



Key Economic Errors in the Clean Car Standards Rollback

Institute for Policy Integrity at NYU School of Law

April 1, 2020

The federal Clean Car Standards promised steadily increasing fuel efficiency and lower vehicle emissions. The National Highway Traffic Safety Administration and the Environmental Protection Agency have now rolled back those standards, eviscerating important public health benefits and fuel savings for consumers.

But the agencies' own analysis shows that the rollback will cause more harm than good for society. And even the slight benefits that the agencies find under certain assumptions are premised on a flawed economic analysis that is riddled with problems.

Here, we lay out the main economic problems with the rollback's justification.

The agencies were forced to abandon their cost-benefit analysis from the initial proposed rule, as it was riddled with errors. And now they have been forced to finalize a rule that shows net costs to society.¹ Finalizing a net costly rule breaks with both the agencies' past practice² and critical executive branch directives.³ The agencies' only justification for breaking with that longstanding practice is the argument that "costs to both industry and automotive consumers would have been too high under the standards set forth in 2012."⁴ But focusing only on those costs is lopsided and irrational. Agencies are required to assess the impact of a regulation from the perspective of society, and from that perspective even the agencies' own cost-benefit analysis shows that those costs were not "too high." As a result, the agencies have failed to provide a reasoned explanation for imposing those harms on society.

The agencies have overestimated the impact of fuel efficiency improvements on car prices by ignoring various compliance options available to manufacturers. Compliance credits – tradable certificates earned through overcompliance that can be counted towards compliance in past or future periods – give vehicle manufacturers significant flexibility. However, the agencies disregard the impact of trading between manufacturers,⁵ even though [trading decreases the costs of reaching fuel economy standards](#). The agencies also artificially limit the time flexibilities of the rules by completely ignoring credit borrowing⁶ and modeling credit banking in a flawed, constrained way.⁷ Additionally, the agencies assume that some manufacturers would install prohibitively expensive technologies rather than undercomply with the standards and pay a (relatively low) penalty - an option that is available for CAFE standards. Finally, the agencies' modeling does not allow for any pricing strategies that would help vehicle manufacturers reach compliance in the most efficient way.⁸ Instead, they adopt a flawed assumption that manufacturers will pass the cost of compliance on to the consumers in the same way for each vehicle.



The agencies have underestimated the climate damages caused by the rollback, through the use of an arbitrary calculation of the social cost of carbon. The agencies measure only a narrow slice of the total climate damages that the rollback will cause. They attempt to count climate impacts only if they occur within U.S. geographic borders,⁹ but rely on models incapable of accurately making such a limited calculation and use arbitrary assumptions, like that the United States will suffer less climate damage than Europe simply because we have a shorter coastline.¹⁰ The agencies know that the rollback will cause climate damages on a global scale--but their main analysis ignores those damages.¹¹ The agencies know that climate effects occurring outside U.S. borders will inevitably spill over into the U.S. economy through internationally interconnected markets, health risks, and security threats--but their main analysis ignores those effects, too.¹² The agencies were warned through public comments that the rollback will inflict climate damages on the United States through our extraterritorial interests in foreign businesses and property, as well as through reciprocal foreign actions,¹³ but they offer no response. The agencies grudgingly include a sensitivity analysis that does measure the full global climate damages of the rollback¹⁴--which shows definitively that the rollback is net costly for society.¹⁵

The agencies significantly overstate the extent to which rolling back the Clean Car Standards will lead to less pollution, less congestion, and fewer accidents as consumers drive less. Improved vehicle efficiency makes driving cheaper, and therefore does encourage more driving. This is known as the “rebound effect.” In the Final Rule, the agencies assumed that consumers would lose 20% of any fuel economy savings by driving more (with the cleaner vehicles envisioned by the Clean Car Standards).¹⁶ Thus, by keeping cars dirtier and less efficient, the Final Rule encourages consumers to drive less. But the agencies’ new 20% estimate is a stark change from the agencies’ previous estimate that consumers would only lose 10% of their fuel savings through extra driving. And to support that new 20% estimate, the agencies have cherry picked evidence, ignoring significant research that supports a 10% estimate instead.¹⁷

The agencies have unreasonably weighed statutory factors to focus in a lopsided way on short-term costs over lifetime energy savings and societal impacts to health and the environment. EPA’s overarching statutory mandate is to protect public health and welfare.¹⁸ Yet in the Final Rule, EPA is instead explicitly placing greater weight in its decision on the upfront vehicle purchase price, in the hopes of speeding the purchase of newer cars.¹⁹ EPA makes an arbitrary decision to prioritize the purchase of new cars (using questionable assumptions about effects on vehicle safety)²⁰ while diminishing the rollback’s demonstrated costs from lost energy savings, upstream pollution, and climate change.²¹ NHTSA has similarly dramatically skewed its weighting of statutory factors. For example, NHTSA counts safety and vehicle collision mortalities toward its “economic practicability” factor,²² to which it gives primacy,²³ while relegating pollution- and climate-caused deaths to the



“need to conserve energy” factor,²⁴ which NHTSA minimizes as less important.²⁵ Given that NHTSA’s overarching statutory mandate is to conserve energy,²⁶ its weighting of factors is arbitrary.

The agencies have undercounted the respiratory harms and premature deaths caused by increased pollution from oil extraction, refining, and distribution, by relying on assumptions about oil imports that are inconsistent both internally and with basic economics. The agencies continue to ignore up to 95% of certain upstream emissions from fuel extraction, at least 50% of certain upstream emissions from refining, and at least 50% of certain upstream emissions from the distribution of crude oil.²⁷ Consequently, the agencies ignore all the respiratory harms and premature deaths caused by such pollution, as well as at least some significant climate effects.²⁸ The agencies attempt to justify their analysis with assumptions that are inconsistent both internally and with basic economic principles. First, the agencies wrongly assume they can ignore most emissions from oil production that occurs outside U.S. borders, even though such pollution can have direct effects on the United States.²⁹ Second, the agencies assume that a huge portion of the increased fuel consumption resulting from the rollback will be satisfied by new imports: 50% by imported finished gasoline, plus 45% by imported crude that is refined domestically. Yet much of the rule relies instead on the claim that the United States will soon become a net exporter of oil.³⁰ The agencies try, but fail, to explain this inconsistency. Finally, the agencies now claim that a large portion of the increased fuel consumption resulting from the rollback will be met by diverting domestically refined fuel that otherwise would have been exported--but the agencies claim they can ignore almost all the emissions from producing this fuel, because it would have happened anyway.³¹ This assumption ignores the basic economics of supply, demand, and substitution: diverting these exports will cause foreign customers to seek other sources of energy, and any new extraction, refining, or distribution of oil that results will also cause emissions that could impact the United States.

The agencies’ analysis now finds that the rollback will cause the fleet size to *increase*,³² reversing the assumption that formed the main justification for the agencies’ 2018 proposal. The new analysis is reasonable because the rollback is presumed to reduce new and used car prices, but the agencies then make a new error: they hold constant the estimate for how much people travel, rather than account for the fact that with lower prices some people would move away from other forms of transportation, such as shared vehicles, to their own vehicles. This allows the agencies to inappropriately claim that the rollback will reduce congestion and pollution, when those two issues could in fact be exacerbated by these fleet increases.

The only way to make the rule’s benefits outweigh its costs is through one of the agencies’ numerous sensitivity analyses, which inflates the benefits of the rollback by assuming that it will allow consumers to buy vehicles with more features, like higher horsepower and fancy entertainment systems.³³ But that analysis is so flawed that the agencies themselves concede that



a quantification of these benefits is too unreliable to include in their primary analysis.³⁴ It requires the agencies to ignore the long-standing and widely-supported finding that it is market failures like incomplete information and auto manufacturer market power that lead consumers to buy cars with less fuel economy, not the prospect of buying cars with more features instead (which they can, and do, still buy). And the way the agencies calculate these alleged benefits is inconsistent with the way they calculate the sticker-price reductions that they claim will be a core benefit of the rollback, which are premised on vehicles maintaining the same features other than fuel economy with or without standards.³⁵

For questions or press inquiries, please contact Derek Sylvan (derek.sylvan@nyu.edu, 614-638-8282)

¹ Final Rule at 44-45 (Table II-21).

² NHTSA and EPA have both previously relied on the results of the cost-benefit analysis to find that their vehicle standards are appropriate and reasonable. See, e.g., 77 Fed. Reg. 62,624, 62,777 (Oct. 12, 2012); *id.* at 62,623, 63,020. That approach has received approval in court. For example, the U.S. Court of Appeals for the Ninth Circuit affirmed NHTSA's use of cost-benefit analysis to balance EPCA's statutory factors so long as the agency does not "put a thumb on the scale" by undervaluing or overvaluing particular effects. *Center for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1195 (9th Cir. 2008).

³ Since 1993, Executive Order No. 12866 has required agencies to "propose or adopt" a regulation only when the "benefits justify its costs" (§ 1(b)(6)) and, when choosing between different alternatives, to select the regulatory alternative that maximizes net benefits, unless a statute requires otherwise (§ 1(a)). White House [guidance](#) issued by this administration likewise directs agencies "to assess and consider both the benefits and costs of regulatory actions, including deregulatory actions, when making regulatory decisions, and issue regulations only upon a reasoned determination that benefits justify costs." Office of Mgmt. & Budget, Guidance Implementing Executive Order 13771, Titled "Reducing Regulation and Controlling Regulatory Costs,"

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2017/M-17-21-OMB.pdf>. Similarly, the Office of Management and Budget's Circular A-4 on Regulatory Analysis instructs agencies to determine alternatives will maximize net benefits. See Circular A-4 (Sept. 17, 2003),

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf>.

⁴ Final Rule at 7.

⁵ Final Rule at 194 ("the agencies have declined to introduce credit borrowing and trading into the model's logic").

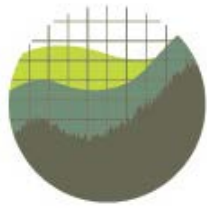
⁶ Final Rule at 194 ("the agencies have declined to introduce credit borrowing and trading into the model's logic").

⁷ The manufacturers are modeled as installing technologies that are not cost-effective, rather than using the available credits, unless the credits are about to expire. Such modeling approach hugely decreases the value of strategic overcompliance, causing the agencies to assume that firms will suboptimally smooth their compliance costs over time. Besides, NHTSA does not model usage of credit banking starting in model year 2021. While statutes restrict NHTSA in the ability to account for credit flexibilities when picking the standards, such an approach means the agencies' costs estimates are significantly overestimated.

⁸ Final Rule at 741.

⁹ Final Rule at 990.

¹⁰ Policy Integrity et al., Comments on Quantifying and Monetizing Greenhouse Gas Emissions in the Safer Affordable Fuel-Efficient Vehicles Proposed Rule and Preliminary Regulatory Impact Analysis 16-20 (Oct. 26, 2019), https://policyintegrity.org/documents/Emissions_Standards_PRIA_SCC_Comments_Oct2018.pdf



¹¹ Final Rule at 991 (claiming the rule “will likely have global impacts beyond climate change,” thus acknowledging the global climate impacts, yet declining to count them in the main analysis).

¹² Final Rule at 993 (discussing spillover effects but refusing to count them in the main analysis).

¹³ Policy Integrity et al., Comments on Quantifying and Monetizing, *supra*, at 10-15.

¹⁴ Final Rule at 991 (adding the sensitivity analyses in response to comments).

¹⁵ NHTSA & EPA, Final Regulatory Impact Analysis at 1805,

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_fria_web_version_200330.pdf (showing that while NHTSA calculates its CAFE standards would have \$16 billion in net benefits at a 7% discount rate, the rule instead has over \$19 billion in net costs once the global social cost of carbon is used); see Final Rule at 995 (admitting that the central social cost of carbon calculated at a 3% discount rate should be used even if other costs and benefits are discounted at a 7% rate).

¹⁶ Final Rule at 894.

¹⁷ See also Policy Integrity Comments at 8-9 (May 31, 2019),

https://policyintegrity.org/documents/Policy_Integrity_comments_to_NHTSA_and_EPA.pdf

¹⁸ 42 U.S.C. 7521.

¹⁹ Final Rule at 1577.

²⁰ See *supra* on the rebound assumptions.

²¹ Final Rule at 1567 (casting doubt on fuel savings), 1580 (suggesting tailpipe pollution is more important than climate pollution), 1590 (deliberately choosing a standard with negative impacts on health, climate, and consumers).

²² Final Rule at 1616.

²³ See Final Rule at 1595 (explaining the agency did not select more stringent standards because doing so would place too much weight on the need to conserve energy versus concerns about economic practicability).

²⁴ Final Rule at 1626.

²⁵ See Final Rule at 1595 (explaining the agency did not select more stringent standards because doing so would place too much weight on the need to conserve energy versus concerns about economic practicability).

²⁶ Final Rule at 1592-93 (“[T]he primary purpose of EPCA, as amended by EISA, and codified at 49 U.S.C. chapter 329, is energy conservation.”).

²⁷ Compare Final Rule at 1241, with Policy Integrity et al., Comments on Quantifying and Monetizing Greenhouse Gas Emissions in the Safer Affordable Fuel-Efficient Vehicles Proposed Rule and Preliminary Regulatory Impact Analysis 2 (Oct. 26, 2019),

https://policyintegrity.org/documents/Emissions_Standards_PRIA_SCC_Comments_Oct2018.pdf

²⁸ See also NHTSA, Final Environmental Impact Statement at 5-26 n.21 & 10-219,

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/safe_vehicles_rule_feis.pdf (explaining that only domestic emissions were counted).

²⁹ See Policy Integrity et al., Comments on Quantifying and Monetizing, *supra* at 2-3.

³⁰ Compare Final Rule at 1241 with 969 (dismissing the rule’s energy security effects because “the nation is expected to become a net exporter of petroleum by 2020”).

³¹ Final Rule at 1233.

³² See Final Rule at 811.

³³ Final Rule at 10 n.10, 935.

³⁴ Final Rule at 937.

³⁵ For more information on this error see Policy Integrity Comments at 24 (May 31, 2019),

https://policyintegrity.org/documents/Policy_Integrity_comments_to_NHTSA_and_EPA.pdf.