



International Council on Clean Transportation Testimony on Proposed Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

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Chicago, Illinois

Good morning. Thank you for the opportunity to provide remarks on this very important rulemaking.

I'm Nic Lutsey, with the International Council on Clean Transportation. We are a research organization that is focused on providing technical information to support government decision-making on policies, like these Phase 2 regulations, for leading vehicle markets around the globe. I'll make brief comments for the ICCT about market conditions, technical aspects, and international implications related to the proposed rules.

First, **market conditions** in the US freight trucking industry are preventing the uptake of available cost-effective efficiency technologies. There are substantial market barriers that impede the uptake of efficiency technology^{1,2}. Among the barriers are (1) the disconnect between who purchases the technology and who receives the fuel-saving benefit; (2) the limited data available to truck owners on technologies' real-world benefits; and (3) limited availability of technology. In our global work on vehicle efficiency, we have found no evidence of a sustained fleet-wide increase in a country's vehicle efficiency without efficiency regulations, even though efficiency *technology* surely has come a long way. This regulation would solve such problems.

Regarding the agencies' **analysis on available and emerging efficiency technologies**, we continue to be very grateful for the extensive information sharing and dedicated time from EPA and NHTSA staff. The agencies' work ethic, transparency, and public process are

¹ Vernon and Meier, 2012. *Identification and quantification of principal-agent problems affecting energy efficiency investments and use decisions in the trucking industry*. *Energy Policy*.
<http://www.sciencedirect.com/science/article/pii/S030142151200523X>

² Roeth et al (2013). *Barriers to the increased adoption of fuel efficiency technologies in the North American on-road freight sector*. <http://www.theicct.org/hdv-technology-market-barriers-north-america>.

exemplary. The agencies have undoubtedly made a rule based on rigorous, state-of-the-art technology inputs from sound data and industry input.

Based on several new technical ICCT research studies, I will make brief remarks on the *timing* of the technology deployment, as well as on *full technology potential*, especially in the engine area. In the agencies' analysis, the rule is largely predicated on well-understood, highly cost-effective technologies^{3,4}. The technologies in the engine, powertrain, aerodynamics, and tire areas are exactly the ones that suppliers and vehicle manufacturers have been discussing for the rules' timeframe⁵. The trailer technologies embrace the emerging technologies that have already been spurred by EPA's SmartWay program and California's in-use regulation⁶. Due to the agencies' decisions to rely primarily on proven, available, and cost-effective technology choices, the agencies can shift the standards 3 years *earlier* – from 2027 as proposed, forward to 2024. This would still allow sufficient lead-time for the manufacturers and truck buyers to gradually incorporate the bulk of all the technologies into their operations over the next nine years.

We have noticed several areas where the agencies do not fully incorporate available technologies. One area is in engines, where the agencies proposed to reduce the tractor diesel engine fuel use by 4% from 2017 to 2027. Available technologies with payback periods comfortably less than 2 years can reduce new diesel tractor engine fuel use fleet-wide by up to 10% from 2017 to 2027, based on our own technical analysis and the research literature^{7,8,9}. With higher technology penetration rates for US DOE SuperTruck technologies, the standards could go further yet¹⁰. In addition, the proposed heavy-duty pickup and van, as well as gasoline efficiency, standards appear to fall significantly short in their promotion of the full technology potential¹¹.

Finally, this rulemaking is key in establishing the US as a **global leader** on freight truck efficiency. The governments of Canada, China, Europe, India, Japan, Mexico, and others are also considering their next policy actions to similarly ensure greater efficiency technology

³ Meszler et al (2015). *Cost effectiveness of advanced efficiency technologies for long-haul tractor-trailers in the 2020–2030 timeframe*. <http://www.theicct.org/us-tractor-trailer-tech-cost-effectiveness>.

⁴ Sharpe et al (2014). *Benefit-cost analysis of integrating trailers into heavy-duty vehicle efficiency regulation*. <http://www.theicct.org/integrating-trailers-hdv-regulation-benefit-cost-analysis>. July.

⁵ Lutsey et al (2014). *Stakeholder workshop report on tractor-trailer efficiency technology in the 2015-2030 timeframe*. <http://www.theicct.org/stakeholder-workshop-report-tractor-trailer-efficiency-technology-2015-2030>.

⁶ Sharpe and Roeth (2014). *Costs and adoption rates of fuel-saving technologies for trailers in the North American on-road freight sector*. <http://www.theicct.org/costs-and-adoption-rates-fuel-saving-trailer-technologies>. February.

⁷ Thiruvengadam et al (2014) *Heavy-duty vehicle diesel engine efficiency evaluation and energy audit*. <http://www.theicct.org/heavy-duty-vehicle-diesel-engine-efficiency-evaluation-and-energy-audit>.

⁸ Delgado and Lutsey (2015). *Advanced tractor-trailer efficiency technology potential in the 2020–2030 timeframe*. <http://www.theicct.org/us-tractor-trailer-efficiency-technology>.

⁹ Reinhart (2015). *Commercial Medium- and Heavy-Duty Truck Fuel Efficiency Technology Study – Report #2. Draft*. http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/Draft-SwRI-MDHD-FE-TechReport2_DocketVersion.pdf

¹⁰ Delgado and Lutsey (2014). *The U.S. SuperTruck Program: Expediting development of advanced HDV efficiency technologies*. <http://www.theicct.org/us-supertruck-program-expediting-development-advanced-hdv-efficiency-technologies>

¹¹ Lutsey (2015). *Regulatory considerations for advancing commercial pickup and van efficiency technology in the United States*. <http://www.theicct.org/us-commercial-pickups-vans-efficiency-technology>

deployment for trucks^{12,13,14}. The world is watching, and potentially looking to adopt, similar policy.

We provide links to the leading technical research that supports these statements, and we will, of course, elaborate on the points in our detailed comments to the docket.

Again, we thank the agencies for their exemplary public service.

¹² Sharpe (2015). *Testing methods for heavy-duty vehicle fuel efficiency: Trends and implications for India.*

http://theicct.org/sites/default/files/publications/ICCT_HDV-test-procedures_India_20150420.pdf

¹³ Kodjak (2015). *Policies to reduce fuel consumption, air pollution, and carbon emissions from vehicles in G20 nations.*

<http://theicct.org/policies-reduce-fuel-consumption-air-pollution-and-carbon-emissions-vehicles-g20-nations>.

¹⁴ TransportPolicy.net (2015). *Global Comparison: Heavy-duty Fuel Economy and GHG.*

http://www.transportpolicy.net/index.php?title=Global_Comparison:_Heavy-duty_Fuel_Economy_and_GHG