agency would then be dependent on each automaker to provide estimates of emissions reductions from off-cycle technologies, and then there is no guarantee of consistency in the test procedure used to develop the

estimate. If the automakers conduct the tests, then there would likewise be no public participation in developing the tests.

EPA should not grant credits for off-cycle emissions, unless it also proposes test procedures for estimating the emissions reductions, comparing them to measured on-road reductions and ensuring that the industry will not be granted credits for technologies that amount to marketing gimmicks. Still, these credits, like those for advanced technology vehicles, may or may not provide an incentive for automakers to incorporate these technologies. These technologies in particular, since their impact cannot currently be measured on EPA's emissions test, seem unlikely to be motivated by regulation, but rather by consumer demand and other market forces. EPA must not grant the automakers credits for actions automakers would take in absence of the regulation.

Temporary Lead-Time Allowance Alternative Standards (TLAAS)

EPA proposes to allow all but the six largest manufacturers to create a separate averaging fleet for up to a total of 100,000 vehicles for model years 2012-2015. Currently, the six largest manufacturers are Toyota, GM, Ford, Honda, Chrysler and Nissan, meaning that manufacturers like BMW and Daimler are given this dispensation even though they produce 400,000 vehicles per year. Companies like BMW and Daimler, who pride themselves on being technologically advanced, should be subject to the same standards as Ford, GM, and Toyota. EPA explains that the purpose of providing additional lead time is to permit manufacturers who have traditionally met their CAFE obligations by paying fines to come into compliance with the greenhouse gas emissions program. The CAA does not have a mechanism for manufacturers to pay fines to come into compliance, and the CAA penalties are much steeper than the CAFE fines.¹⁴

We urge the EPA to retain its position on trading from a company's special averaging fleet to its primarily fleet. If the agency does not explicitly prohibit such trades, it might create an incentive for manufacturers to take advantage of the TLAAS system to generate additional credits.

Flex Fuel Vehicle Credits

The flex fuel vehicle (FFV) credit is an unjustifiable loophole that has allowed manufacturers to evade up to 1.2 mpg of fuel economy obligation for building vehicles that are capable of running on (but do not actually have to use) a blend of 85 percent ethanol (E85). EISA extended the FFV credits through 2019, although the value of the credit phases out beginning in 2014. EPA proposes to apply the FFV credit consistent with NHTSA's standards through 2015; after that date, the credit would be based on actual use of E85. We acknowledge that the credit provided in NHTSA's fuel economy program is a legislatively mandated extension of an existing program.

The FFV credit, offered since the 1988 Alternative Motor Fuels Act (AMFA) was enacted, and extended multiple times, has not worked. Its original intent was to encourage ethanol infrastructure, but it did not. The 2002 NAS study on the fuel economy program estimated that FFVs ran on ethanol less than one percent of the time, and recommended that the FFV credit program be abolished.¹⁵

A sharp uptick in availability of ethanol blended fuel and refueling infrastructure (which is still a minimal fraction of the total refueling infrastructure) occurred only after the Energy Policy Act of 2005

¹⁴ 74 Fed. Reg. 49522.

¹⁵ National Academy of Sciences. *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*. (2002).

(EPA Act 2005) mandated the production of a certain volume of ethanol. Then in 2004, California and several other states switched from methyl *tert*-butyl ether (MTBE) to ethanol to meet oxygenate requirements for summer blend gasoline, which increased demand for 10 percent ethanol (E10). The mandated volume of ethanol was increased and expanded in EISA, to rise to 36 billion gallons by 2022.

The AMFA credit is limited, which effectively caps the number of vehicles it can encourage each manufacturer to build, limiting the usefulness of the credit. AMFA credits have not had a meaningful impact on E85 consumption. Ethanol producers, unable to increase the market penetration of ethanol without increasing the blending percentage of ethanol in gasoline for wide consumption, have begun to press that policy.¹⁶

EPA raises the option of capping the FFV credits based on vehicle size instead of using the limitation contained in the CAFE program. We strongly urge EPA not adopt this basis for setting the FFV credit. The credit has already been shown to have little value in increasing the market penetration of ethanol, and setting the credit on an attribute basis for the greenhouse gas program will do nothing to improve its effectiveness.

Public Citizen has long supported predicating the fuel economy credit for FFVs on actual consumption of E85, something EPA proposes to do in model years 2015 and after. EPA's recent proposal on its revised Renewable Fuel Standard (RFS2) illustrates the fact that it is difficult to measure the greenhouse gas emissions from ethanol.¹⁷ The agency has not stated how it will estimate the greenhouse gas emissions from ethanol in E85, or whether there will be different values for different feedstocks and production methods of ethanol. We urge that EPA devise a way to weight the greenhouse gas emissions from ethanol based on the values for different feedstocks and production methods, consistent with what it has done for RFS2.

Air Conditioning Credits

EPA proposes to give credits for changing refrigerants and improving air conditioning efficiency. The European Union is requiring automakers to switch air conditioning refrigerants, so these credits will be a windfall for automakers. These credits could cause the second largest reductions in the standard an automaker must meet. We urge that these credits be predicated on "additionality." That is, EPA must safeguard against granting automakers valuable compliance credits for improvements they were planning to make in absence of regulation. EPA and NHTSA still receive product plan information from automakers, although this information is no longer used as the principal basis on which the agencies set the level of the standards. The product plans could be used by EPA to establish whether credits for refrigerant switching are additional.

NHTSA requests comments on whether the fuel economy test procedure should be amended for light trucks to provide credits for increased air conditioning efficiency. We urge the agency not to change the test procedure for fuel economy for light trucks to reflect fuel economy impacts of running air conditioning. The agency is barred from making such changes for passenger cars, and there are already two parallel estimates of fuel economy – the fuel economy compliance estimate and the EPA labeling value. EPA amended the test procedure it uses to estimate the fuel economy information that is provided on the window sticker, to attempt to estimate vehicle fuel economy, based on a more realistic emulation

¹⁶ See Petition of Growth Energy to raise the allowable ethanol content of gasoline to 15 percent. Docket No. EPA-HQ-OAR-2009-0211.

¹⁷ 74 Fed. Reg. 24904 (May 26, 2009).

of how people actually drive.¹⁸ The change does underscore the need for updated fuel economy values for compliance.

Although a shift to more realistic testing for fuel economy compliance would be a positive change, it would require a change of test procedure for both the passenger car and light truck fleets. We acknowledge that NHTSA is currently prohibited from changing the test procedures for passenger cars, but the inconsistency between the two programs would further compound compliance calculations, particularly with respect to averaging fleet credit transfers. We do not recommend changing the light truck fuel economy compliance test procedure to reflect EPA's recent test procedure updates.

The Approach to Setting Standards Must Be Reworked

The agencies have not outlined an approach to setting standards that sets a precedent for how the agencies would approach this task the next time around. The agencies have engaged in economic hand waving, estimating that more stringent standards would be cost-effective, but then appealing to the financial state of the auto industry in choosing the level of standards. For example, EPA discusses other rates at which to ramp down the CO₂ standards, looking at two options: lowering allowable CO₂ emissions by four percent per year and six percent per year. These options are not indicated by any technological or economic criteria, but merely establish a range within which the agency's proposal falls. EPA proposes that CO₂ emissions decline at approximately 4.2 percent per year for passenger cars and 4.5 percent per year for light trucks.

EPA then discusses the relative cost of compliance with standards in each scenario, and explains that the cost savings for setting standards at four percent instead of the proposed level would be \$73 per vehicle, whereas the six percent alternative would incur additional costs of \$493 per vehicle on average. EPA appeals to the financial state of the industry in influencing its decision: "EPA is not concluding that the 6% per year alternative standards are technologically infeasible, but EPA believes such standards for this time frame would be overly stringent given the significant strain it would place on the resources of the industry under current conditions. EPA believes this degree of stringency is not warranted at this time. Therefore EPA does not believe the 6% per year alternative would be an appropriate balance of various relevant factors for model years 2012–2016."¹⁹ EPA does not substantiate this claim with an analysis that evaluates the tradeoff in terms of public health and welfare.

Science dictates that to avoid the worst consequences of global warming that we must reduce emissions of greenhouse gases to 83 percent below 1990 levels by 2050. In order for the U.S. light duty transportation sector to get there, EPA must set standards that cross multiple product cycles and allow for much more significant transformative changes in the light duty vehicle fleet. The CAA requires EPA to issue standards that protect public health and welfare. The Supreme Court in *Massachusetts v. EPA* affirmed CAA authority to regulate greenhouse gases, and EPA has asserted that greenhouse gases pose a threat to public health and welfare through its proposed endangerment finding.²⁰ The agency's approach to setting standards must reflect its responsibility to set protective standards consistent with its statutory mandate.

NHTSA's discussion of its standard setting methodology is more detailed and describes a clearer basis for the level of standards chosen by the agency:

¹⁸ 71 Fed. Reg. 77871 (Dec. 27, 2006).

¹⁹ 74 Fed. Reg. 49558.

²⁰ 74 Fed. Reg. 18886 (Apr. 24, 2009).

NHTSA has analyzed the costs and benefits of the ‘maximizing net benefits’ alternative and other alternatives, using inputs that diverge substantially from those used in the analyses in the previous rulemakings to establish attribute-based standards. But the agency has not sought to use ‘maximizing net benefits’ as a governing principle to select the applicable fuel economy standard in this NPRM. NHTSA’s balancing of the statutory factors in these difficult financial times leads it to make a different conclusion this time: NHTSA is proposing to set standards at 34.1 mpg in MY 2016, below the point at which net benefits are maximized, due to economic practicability concerns. The results of the alternatives analysis for the ‘maximizing net benefits’ alternative and the ‘total costs = total benefits’ alternative may be found in the D[raft] E[nvironmental] I[m]pact S[tatement] and in the P[reliminary] R[egulatory] I[m]pact A[nalysis].²¹

EPA’s consideration of health and the environment are paramount to economic considerations in setting standards under CAA. NHTSA has significant discretion to balance the four factors under EPCA for setting standards, and could choose technological feasibility and the need of the nation to conserve energy as the paramount factors in standard setting. The U.S. Court of Appeals for the Ninth Circuit has held that “The need of the nation to conserve energy is even more pressing today than it was at the time of EPCA’s enactment... What was a reasonable balancing of competing statutory priorities twenty years ago may not be a reasonable balancing of those priorities today.”²²

The agency’s assessment of the industry’s capacity and willingness to raise fuel economy and cut greenhouse gas emissions does not reflect current trends. Consumer demand for fuel efficient cars has increased significantly in light of gas price spikes in 2005 and 2008, and increased public awareness of global warming.²³ Major automakers have been making announcements for over a year about ambitious plans to raise vehicle fuel economy, roll out new efficiency technology, and move more rapidly than expected into hybrid, plug-in hybrid, and fully electric vehicles. Both agencies’ assumptions about technology adoption and willingness to increase fleet fuel economy seem unjustifiably constrained by outdated assumptions.

We appreciate and support the agencies’ use of publicly available information about technology adoption. NHTSA’s previous approach, using confidential product plans made it impossible for the public to verify NHTSA’s technology forecast. It also introduced the potential for automakers to game the standard-setting process by providing incomplete or misleading product plans. Using publicly available data makes the standards more transparent and provides the opportunity for broader participation in estimating the technological feasibility of improving vehicle efficiency.

In establishing this new program, the agencies should develop a standard-setting methodology that satisfies each agency’s statutory requirements, as well as the intent of both laws. EPCA aims to stabilize energy prices through conservation efforts. It was passed to establish a national energy policy that protects consumers against future price shocks and puts the nation in a more competitive position globally by making the nation less sensitive to price volatility. This vision was undermined by inconsistency in standard setting, and when oil prices rose sharply in 2005 and 2008, consumers were subject to prices shocks similar to those experienced in the 1970s. EPA has a responsibility to protect public health and welfare by setting standards under the CAA. The threat of global warming is clearer today than previously, and the agency’s authority to regulate greenhouse gas emissions to fulfill its mission of protecting public health and welfare has been affirmed.

²¹ 74 Fed. Reg. 49635.

²² *Center for Biological Diversity et al. v. NHTSA*. 508 F. 3d. 508 (2007).

²³ Consumer Federation of America. *Ending America’s Oil Addiction: A Quarterly Report on Consumption, Prices, and Imports, First Quarter, 2008*. (Apr. 2008).

Both agencies should start the standard setting process by establishing oil savings and greenhouse gas reduction goals based on assessments of national needs. From these estimates, the agencies must then apply considerations appropriate to their respective statutes, including technological feasibility, economic considerations, and the needs of the nation to conserve oil and reduce greenhouse gas emissions. This would result in setting levels of stringency consistent with the needs of the nation that are the maximum feasible, as required by EPCA, and that are as technology-forcing as practicable, consistent with EPA’s charge to place public health and welfare above economic concerns.

NHTSA’s Safety Analysis Is Unrealistic and Misleading

NHTSA presents a “worst case” analysis of the safety impacts of downsizing and downweighting vehicles to comply with the new standards, which represents a departure from previous safety analyses. The agency’s estimate hinges on a 2003 analysis of weight and safety conducted by NHTSA’s Charles Kahane. The study estimates the inflection point at which weight reduction no longer has a negative impact on motor vehicle safety. We have previously discussed flaws in Kahane’s 2003 study methodology, which conflates weight and safety by using weight as a proxy for size. NHTSA reiterates its position that it is unconvinced by our objections.²⁴

The agency states that the worst case analysis is an “unlikely event” and that “actual fatalities will be less than these estimates.” In framing its analysis this way, the agency places too much emphasis on weight reduction and makes unrealistic assumptions about how engineers would do it. The worst case scenario assumes that both small and large vehicles would be downweighted by the same amount (10 percent) and also that wheelbase and track width would be reduced proportionally to the weight reduction. These assumptions about weight reduction are unreasonable and unsupported by historical examples. SUVs have in the past 15 years increased their track widths, which will reduce rollover fatalities. The following table shows SUVs that have had significant decreases in weight, but increases in track width.

Year/Make/Model	Weight (pounds)	Track Width (inches)
1996 Ford Explorer	3,690	58.7
2010 Ford Escape	3,355	60.5
1996 Chevrolet Blazer	3,518	54.8
2010 Chevrolet HHR	3,155	58.7
1996 Jeep Cherokee	3,955	59.5
2010 Jeep Compass	3,261	59.8

NHTSA also fails to make a best case estimate, which would show scenarios in which lives were saved rather than lost. The agency does not attempt to account for the positive effect of reducing the weight of the heaviest vehicles, while leaving the weight of lighter vehicles unchanged. Increasing the number of smaller vehicles would also improve the safety of pedestrians, bicyclists and motorcyclists.

The agency has spent decades developing the groundwork for a vehicle-to-vehicle compatibility standard. We urge the agency to issue such a standard to encourage design changes and philosophy that would aim to protect occupants in struck vehicles as well as striking vehicles. The standard also could encourage weight reduction in the heaviest vehicles, reducing incompatibility and therefore reducing the disproportionate risk to occupants of small cars when struck by heavier SUVs and pickup trucks.

²⁴ Comments of Public Citizen to NHTSA Docket No. NHTSA-2003-16318 (Apr. 2003) & Comments of Public Citizen to NHTSA Docket No. NHTSA-2008-0089 (Jul. 2008) & 74 Fed. Reg. 49729.

In the 1970s and 1980s, when the original fuel economy standards were being phased in, automakers replaced many of the most unsafe vehicles with new models that strongly improved both fuel economy and safety performance. In the 1980s, 85 percent of fuel economy gains came from fuel-saving technology, and only 15 percent came from weight reduction. When weight was reduced, it was typically from the heaviest vehicles.²⁵ The table below outlines several examples of small, light cars that were significantly redesigned. In each case, the redesigned vehicle was significantly heavier, more fuel efficient, and had better head injury criteria scores than the predecessor vehicle.

Examples of Replacement of Less Safe, Fuel Inefficient Models with Safer, More Efficient Models

	Curb weight (pounds)	Wheel base (inches)	Head injury criteria Driver/passenger	Deaths per 100 million vehicle miles traveled	Fuel economy (mpg) City/hwy
HONDA					
1979-80 Civic	1760/1850	87/89	2030/2093 (1979 2D) 2026/1506 (1980 2HB)	2.64	32.4/34.7
1981-82 Civic	2000/1965	91/91	607/492 (1981 HB)	1.47	36.1/39.6
TOYOTA					
1981-82 Tercel	2050/2050	98/98	1218/1179 (1980 2D)	2.32	35.8/35.4
1984-85 Tercel	2145/2145	96/96	658/492 (1984 4HB)	1.37	38.7/38.2
1980-81 Corolla	2000/2000	95/95	838/1162 (4D)	2.31	30.4/31.1
1984-85 Tercel	2145/2145	96/96	658/492 (1984 4HB)	1.37	38.7/38.2
GENERAL MOTORS					
1984-85 Chevette	2200/2200	97/97	1886/1306 (1984 4HB)	2.46	27.7/35.0
1985-86 Nova	2250/2250	96/96	552/562 (1986 4HB)	1.20	36.1/36.1
VOLKSWAGEN					
1973-74 Beetle	1950/2025	95/95	NA	3.79	26.0/26.0
1977-78 Rabbit	1940/1940	94/94	1024/429 (1979 2HB)	2.11	32.5/32.8
FORD					
1975-76 Pinto	2590/2570	95/94	NA	3.40	26.3/26.3
1981-82 Escort	2050/2090	94/94	618/1011 (1981 2 HB)	2.18	62.4/33.8

The challenges of balancing fuel efficiency and motor vehicle safety will change as the vehicle fleet changes. NHTSA recently released an analysis of the increased risk to pedestrians posed by the quieter engines in hybrid electric cars, a risk which will be shared by other electric drive vehicles, of which there will be more in the future.²⁶ The agency also considers the safety impacts from the proposed standards in a vacuum from its work to improve motor vehicles safety, perversely minimizing the value of its core safety work. We urge the agency to provide a discussion of the safety impacts that incorporates a full view of its recently upgraded standards relating to side-impact protection, occupant crash protection

²⁵ Donald Friedman and Keith Friedman. "The Relationship Between Safety and Fuel Economy." SAE Technical Paper Series 921055 (1992).

²⁶ National Highway Traffic Safety Administration. *Incidence of Pedestrian and Bicyclist Crashes by Hybrid Electric Passenger Vehicles*. DOT HS 811 204. (Sept. 2009).

in rollover, crash prevention through electronic stability control, and an upcoming rulemaking on ejection mitigation.²⁷

It also must remove the estimate of a “worst case” number of fatalities associated with the rulemaking. There is no clear, direct relationship between fuel economy standards and motor vehicle safety. Nor can the agency assume it has perfectly predicted the extent to which manufacturers may downsize vehicles. Although there are not enough data to assess whether attribute-based standards have effectively discouraged manufacturers from complying with fuel economy standards by downsizing vehicles, it is reasonable to expect that the attribute-based system would remove any incentive for manufacturers to comply with standards by downsizing. NHTSA’s worst case scenario distracts from a reasonable safety analysis by focusing its attention on downsizing. The agency must consider safety impacts with an eye to the future, where vehicles will be much different than they are today.

Conclusion

These proposed standards could be a major step forward in curbing greenhouse gas emissions and oil consumption from light duty transportation. But the proposal contains many ways in which the standards could be undermined. We strongly urge that the agencies consider eliminating credit programs, such as the advanced technology vehicle credit program, where automakers are likely to seek an extension in 2017 and beyond. The agencies also must adopt a backstop to maintain the oil savings and greenhouse gas reductions promised by the proposed standards.

The FFV credit program’s failure to meaningfully increase ethanol consumption over 21 years suggests that credits in the efficiency standards program do not have a meaningful impact on fuel switching. Consumers will make choices about vehicle fuels based on their needs, preferences, and availability of fuels. The current marketability of ethanol fuel was spurred by the EPAct 2005 mandate to produce a specific volume of the fuel, which is heavily subsidized. The ability of the market to absorb this volumetric mandate has been almost entirely through the expansion of E10, which increased in popularity as a result of widespread ban of MTBE for gasoline oxygenate in summer blend gasoline.

The proposal does not include a methodology for setting standards that capitalizes on the additional authority to push technology forward granted by the CAA. To the contrary, there are many references to ways in which the EPA’s capacity to set technology-forcing standards has been reduced to suit NHTSA’s approach. The agencies must not focus on the constraints of their statutory authorities, but rather boldly use the flexibility that the statutes provide in protecting consumers and the nation from volatile oil prices and the worst consequences of global warming. These deficiencies must be corrected before the proposed standard becomes final.

Sincerely,

David Arkush
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Public Citizen

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Director
Safe Climate Campaign

²⁷ See 72 Fed. Reg. 51908 (Sept. 11, 2007) & 74 Fed. Reg. 22348 (May 12, 2009) & 72 Fed. Reg. 17236 (Apr. 6, 2007) & 72 Fed. Reg. 5385 (Feb. 6, 2007).