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Proposed Rulemaking to Establish Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 74 Federal Register 49,454 (Sept. 28, 2009)
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The Competitive Enterprise Institute (CEI) submits this comment letter to the Environmental Protection Agency (EPA) its proposed rulemaking to establish greenhouse gas (GHG) emission standards for new motor vehicles.[1]

EPA should withdraw its proposal to establish GHG emission standards for new motor vehicles for the following reasons:

- The proposed emission standards lack an adequate scientific basis.
- The proposed standards will increase the risk of death and injury related to auto accidents.
- The proposed standards will spawn an economically-chilling regulatory morass.

I. The proposed emission standards lack an adequate scientific basis.

The proposed standards are authorized only if EPA determines that "air pollution" related to GHG emissions from new motor vehicles "may reasonably be anticipated to endanger public health or welfare."[2] However, as explained in my comment on EPA's endangerment proposal,[3] EPA has not exercised its judgment with regard to the fundamental scientific issues – detection, attribution, and sensitivity – deferring instead to literature reviews produced by external authorities. Moreover, the core scientific issues are more "unsettled" today than at any time in the past decade. For example, MIT Professor Richard Lindzen's recent satellite study of top-of-the-atmosphere radiative flux indicates that climate sensitivity is six times lower than the mid-range estimate of the Intergovernmental Panel on Climate Change (IPCC).[4]

Last month, CEI petitioned EPA to reopen the endangerment proceeding because of new information regarding the destruction of data upon which the Climate Research Unit (CRU) of the University of East Anglia constructed its influential global temperature record.[5] The CRU temperature record figures prominently in the IPCC's climate change assessment reports, and thus is part of the "evidence" for EPA's finding that GHG-related "air pollution" endangers public health and welfare. As noted in our petition, because the data no longer exist, the CRU record cannot be reproduced, and non-reproducible research is not science.

The still-unfolding "Climategate" scandal triggered by the leak and Internet publication of thousands of CRU emails and documents underscores the validity and heightens the urgency of CEI's petition. The leaked emails "give every appearance of testifying to concerted and coordinated efforts by leading climatologists to fit the data to their conclusions while attempting to silence and discredit their critics," writes the *Wall Street Journal*.[6] More tellingly, as Willis Eschenbach shows in detail,[7] the emails demonstrate a coordinated effort over many years, by Phil Jones of CRU and his allies, to conceal their data and computer codes, thereby preventing outside researchers from replicating their results. Replication is what separates real science from anecdotal "evidence." Science, as Eschenbach explains, is fundamentally an "adversarial process" whereby competing scientists attempt to reproduce – that is, invalidate – each other's work. Science advances only when each combatant plays by the rules and allows others to examine his data and methods. Researchers who hide their data and computer codes "attack the heart of science."

EPA's endangerment finding repeatedly cites Kevin Trenberth of the National Center for Atmospheric Research (NCAR) in his capacity as lead author of the 2007 IPCC Fourth Assessment Report. In one of the leaked emails (October 14, 2009), Trenberth acknowledges, "We can't account for the lack of warming at the moment and it is a travesty that we can't," leading him to conclude that "any consideration of geo-engineering [is] quite hopeless as we will never be able to tell if it is successful or not!" [8] The IPCC crowd has been reassuring us for years that their models realistically incorporate natural variability. Indeed, they have to affirm that, otherwise they could not claim to be 90% certain that recent warming is due to rising GHG concentrations. But even as global GHG concentrations continue to rise, the planet has been in a cooling trend since 2002 and no year of the past decade has been as warm as 1998. Why is the lack of warming a "travesty"? It exposes as an unfounded boast the modeling community's claim to understand natural variability well enough to distinguish the anthropogenic from the natural component of observed climate change.

The close-knit fraternity of climatologists to which EPA's endangerment finding uncritically defers is now in spin mode. Trenberth, for example, denies that his "travesty" comment means what it plainly does mean.

EPA would be well-advised to call a time out on endangerment and the associated regulations pending a thorough independent assessment of the science. Regulatory decisions – especially those with potentially massive economic impacts – should not be based on automatic deference to external authorities, especially those who try to turn science into a private, members-only club.

II. The proposed standards will increase the risk of death and injury related to auto accidents.

GHG standards are fuel economy standards.

The proposed GHG standard is just a fuel economy standard by another name. EPA comes very close to acknowledging as much, explaining that the rule aims to reduce emissions by increasing fuel economy:

> CO_2 [carbon dioxide] is the natural by-product of the combustion of fuel in motor vehicle engines. The more fuel efficient a vehicle is, the less fuel it burns to travel a given distance. The less fuel it burns, the less CO_2 it emits in traveling that distance. Since the amount of CO_2 emissions is essentially constant per gallon combusted of a given type of fuel, the amount of fuel consumption per mile is directed related to the amount of CO_2 emissions per mile. In the real world, there is a single pool of technologies for reducing fuel consumption and CO_2 emissions. While there are emission technologies that can capture and destroy the pollutants (e.g. carbon monoxide) that are produced by imperfect combustion of fuel, there is at present no such technology for CO_2. In fact, the only way at present to reduce tailpipe emissions of CO_2 is by reducing fuel consumption.[9]

The only difference between EPA's proposed rule and a 100% "pure" fuel economy standard is that the rule seeks to reduce leakage of air conditioning-refrigerant GHGs. However, the rule also seeks to reduce "the consumption of fuel to provide power to the A/C system."[10] So even with respect to vehicular air conditioning systems, EPA's proposal targets fuel economy. As the rule states, 95% of all GHGs emitted by light duty vehicle are CO_2 emissions,[11] and "the only way at present to reduce tailpipe emissions of CO_2 is by reducing fuel consumption."

Fuel economy mandates lead to reductions in vehicle size and weight.

Downsizing has long been recognized as an important method for raising fuel economy. For example, the National Highway Traffic Safety Administration (NHTSA), which operates the federal fuel economy program (CAFE), long ago characterized weight reduction as the "most obvious method for improved fuel economy."[12] A decade later, its opinion had not changed; it characterized weight reduction as "probably the most powerful technique for improving fuel economy," and it estimated that "each 10 percent reduction in weight improves the fuel economy of a new vehicle design by approximately 8 percent."[13] In its annual Automotive Fuel Economy Program reports to Congress, NHTSA repeatedly noted the weight-saving advantages of new materials and new vehicle designs. Thus, even these new technological approaches often involved weight reduction in their quest for higher fuel economy.

Downsizing, however, has a direct negative impact on vehicle crashworthiness. In general, there is a positive correlation between vehicle size and safety, and between vehicle weight and safety. Fuel economy, on the other hand, is negatively correlated with size and weight. For this reason, there is a clear tension between crashworthiness and efforts to improve fuel economy. Given the direct connection between fuel economy and CO_2 emissions, EPA's proposed rule raises this very same safety problem.

The connection between vehicle mass or size and occupant protection applies to practically every collision mode, including both multiple-car and single-car collisions. In NHTSA's words, "the increased risks for small car occupants who are in collisions with larger cars are easily recognized. But, it is also true that even in single vehicle crashes there is increased risk of serious injury or death."[14] There are two basic reasons for this: smaller cars have less "survival space" for their occupants, and they have less physical structure to "absorb and manage crash energy and forces" in the event of a collision.[15]

CAFE makes the average vehicle less safe.

One of the first analyses of the connection between traffic deaths and fuel economy is contained in R.W. Crandall & J.D. Graham, *The Effect of Fuel Economy Standards on Automobile Safety*.[16] Their study concluded that, as of that time, CAFE had had a downsizing effect of 500 pounds per car. This, in turn, was responsible for a 2,200 to 3,900 annual increase in passenger car deaths. On the basis of this study, CEI subsequently estimated that, in 1997, CAFE was responsible for between 2,600 and 4,500

traffic fatalities in passenger cars. Moreover, CEI estimated that under a 40 mpg CAFE standard, the death toll would have ranged from 3,800 to 5,700.[17]

These findings were corroborated by the National Academy of Sciences in its 2002 report on CAFE. That report found that "past improvements in the overall fuel economy … have entailed very real, albeit indirect, costs" — namely, contributing to an additional 1,300 to 2,600 traffic fatalities and an additional 13,000 to 26,000 debilitating injuries in 1993.[18]

A 2003 NHTSA study – *Vehicle Weight, Fatality Risk and Crash Compatibility of MY 1991-99 Passenger Cars and Light Trucks* (Oct. 2003),[19] by analyst Charles J. Kahane – indicates that the NRC report's estimates of CAFE's lethal impact may actually be too low. The NRC estimate had been based on a 1997 NHTSA study, which had examined weight reductions in the period 1976 to 1993.[20] The 2003 Kahane study "estimates a substantially larger fatality increase per 100-pound weight reduction than NHTSA's 1997 report."[21] It finds that the earlier report had "flaws in the calibration procedure leading to a systematic underestimate of the size-safety effect in every crash mode, for both LTVs and cars."[22] Contrary to the earlier report, new data "shows fatality risk in car-to-car crashes increased as car weight decreased, consistent with intuition and most of the literature. The lighter cars had higher crash involvement rates and higher fatality risk, given a crash, for their own occupants. That more than offset the reduction in fatality risk of occupants in the 'other' car."[23]

In April 2009, the Insurance Institute for Highway Safety (IIHS) reported that in a series of test crashes between mini-cars and midsize models, minis such as the Smart car provided less protection for their passengers.[24] In the words of IIHS president Adrian Lund, "though much safer than they were a few years ago, minicars as a group do a comparatively poor job of protecting people in crashes, simply because they're smaller and lighter." In a *Wall Street Journal* column on the IIHS study, my colleague, Sam Kazman notes: "The death rate in minis in multi-vehicle crashes is almost twice as high as that of large cars. And in single-vehicle crashes, where there's no over-sized second vehicle to blame, the difference is even greater: Passengers in minis suffered three times as many deaths as in large cars."[25]

In short, CAFE has proven to be lethal, and is probably more lethal than previously recognized. This is true in both single and multi-car collisions, and there is no basis for believing that reducing vehicle weight somehow improves overall "social safety" in multi-vehicle crashes.

New technologies and "attribute-based" regulation will not eliminate the safety trade-off.

Some proponents of higher CAFE standards, and of CO_2 emission limits, claim that new technologies can eliminate these lethal effects. This claim is simply false, even if such technologies do not themselves involve downsizing. Consider a hi-tech prototype car capable of meeting either a higher CAFE standard, or a stringent CO_2 emissions standard.

Imagine that you then increase this car's size and weight by adding several cubic feet of trunk space and occupant space. The result would be an even safer car. This larger car, however, would be less fuel-efficient, and it would therefore emit more CO_2. EPA's proposed rule might well restrict, or prevent, its availability. In short, as long as we have a constraining standard, be it CAFE or CO_2, we will have less vehicle safety. This will be true regardless of what new technologies are utilized.

Although EPA acknowledges that CAFE regulation in the past has diminished auto safety by decreasing vehicle mass,[26] EPA assures us that this time things will be different, because the GHG standards will not lead to downsizing. Under the Energy Independence and Security Act (EISA), enacted in 2007, fuel economy targets vary according to a vehicle's "footprint" (the area formed by multiplying the wheelbase by the vehicle's track width). NHTSA and EPA have "carefully chosen" the "footprint curve (or function)" so that it "neither encourages manufacturers to increase nor decrease the footprint of their fleet." Consequently, says EPA, automakers will have no incentive to reduce a vehicle's "crush and crumple zones."[27] Yet on the very same page, EPA acknowledges that, "EPA's modeling projects that vehicle manufacturers will reduce the weight of their vehicles by 4% on average between 2011 and 2016 although individual vehicles may have a greater or smaller weight reduction..."[28]

In short, the average vehicle will have less mass to absorb collision forces than would be the case absent the rule. On average, each vehicle will be less safe than it would otherwise be. Despite being "attribute-based," the rule will limit production of heavier, safer vehicles. Consumers will not be able to buy all the safety they are willing to pay for.

Lives lost will outweigh lives saved.

Lives lost due to vehicle mass reduction might arguably be justified by a greater number of lives saved due to global warming mitigation. However, the proposed rule would have no detectable impact on global temperatures. As EPA acknowledges, "this rulemaking is expected to reduce global CO_2 emissions by about 0.4 to 0.9%."[29] Which means: "These reductions are projected to reduce global mean temperatures by approximately 0.007 to 0.016 degrees Centigrade by 2100 and global mean sea level rise is projected to be reduced by 0.06 to 0.15 centimeters by 2100."[30] Even if we assume that the climate is highly sensitive to GHG increases and that global warming constitutes a grave threat to public health and welfare, this rule will not save a single life. In all likelihood, however, it will contribute to death and injury in motor vehicle collisions.

III. The proposed standards will spawn an economically-chilling regulatory morass.

EPA writes extensively about the costs and benefits of the proposed GHG standards for motor vehicle consumers. However, EPA says nothing about the rule's subsequent impacts on stationary sources and the economy. The GHG standards will trigger a regulatory "cascade" or "chain reaction" through multiple provisions of the CAA. A cost-benefit analysis that ignores these repercussions is incomplete and unsatisfactory.

EPA's Tailoring Rule confirms that the proposed GHG emission standards will make CO_2 an air pollutant "subject to regulation" under the Clean Air Act's (CAA or Act) prevention of significant deterioration (PSD) pre-construction permitting program and Title V operating permits program.[31] Under the CAA, sources are subject to PSD regulation if they are in one of 28 categories and have a potential to emit 100 tons per year (TPY) of an air pollutant, or if they are any other type of establishment and have a potential to emit 250 TPY. A source is subject to Title V regulation if it has the potential to emit 100 TPY of an air pollutant.

An immense number and variety of previously unregulated establishments – office buildings, big box stores, small manufacturers, heated agricultural facilities, enclosed malls, even commercial kitchens – emit CO_2 in amounts exceeding the statutory thresholds for PSD and Title V regulation as "major emitting facilities." EPA estimates that PSD permit applications could jump from roughly 280 to 41,000 per year – more than a 140-fold increase.[32] Title V permit applications would grow from 14,700 to 6.1 million per year – a 400-fold increase.[33]

Sources subject to PSD must undertake a complex investigation to determine how to comply with "best available control technology standards" (BACT). In a recent year, each PSD permit on average cost $125,120 and 866 burden hours for sources to obtain, and $23,280 and 301 hours for EPA or a state agency to process.[34] It is doubtful that any small business could operate under the PSD administrative burden. Entities subject to Title V have to pay emission fees to help cover the program's administrative costs (CAA Sec. 502). The going rate is $43.30 per ton,[35] although EPA has authority to reduce the fees of small entities (CAA Sec. 507).

EPA acknowledges that, "If PSD and Title V requirements apply [to CO_2] at the applicability levels provided under the CAA, state permitting authorities would be paralyzed by permit applications in numbers that are orders of magnitude greater than their current administrative resources could accommodate."[36] "Absurd results" would abound. About 98% of the entities subject to Title V for CO_2 would file hollow permits, because they would not be subject to any other CAA programs.[37] EPA and its state counterparts would have to regulate millions of entities Congress never intended to be regulated, but the enormous backlogs would prevent them from regulating entities Congress did intend to be regulated.[38] The permitting programs would collapse under their own weight. Construction and economic development would grind to a halt,[39] thwarting a primary purpose of the Clean Air Act: to enhance the nation's productivity (CAA Sec. 101).

EPA's Tailoring Rule proposes to exempt for six years sources emitting less than 25,000 TPY of CO_2-equivalent GHGs while EPA develops procedures to "streamline" PSD and Title V for smaller sources. However, there is no statutory basis for either the proposed exemption or the streamlined procedures. Courts normally defer to agency interpretations of a statute where the text is silent or ambiguous.[40] However, there is nothing ambiguous about "100 tons" and "250 tons."

The "Tailoring Rule" is in fact an Amending Rule. To justify this breach of the separation of powers, EPA invokes the judicial doctrines of "absurd results" and "administrative necessity." It is anybody's guess whether the rule will survive judicial challenge.

Even assuming that it does, however, the rule would not necessarily protect small entities from unreasonable regulatory burdens. PSD and Title V are administered by 43 state and local permitting agencies.[41] The Tailoring Rule is not self-executing. States administering PSD and Title V would have to revise State Implementation Plans or environmental statutes to adopt the proposed 25,000 TPY thresholds for PSD and Title V. Moreover, EPA intends eventually to apply PSD and Title V to smaller and smaller entities. So "streamlining" will at best reduce irrational regulatory burdens on small entities, not eliminate them.

The Tailoring Rule also offers no protection whatsoever from regulation of CO_2 sources under the National Ambient Air Quality Standards (NAAQS) program. By finding GHG-related air pollution to endanger public health and welfare under CAA Sec. 202, EPA will have substantively satisfied the endangerment test requiring a NAAQS rulemaking under CAA Sec. 108. Both petitioners in *Massachusetts v. EPA* and subsequent petitions to control GHG emissions from marine vessels, aircraft, heavy trucks, and non-road engines all claim that current GHG concentrations already harm public health and welfare.[42] Logically, EPA would have to establish NAAQS for GHGs below current atmospheric levels.

Once EPA's endangerment finding is finalized, the Center for Biological Diversity among others is likely to petition EPA to establish GHG NAAQS at 350 parts per million (today's level is roughly 387 ppm).[43] A global de-industrialization program might not be enough to attain a 350 ppm standard – certainly not within the five- or 10-year deadline that the CAA sets for attainment of primary NAAQS.[44] What will EPA do when the next shoe falls? Will it propose yet another Tailoring Rule to amend the statutory NAAQS deadline from five or 10 years to 50 or 100 years?

EPA compares projected increases in vehicle purchase prices with projected decreases in fuel consumption, and concludes that the proposed GHG emission standards will a big winner for consumers and the economy. Even if EPA's cost-benefit estimates with regard to motor vehicle consumers were correct – a big if – this analytic abstracts from the big picture.

EPA Administrator Jackson certifies that the proposed rule "would not have a significant economic impact on a substantial number of small entities."[45] In reality, EPA's proposed GHG standards will subject millions of previously unregulated small entities to the risk of new regulation, controls, paperwork, penalties, and litigation. Moreover, the endangerment finding on which the proposed rule is predicated will also expose the economy as a whole to the risk of unprecedentedly severe constraints under the NAAQS program.

EPA's economic analysis is therefore woefully incomplete and unsatisfactory. For that reason alone, the proposal should be withdrawn.

IV. Conclusion

EPA should withdraw its proposal to establish GHG emission standards for new motor vehicles. The proposed standards:

- Lack an adequate scientific basis.
- Will increase the risk of death and injury related to auto accidents.
- Will spawn an economically-chilling regulatory morass.

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[1] EPA, NHTSA, 74 FR 49454-49789, *Proposed Rulemaking to Establish Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, September 28, 2009; hereafter cited as Proposed GHG Standards.
[2] Clean Air Act, Sec. 202(a).
[3] Marlo Lewis, Comment, Regarding Proposed Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, Docket ID No. EPA-HQ-OAR-2009-0171, June 15, 2009, http://cei.org/rcandtestimony/2009/06/15/comment-endangerment-proposal.
[4] Richard S. Lindzen and Yong-Sang Choi. 2009. On the determination of climate feedbacks from ERBE data. Geophysical Research Letters, Vol. 36, L16705, doi: 10.1029/2009/GL039628, http://www.drroyspencer.com/Lindzen-and-Choi-GRL-2009.pdf.
[5] Petition of the Competitive Enterprise Institute to Reopen This Proceeding on the Basis of New Evidence Concerning the Destruction of Data, and to Reopen the Comment Period for Public Response to This New Information, October 6, 2009, http://cei.org/cei_files/fm/active/0/Petition%20Final%20CV.pdf.
[6] "Global Warming with the Lid Off: The emails that reveal an effort to hide the truth about climate science," *Wall Street Journal*, November 24, 2009, http://online.wsj.com/article/SB10001424052748704888404574547730924988354.html.
[7] Willis Eschenbach, "The people – vs – the CRU: Freedom of Information," Watts Up with That? November 24, 2009, http://wattsupwiththat.com/2009/11/24/the-people-vs-the-cru-freedom-of-information-my-okole%e2%80%a6/.
[8] Kevin Trenberth to Michael Mann, October 14, 2009, 08:36:36, http://junkscience.com/FOIA/mail/1255523796.txt.
[9] Proposed GHG Standards, 74 FR, 49632.
[10] Proposed GHG Standards, 74 FR 59527.
[11] Proposed GHG Standards, 74 FR 49459,
[12] 42 FR 33, 537 (1977).
[13] NHTSA, Model Year 1989 Final Regulatory Impact Analysis at IV-15.
[14] NHTSA, *Small Car Safety In The 1980's* at 59 (1980).
[15] Id. at 64.
[16] 32 *J. Law & Econ.* 97 (1989).
[17] J. DeFalco, *The Deadly Effects of Fuel Economy* Standards (1999), http://www.cei.org/pdf/1631.pdf; updated for the year 2000 at http://www.cei.org/pdf/2407.pdf.
[18] National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy*, Finding 2 (2002). Hereafter, NRC Report.
[19] 68 FR 66,153 (Nov. 25, 2003). Hereafter, Kahane.
[20] NRC Report, pp. 26-27.
[21] Kahane, p. xii.

[22] Id.
[23] Id.
[24] Insurance Institute for Highway Safety, News Release, April 14, 2009, New crash tests demonstrate the influence of vehicle size and weight on safety in crashes; results are relevant to fuel economy policies, http://www.iihs.org/news/rss/pr041409.html.
[25] Sam Kazman, "Small Cars Are Dangerous," *Wall Street Journal*, April 17, 2009. I am submitting Mr. Kazman's op-ed as an attachment.
[26] Proposed GHG Standards, FR 74, 49462.
[27] Proposed GHG Standards, FR 74, 49589.
[28] Id.
[29] Proposed GHG Standards, FR 74, 49741.
[30] Proposed GHG Standards, FR 74, 49581.
[31] EPA, Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rule, 74 FR 55292-55365, October 27, 2009; hereafter cited as Tailoring Rule.
[32] EPA, Tailoring Rule, FR 74, 53301.
[33] EPA, Tailoring Rule, FR 74, 55304.
[34] Carrie Wheeler, Operating Permits Group (C504-03), Air Quality Policy Division, Office of Air Quality Policy and Standards, Office of Air and Radiation, United States Environmental Protection Agency, RTP, North Carolina 27711, http://www.uschamber.com/assets/env/supportingreport.pdf.
[35] EPA, Advanced Notice of Proposed Rulemaking: Regulating Greenhouse Gases Under the Clean Air Act, FR 73, 44513, July 30, 2008; hereafter ANPR.
[36] EPA, Tailoring Rule, FR 74, 55292.
[37] EPA, Tailoring Rule, FR 74, 55311.
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[39] EPA, Tailoring Rule, FR 74, 55308.
[40] Chevron U.S.A. v. Natural Res. Def. Council, 467 U.S. 837, 843 (1984)
[41] EPA, Tailoring Rule, FR 74, 55301.
[42] EPA, ANPR, FR 73, 44399.
[43] The Center for Biological Diversity, "350 or Bust," http://www.biologicaldiversity.org/programs/climate_law_institute/350_or_bust/index.html
[44] CAA Sec. 192.
[45] EPA, Tailoring Rule, FR 74, 49745.