

December 10, 2018

Congress of the United States
House of Representatives
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515-6115

Members of the House Energy and Commerce Committee:

On behalf of our more than half a million supporters, the Union of Concerned Scientists (UCS) would like to express opposition to the discussion draft by Representatives John Shimkus (IL-15) and Bill Flores (TX-17), *The 21st Century Transportation Fuels Act*.

As the Committee examines the provisions of the discussion draft, we encourage Members to consider whether these policies help or hinder innovation in the transportation sector, especially given the political context of the Trump administration's efforts to undercut the Renewable Fuel Standard (RFS) and Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) emission standards for light-duty vehicles.

Title I: High octane fuels

There are meaningful potential fuel efficiency improvements associated with higher octane gasoline, particularly for high compression turbocharged cars.^{1 2 3 4} Title I of this discussion draft jumpstarts the transition to high octane fuels by mandating a higher base octane for gasoline and requiring that gasoline powered vehicles starting from model year (MY) 2023 must be able to use gasoline with ethanol content up to and including 20%.

Given the studies, rulemakings, and infrastructure changes that need to be made, our expectation is that a complete transition to high-octane gasoline is not feasible by MY 2023.

¹ Department of Energy (DOE). 2017. Co-Optimization of Fuels & Engines: FY16 Year in Review. National Renewable Energy Laboratory and Sandia National Laboratories. Online at www.nrel.gov/docs/fy17osti/67595.pdf.

² Leone, T. G., J. E. Anderson, R. S. Davis, A. Iqbal, R. A. Reese II, M. H. Shelby, and W. M. Studzinski. 2015. "The Effect of Compression Ratio, Fuel Octane Rating, and Ethanol Content on Spark-Ignition Engine Efficiency." *Environ. Sci. Technol.* 49 (18), 10778–10789. Online at: <http://pubs.acs.org/doi/abs/10.1021/acs.est.5b01420>.

³ Speth, R. L., E. W. Chow, R. Malina, S. R. H. Barrett, J. B. Heywood, and W. H. Green. 2014. "Economic and Environmental Benefits of Higher-Octane Gasoline." *Environ. Sci. Technol.*, 48 (12), 6561– 6568. Online at: <http://pubs.acs.org/doi/abs/10.1021/es405557p>.

⁴ Martin, J. 2016. The road to high octane fuels. *The Equation*. Cambridge, MA: Union of Concerned Scientists. Blog, October 5. Online at <https://blog.ucsusa.org/jeremy-martin/the-road-to-high-octane-fuels>.

It seems likely that there will be a several year gap between the availability of vehicles that can run on E20 fuel and the nationwide availability of cost-effective, higher octane fuel itself.

Though it's not explicit in the discussion draft whether automakers will get special treatment under the CAFE program for sales of these vehicles, we expect them to petition the National Highway Traffic Safety Administration (NHTSA) for multiplier credits or other incentives based on historical precedent. We strongly oppose granting fuel economy credits based on the technical potential of vehicles to operate on high-octane fuel without clear evidence that the vehicles are operating on high-octane fuel and the potential fuel economy benefits are being realized on the road.

The history of the CAFE flex-fuel vehicle (FFV) program provides clear evidence that credits given based on unrealized potential and in advance of adequate fuel distribution infrastructure are counterproductive. Recent analysis demonstrates that the FFV program actually increased gasoline consumption and emissions without substantially increasing the use of alternative fuels.⁵ In its 2016 final Renewable Fuel Standard Program: Standards for 2017, EPA found that, despite the fact that 21 million FFVs on the road had the technical capacity to use up to 13 billion gallons of E85, only 275 million gallons of E85, or 2% of the potential, were likely to be used.⁶

In addition, we encourage the committee to consider stronger language requiring the vehicles manufactured after MY 2023 to be more fuel efficient than previous model years. It is important for automakers to produce more efficient vehicles year over year. Raising minimum octane standards and making vehicles compatible with E20 gasoline can enable higher efficiency, but down-sizing and down-speeding engines is required to deliver the full potential efficiency gain. Without stringent fuel economy standards there is no guarantee that higher octane gasoline will result in fuel economy benefits. Moreover, if high octane fuel increases the potential for cost-effective efficiency improvements from gasoline powered vehicles, then the stringency of fuel efficiency standards should correspondingly increase given the availability of other complementary efficiency technologies such as light-weighting, advanced transmissions and gasoline direct injection.

Title II: Renewable fuels

Renewable fuels are an important part of a broader strategy to reduce oil consumption and global warming emissions, but this discussion draft does not set the correct direction for renewable fuel policy and lacks appropriate safeguards to ensure renewable fuels are sustainable. The GHG reduction requirements of the RFS are an essential element of the policy, and the high-octane fuel requirements includes no comparable requirements to reduce the carbon intensity of transportation fuel. As discussed at some length in our report, *Fueling a Clean Transportation Future*, all transportation fuels including gasoline and ethanol can be produced with lower pollution with the appropriate policy signals.⁷ By removing any

⁵ Jenn, A., I. M. L. Azevedo, J. J. Michalek 2016. "Alternative Fuel Vehicle Adoption Increases Fleet Gasoline Consumption and Greenhouse Gas Emissions under United States Corporate Average Fuel Economy Policy and Greenhouse Gas Emissions Standards." *Environ. Sci. Technol.* 50 (5), 2165–2174. Online at <http://pubs.acs.org/doi/abs/10.1021/acs.est.5b02842>.

⁶ Environmental Protection Agency (EPA). 2016. *Renewable Fuel Standard Program: Standards for 2017 and Biomass- Based Diesel Volume for 2018*, December 12. Washington, DC.

⁷ Martin, J. 2016. *Fueling a Clean Transportation Future: Smart Fuel Choices for a Warming World*. Cambridge, MA: Union of Concerned Scientists. Online at www.ucsusa.org/fuelingacleanfuture.

lifecycle GHG requirement from the largest source of renewable fuels, the discussion draft presents the risk that lower-carbon renewable fuel blending components could be replaced with higher carbon high octane fossil fuel blending components. High octane fuels should meet the same or higher requirements for GHG mitigation that is required within the RFS to avoid backsliding on the carbon intensity of gasoline.

Moreover, by removing the obstacles to a transition to E20 without any plan for where any associated additional ethanol would come from, the bill creates the risk of a rapid expansion of fuel ethanol use supplied primarily by corn ethanol. While such a transition is by no means certain, a rapid scale-up of corn production for ethanol use could have negative impacts on other users of corn as well as land use change impacts, water pollution and other problems, as occurred during the rapid transition to E10 between 2005 and 2010.⁸ Policymakers should carefully ensure a predictable and gradual phase-in that increases blending level as efficiency increases and would allow for the parallel growth of lower carbon ethanol sources, including cellulosic ethanol, which could supply increasing quantities of ethanol without the associated negative impacts.

As for advanced and cellulosic renewable fuels – while the discussion draft directs EPA to set volumes for these fuels through 2032, it lacks policy levers to ensure the nascent industry can mature. For example, the committee should direct EPA to expedite completion of pathway applications for cellulosic fuels. EPA has been slow to turn around applications for cellulosic pathways and facilities, which is reducing potential production of these fuels. Policymakers should ensure RFS support available for all legitimate and eligible biofuel production, with a priority on cellulosic pathways to increase the availability of low carbon fuels.

In addition, the committee should scrutinize the provision in the discussion draft that repeals the RFS program after 2032. While it is an imperfect program, it should not be repealed in the absence of a successor program that will continue to foster development of low carbon biofuels as a hedge against oil consumption and climate change, with safeguards to prevent air pollution and land conversion and to encourage the use of lower carbon, non-food-based feedstocks.

Title III: Vehicle fuel efficiency

Title III of this bill is the same text as H.R.4011, the Fuel Economy Harmonization Act introduced by Reps. Fred Upton (MI-6) and Debbie Dingell (MI-12). This title will have significant detrimental impacts on the CAFE program run by NHTSA, which will increase consumer spending on gas, oil consumption and greenhouse gas emissions, and decrease industry competitiveness. Over 100 national and local organizations oppose passage of H.R. 4011 and its Senate companion, S.1273,⁹ and its inclusion in this legislation will not go unnoticed.

The provisions in the title serve to: 1) extend the life of CAFE credits, some of which have already expired, which will have the effect of allowing manufacturers to make much less fuel efficient vehicles out through 2021; 2) award windfall credits for vehicles already sold by

⁸ *Ibid.*

⁹ Group letter opposing S.1273 and H.R. 4011 (November 16, 2017) online at <https://www.dropbox.com/s/69lkfrlvla4a3x4/Blunt%20Upton%20Opposition%20Letter%202011-16-17.pdf?dl=0>

pulling forward a flexibility which regulators explicitly said they were not granting when setting the stringency of the program; and 3) allow for manufacturers to focus all their efforts on just one segment of their fleet, undermining the promise to consumers that all types of vehicles—cars, trucks, and SUVs—would become more efficient over time.

Title III will give manufacturers the green light to make vehicles that are on average 3 mpg less efficient in 2021 than agreed to under the existing CAFE program.¹⁰ Compared to the benefits anticipated from the 2012 final rule, Title III will result in about 350 million barrels of additional oil being burned, 155 million metric tons of additional global warming emissions, and \$34 billion in additional fuel costs for American drivers.¹¹ For example, someone who buys a car in 2021 will pay approximately \$1,600 more in fuel costs than they would if the program was not changed by Congress as written in this title.¹²

It is important to note that the Trump administration is currently conducting a rulemaking to freeze fuel economy and global warming emissions standards at model year (MY) 2020 levels through MY 2026. And despite the robust technical record and legal analysis supporting the current greenhouse gas emission standards and augural CAFE standards, it seems likely that the administration will finalize the rulemaking as proposed.¹³ Title III provides manufacturers a path to halting progress on fuel economy standards even in the lead-up to the detrimental administration proposal by undercutting the standards that automakers are already complying with.

The impact of Title III on the augural CAFE program would be far reaching, but the impact of Title III on CAFE standards frozen at MY2020 levels would simply be irresponsible. Under this scenario, a lack of ambitious CAFE standards would already nearly halt improvement in fuel economy for cars and trucks through MY 2025—Title III would reward precisely those manufacturers who've already begun that stagnation. Innovation would falter, auto suppliers would lose billions in investment, and the domestic auto industry would eventually find itself in a familiar crisis, unprepared for rising gas prices and international competition. Title III and the Trump administration's proposed rollback take us backwards when we should be moving forwards.

Conclusion

Unfortunately, as written the 21st Century Transportation Act discussion draft may actually keep the automotive and fuels sectors from innovating beyond the status quo.

¹⁰ Union of Concerned Scientists (UCS). 2017. Blunt and Upton urge rollback of fuel economy standards. December. Cambridge, MA. Online at <https://www.ucsusa.org/sites/default/files/attach/blunt-vehicle-bill.pdf>.

¹¹ *Ibid.*

¹² *Ibid.*

¹³ Despite opposition to the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks proposed rule from scientists, automakers and the public, EPA Acting Administrator Wheeler continues to defend the proposal. See <https://www.spglobal.com/platts/en/market-insights/latest-news/oil/112818-us-epa-chief-says-auto-fuel-efficiency-rollback-will-have-minuscule-climate-impact>

We appreciate the committee's interest and look forward to working together on these important issues.

Thank you for your time,



Dr. David Cooke
Senior Vehicles Analyst, Clean Vehicles Program



Dr. Jeremy Martin
Senior Scientist and Fuels Lead, Clean Vehicles Program



Alyssa Tsuchiya
Legislative Associate, Clean Vehicles Program

Enclosed: Group letter opposing S.1273 and H.R. 4011, the Fuel Economy Harmonization Act (November 16, 2017)

November 16, 2017

Dear Member of Congress,

On behalf of our millions of members, the undersigned organizations urge you to oppose S.1273, the “Blunt Clean Cars Rollback Bill” and its House companion, H.R.4011. This bill weakens the Corporate Average Fuel Economy (CAFE) and threatens the greenhouse gas emissions standards, endangering the health, consumer savings and environment of Americans across the country.

The effects of this legislation are far reaching, resulting in 350 million barrels of additional oil being burned, 155 million metric tons of additional carbon pollution, and \$34 billion in additional fuel costs for American drivers. This bill is merely another unscrupulous attempt by industry to rollback the federal clean car standards, that are not only popular with the US consumer public but that also protect the health of 24 million Americans who suffer from asthma, including 6.3 million children.

With transportation carbon pollution surpassing that of the power sector for the first time in decades, protecting the clean car and fuel economy standards is more important than ever. This bill masks industry back-tracking as additional “flexibility” in meeting the standards, but in reality, the additional credits and expansions of existing credits simply rolls back the standards, decreasing their integrity.

The Blunt bill would weaken the standards by needlessly giving automakers unwarranted windfall credits which make it possible for them to avoid using technology to make vehicles cleaner and more efficient. It would allow the companies to use expired credits through 2021. It would also award automakers new off-cycle credits that have been explicitly excluded by NHTSA. Finally, it would allow auto manufacturers to use these new credits, along with any overcompliance earned by its car fleet, to choose not to improve the efficiency of their truck fleet. So, for example, if all of the credits were used on the truck side, trucks that meet the standards today wouldn't need to improve through 2021.

These provisions give auto manufacturers a free pass to produce vehicles that are on average 3 mpg less efficient in 2021 compared to standards today, putting them on a trajectory that could miss current targets by 8-10 mpg in 2025. These provisions undermine the entire intention behind the standards, to drive our country and industry forward to realize benefits for our health, environment and economy, while providing all consumers with a choice to buy more efficient vehicles of all types.

Anything that erodes the success of the program and lets automakers game the system is unacceptable. There is ample technology available to automakers to meet the standards as they are currently constructed. There are technologies that the agencies did not even consider in their 2012 final rule that are being incorporated into vehicles today that make it easier for automakers to achieve the standards.

After the President's withdrawal from the Paris Agreement, the clean car standards are more important now than ever before. They need to be strengthened not weakened, for

our health and environment. We urge you to protect all Americans and to oppose S.1273 and H.R.4011.

Sincerely,

1000 Friends of Wisconsin
Acadia Center
AFGE Council 238
AKPIRG
Arizona Interfaith Power & Light
Arizona PIRG
Arkansas Interfaith Power & Light
Aytzim: Ecological Judaism
CALPIRG
Capital Region Advocacy Network for
Environmental Sustainability
Colorado Interfaith Power & Light
Denver Catholic Network
Center for an Ecology Based Economy
Center for Auto Safety
Center for Biological Diversity
Citizens' Climate Lobby-Madison
Clean Water Action
Climate Action Round Table
Climate Hawks Vote
ConnPIRG
CoPIRG (Colorado Public Interest
Research Group)
Delaware Interfaith Power & Light
Delaware Sierra Club
Earth Action, Inc.
Earth/Art Resources
Elders Climate Action
Environment America
Environment Arizona
Environment California
Environment Colorado
Environment Connecticut
Environment Florida
Environment Georgia
Environment Illinois
Environment Iowa
Environment Maine
Environment Maryland

Environment Massachusetts
Environment Michigan
Environment Minnesota
Environment Missouri
Environment Montana
Environment Nevada
Environment New Hampshire
Environment New Jersey
Environment New Mexico
Environment New York
Environment North Carolina
Environment Ohio
Environment Oregon
Environment Rhode Island
Environment Texas
Environment Virginia
Environment Washington
Environmental Law & Policy Center
Florida PIRG
Friends of Casco Bay
Friends of the Earth
Georgia Interfaith Power & Light, Inc
Georgia PIRG
Great Lakes Community Conservation
Corps
GreenLatinos
High Health
Hoosier Interfaith Power & Light
Illinois PIRG
Indiana PIRG
Interfaith Earth Network Steering
Committee
Interfaith Power & Light
Iowa Interfaith Power & Light
Iowa PIRG
Justice and Witness Ministries of the
United Church of Christ
Kentucky Interfaith Power & Light
League of Conservation Voters

Lutheran Office for Public Policy in
Wisconsin
Madison Area Bus Advocates
Maine Conservation Voters
Maine Interfaith Power & Light
Maine Public Health Association
Maryland PIRG
MASSPIRG
MontPIRG
MoPIRG
NAOMI
Natural Resources Council of Maine
Natural Resources Defense Council
NCPIRG
NextGen Climate
NHPIRG
NJPIRG
NMPIRG
Ohio Interfaith Power & Light
Ohio PIRG
Oklahoma Interfaith Power and Light
Oregon Environmental Council
OSPIRG
PennEnvironment

PennPIRG
Pennsylvania Interfaith Power & Light
Physicians for Social Responsibility-
Philadelphia
PIRGIM
Plug In America
Prevent Harm
Protect Our Winters
Public Citizen
ReVision Energy
Rhode Island Interfaith Power and Light
RIPIRG
Safe Climate Campaign
Sierra Club
South Carolina Interfaith Power and
Light
Tennessee Interfaith Power & Light
TexPIRG
Union of Concerned Scientists
Vermont Interfaith Power & Light
WashPIRG
Wisconsin Environment
Wisconsin Interfaith Power and Light
Wisconsin Public Interest Research
Group (WISPIRG)