July 5, 2023

U.S. Environmental Protection Agency
EPA Docket Center, OAR, Docket ID No. EPA–HQ–OAR–2022–0829
Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

[redacted]

Re: Stellantis' Comments to EPA's Proposed Rule on Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles

Docket ID No. EPA–HQ–OAR–2022–0829

Stellantis respectfully submits the following comments in response to U.S. EPA's Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles Notice of Proposed Rulemaking (NPRM or proposed rule) published on May 5th, 2023.[1]

Introduction to Stellantis

On January 16th, 2021, Fiat Chrysler Automobiles N.V. merged with Peugeot S.A. The following day, the newly merged entity changed its name to Stellantis N.V.[2] The merger allows for the efficient allocation of resources for large-scale investments in platforms, powertrains, and technology. The merged entity makes Stellantis a leading global mobility player guided by a clear mission: to provide freedom of movement for all – through electrified vehicles, autonomous driving and digital connectivity. Stellantis' U.S. footprint includes a workforce over 56,000 employees, including over 44,000 UAW workers; six assembly plants; three engine plants and seven component plants, some of which are currently supporting the move to electrification by producing next generation multiuse transmissions and power electronics modules.

Our Company's strength lies in the breadth of our iconic brand portfolio and our deep roots and commitment to the communities in which we operate. Stellantis designs, manufactures, and sells or distributes vehicles in North America under the Chrysler, Dodge, Jeep, Ram, Fiat, Alfa Romeo and Maserati brands. Since 2009, the Company has created more than 30,000 jobs, including 22,500 hourly positions. Stellantis has committed to invest over €30 billion (euro) globally in vehicle electrification and

[1] United States Environmental Protection Agency (EPA) Proposed Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, 88 *Fed. Reg.* 29184 (May 5, 2023).
[2] Despite the merger, FCA US LLC remains the primary subsidiary doing business in the United States. The company is hereinafter referred to as "Stellantis."

software to help reduce greenhouse gas emissions – an important consideration for our customers, U.S. energy security, and the environment.

Stellantis is Committed to Developing the Needed Electrified Products

On July 8th, 2021, Stellantis reconfirmed its commitment to spend over €30 billion globally to support our electrification targets including investments in developing four all-new electric platforms.

On August 5th, 2021, Stellantis, the UAW, and others from industry joined President Biden at the White House and supported his new call to achieve increased electrified vehicle sales by 2030. In addition, the United States Secretary of Energy signed a non-binding memorandum of understanding for COP27 which states 30% zero-emission commercial delivery vehicles, buses, and trucks by 2030.

On March 1st, 2022, Stellantis reconfirmed its commitment to spend over €30 billion globally to support electrification, including a targeted 50% electric vehicle (EV) mix for the passenger car and light truck fleet in the U.S. by 2030 (assuming conducive public policies). This includes investments in developing four all-new electric platforms. These platforms will unlock new facets of our brands, taking their efficiency and performance to the next level. We are also a front-runner in hydrogen technology and, late in 2021, we were the first to deliver hydrogen fuel cell vans in Europe. In 2024, we plan to increase our production capacity for mid-size vans and extend this technology to large vans in 2024 with the first U.S. offering in 2025.

These are ambitious targets that will require a comprehensive, multi-stakeholder strategy to build a robust market. Stellantis is committed to do its part to execute an unprecedented transformation of our products to support the U.S. electrification targets, and other stakeholders need to do their part to help drive consumer demand and remove barriers to electric vehicle (EV) market success.

Stellantis is unwavering in its commitment to an all-electric portfolio and building an EV dominated market that can achieve the Biden administration's target of 40-50% by 2030. However, EPA's proposed greenhouse gas (GHG) requirements exceed what is feasible, and the proposed criteria emissions standards drive a distracting and costly focus on a shrinking internal combustion engine (ICE) fleet.

The Proposed Rule exceeds the joint commitments of industry and the Biden administration, relying heavily on overly optimistic assumptions of EV market growth to meet GHG and criteria emissions standards. EPA is also proposing changes to the criteria emissions rules that go well beyond the recently completed CARB ACC II LEV IV standards that are both very challenging and deliver significant criteria emissions reductions from today.

Stellantis offers the following comments identifying the specific issues and recommended actions the agency should incorporate into an achievable final rule that is based on realistic future market assumptions.

Electrification Rates Misaligned to Market and Exceed Commitments

Stellantis fully supports comments submitted through The Alliance for Automotive Innovation (AAI or the Auto Innovators) detailing the challenges associated with EPA's overly optimistic expectation for EV market growth. Stellantis remains steadfast to delivering on our commitments to achieve an electrified future, and we acknowledge EPA's efforts with this rulemaking to help support this difficult yet critical transition. However, the proposed rule significantly underestimates the actions needed to build the

targeted EV market. Addressing concerns such as manufacturing capacity, battery production, charging infrastructure, and consumer acceptance of EVs will be paramount to the success of this ambitious proposed regulation.

In August of 2021, Stellantis along with the rest of industry through the Auto Innovators, announced support of the Biden administration's goal of achieving 40-50% electrification of the U.S. new light-duty vehicle market by 2030. Foundational to this commitment was the need for stakeholders outside the automotive industry to deliver and execute policies essential for such a significant technology transition:

- Expand and scale the charging network to the EV volumes required
- Update federal EV incentives and apply at point of purchase
- Develop domestic battery supply chain (raw materials, manufacturing, and recycling)
- Implement fleet purchase requirements for EVs (including government fleets)
- Increase research & development to accelerate cost reduction of batteries and EV components
- Increase consumer awareness of EVs

Although there has been progress towards delivering on these essential EV market enablers, significant gaps remain. For example:

- The Bipartisan Infrastructure Law (BIL) makes investments in electric vehicle charging that will put us on the path to a network of 500,000 chargers[3] – although this is a good down payment on the needed charging infrastructure, it only represents a fraction of what is needed to support the market projected by EPA.
- The Inflation Reduction Act (IRA) committed significant funds to incentivize the purchase of EVs – however these incentives come with criteria that exclude many EV models today, and pending guidance from the IRS likely could exclude more in the future.
- The IRA also provides an incentive to produce the needed batteries helping to offset their cost – however this only applies to the U.S., ignoring the global supply chain needed to support a 40-50% U.S. EV market.

Despite these major gaps, the EPA in its proposed rule incorrectly assumes these policy actions represent a complete answer to achieve a 40-50% market. EPA's proposed rule extends even further by assuming a "perfect" transition to a battery electric vehicle (BEV) only market at 60% in 2030MY – exceeding the commitment made to President Biden, the Administration's National Blueprint for Transport Decarbonization, and the Stellantis Dare Forward commitment.

These EV penetrations are greater than those of the most mature and forward leaning EV markets in the U.S. Figure 1 below summarizes the electrification rates projected by the EPA proposed rule against the penetration rates required in California's ZEV mandate as part of their recent Advanced Clean Cars II (ACC II) program. California, the most mature EV market in the U.S., will require at least 34% BEVs in 2027, increasing to 54% in 2030, and reaching 66% in 2032. EPA's proposed rule exceeds these California rates in every year from 2027-2032 and by as much as 6% in 2030.

[3] FACT SHEET: The Biden-Harris Electric Vehicle Charging Action Plan | The White House

Industry Average Electrification Rates				
MY	CA ZEV Mandate BEV+PHEV	California ZEV Mandate Minimum BEV	EPA Nation Wide Projected BEV*	Biden EO Target BEV+PHEV%
2026	35%	**28%**	-	
2027	43%	**34%**	**36%**	
2028	51%	**41%**	**45%**	
2029	59%	**47%**	**55%**	
2030	68%	**54%**	**60%**	**40-50%**
2031	76%	**61%**	**63%**	
2032	82%	**66%**	**67%**	
2033	88%	**70%**	tbd	
2034	94%	**75%**	tbd	
2035	100%	**80%**	tbd	

EPA projects BEV rates that exceed Biden EO and the penetration of California's ZEV mandate

Figure 1- EV Requirements of EPA NPRM vs. CARB ZEV Mandate and Biden Executive Order

Overly optimistic EV penetration assumptions are especially evident in the high-capability pickup segment as shown in Figure 2 below. EPA projects a 60% BEV penetration of pickup trucks by 2032MY, completely ignoring the market benefit of plug-in hybrid electric vehicle (PHEV), while assuming an "ideal" transition to BEVs despite the technology challenges to maintain range while providing the towing and hauling capabilities of today's ICE trucks.

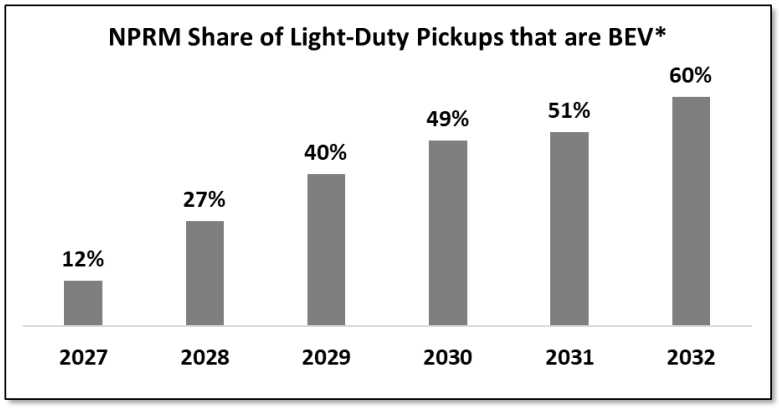


Figure 2- Pickup truck BEV penetration of the proposed rule

Essential to note is that EPA in this rulemaking is proposing federal standards that will apply across all 50 states, including in places where infrastructure, incentives, and other market enablers for EV adoption lag significantly. For example, Figure 3 below shows the current state of national infrastructure versus what the California Energy Commission (CEC) says will be required to support an EV market at the scale projected for the 2030MY timeframe.

Stellantis fully supports AAI comments that predict there could be as many as 40M EVs on the road needing more than 5.8M public chargers by 2030, a threshold that 500,000 (0.5M) additional chargers targeted by the BIL does not come close to achieving. Even if the estimate of EVs on the road is significantly reduced by 35% to 26M vehicles on the road by 2030 – the conclusion does not change. Figure 3 shows that even with a much lower assumption of 26M EVs on the road, there would still need to be 3.8M public chargers compared to the 700,000 (0.7M) the BIL is scoped to deliver when combined with the 0.2M public chargers available today – less than one-fifth of what is needed. Additionally, approved funding is only the first step to deployment of a new infrastructure – property needs to be purchased and chargers need to be installed and available to the public, which takes time.

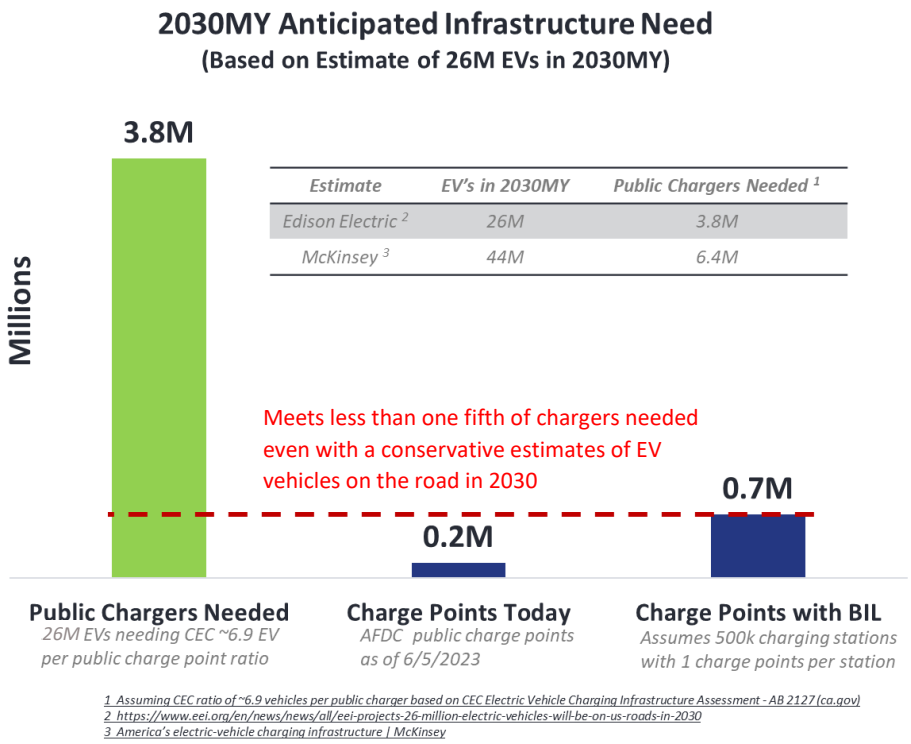


Figure 3- Estimated public chargers needed based on 26M EVs on the road (based on CEC Electric Vehicle Charging Infrastructure Assessment - AB 2127)

These assessments represent estimates for light-duty vehicles. The charging needs for medium-duty vehicles – also required to grow dramatically by the EPA's proposed rule – is much larger. Per the CEC, medium and heavy-duty vehicles, due to their much larger batteries and need for faster charging times require closer to a 1 to 1 ratio of public charger availability to electric vehicles on the road. The infrastructure challenge is clear: to grow the EV market there needs to be a dramatic increase in charging infrastructure, but as of now there is only a partial commitment to achieve this essential market enabler.

Another example of overly optimistic assumptions is how EPA overestimated the impact of the federal incentives introduced by the IRA. EPA's modelling assumes all batteries in all EVs will be built in the U.S. getting the maximum $45/kWh credit offered by the 45X battery production tax credit for 2027-2029MY. This results in an assumed price reduction of $4,500 for a vehicle with a 100kWh battery and

scales up to ever larger price reductions with larger batteries. As shown in Figure 4 below, EPA combined the IRA 30D (retail) and 45W (lease/commercial) incentives assuming on average vehicles receive $3,750 to $6,000 of price reduction. Applying both the 45X IRA production and 30D/45W purchase incentives assumes average BEV price reductions of >$9K starting in 2027MY, having a significant influence on EPA's forecasted market demand and affordability for EVs. EPA justifies its assumption citing most batteries are U.S. manufactured today (even though data is heavily skewed by one OEM) and that the lucrative credit will drive OEMs to invest in U.S. production. Stellantis supports Auto Innovators' comments recommending that EPA take a less optimistic approach in applying IRA incentives incorporating a more realistic price influence on future EV market projections.

Table 2-49: IRA Battery Production Tax Credits in OMEGA

Year	Tax credit value ($/kWh)
2023	$27
2024	$31.50
2025	$36
2026	$40.50
2027	$45
2028	$45
2029	$45
2030	$33.75
2031	$22.50
2032	$11.25
2033	$0

EPA modeling assumes every battery is built in the U.S. , gets maximum credit

Estimated BEV Price Reduction Assumed due to IRA Incentives
(Combined 45X and 30D/45W)

MY	Production Credit (for 100kWh BEV)	Purchase Credit	Total Price Reduction
2027	$ 4,500	$ 4,750	$9,250
2028	$ 4,500	$ 5,000	$ 9,500
2029	$ 4,500	$ 5,250	$ 9,750
2030	$ 3,375	$ 5,500	$8,875
2031	$ 2,250	$ 5,750	$8,000
2032	$1,125	$ 6,000	$7,125

Price reductions of IRA highest at start of rule, exceeding $9,000 per vehicle

Figure 4 - IRA incentives assumed in the EPA NPRM

This incredibly aggressive assumption for BEV adoption is faster than any new automotive technology to date, even exceeding the adoption rate targeted by California (the most mature EV market in the U.S.). This adoption rate far exceeds what is supported by the policy actions in place and adds significant risk to the automotive industry who must comply with these standards whether these assumptions hold true or not.

Stellantis supports the concerns the Auto Innovators raise that the NPRM mandates a very aggressive ramp-up in BEV sales and forces new technology at unprecedented levels in an expedited timeframe such that it may go beyond what is technically feasible, contrary to section 202 of the Clean Air Act (CAA).[4] The stringency of the proposed standards for greenhouse gas (GHG) emissions and criteria pollutants, as well as its restrictions on credit programs and other flexibilities, all would force automakers to convert to BEV fleets on a massive scale. In short, there is concern that the NPRM is seeking a transformative shift to electrification beyond what is feasible for the industry or market to bear – and beyond what Congress has provided.

Stellantis also supports the Auto Innovators' concerns raised regarding the proposed rule's reliance on the BIL and the IRA to support the Agency's feasibility determination. In particular, EPA's reliance on these statutes as proposed to support projected BEV infrastructure, battery production and consumer demand, may be speculative and therefore call into question EPA's feasibility determination.

[4] 42 U.S.C. §7521.

Target Adjustment Mechanisms Needed Based on Market Enablers

Stellantis fully supports the Auto Innovators' comments proposing a target adjustment mechanism based on key EV market enablers. This mechanism is in addition to making the other revisions needed to address concerns raised with the standards. There is a great deal of uncertainty with how critical mineral and raw material supplies, battery cost improvements, and charging/refueling infrastructure will develop over the next decade. In particular, charging/refueling infrastructure and supply of critical minerals and raw materials from non-countries of concern are well outside the control of either EPA or automakers. We understand EPA must use projections in its modeling. However, given the uncertainty around these items, large inaccuracies can lead to a final rule that is grossly misaligned with the market. The Auto Innovators' proposal of a market-based target adjustment system would allow for year-by-year adjustments to be made within the framework of a rule that can be finalized on EPA's desired timeline and will minimize the need to be reopened to react to real-world market conditions.

This proposal contains three individual adjustment mechanisms of roughly equivalent magnitude. The first is based on the percentage of the entire U.S. light-duty fleet qualifying for the full $3,750 30D retail tax credit which is tied to extracting and processing critical minerals in the U.S. or a country with a free trade agreement. This is the most simple and direct way to assess whether or not raw material supplies are developing adequately. The second adjustment mechanism is based on actual EV battery costs that could be confidentially disclosed to the EPA by each automaker every model year and compared with EPA's projected battery costs used in the development of this rule. The third mechanism is simply tracking the ratio of public charging/refueling points to the number of light-duty EVs registered and on the road. As the total size of the on-road EV fleet grows, so does the amount of charging/refueling infrastructure. If these three key market enablers develop as envisioned by EPA in this rule, then the impact of these adjustments will be negligible. But if one or more of these key enablers do not develop quickly enough, then this proposed system will allow for simple, objective, and transparent metric-based adjustments to be applied equally to all of industry. These are industry-wide issues and thus should be resolved on an industry-wide basis.

At a House Committee on Energy and Commerce hearing on driving affordability held on June 22, 2023, Rep. Dingell (D-MI) raised concerns with EPA Principal Deputy Administrator Goffman on what happens under the NPRM if companies cannot reach BEV as 67% of new vehicle sales in 2032, consumers cannot afford EVs, the charging stations aren't there, and the assumptions and forecasting EPA relies upon are not viable. Mr. Goffman's response included a reference to a possible market assessment review. Stellantis believes the Auto Innovators' recommended ongoing market-based target adjustment system to be the best embodiment of a direct market review. However, Stellantis could support an additional market-based review that is both objective and transparent in reaching the necessary adjustments to allow this rule to be reasonable and achievable given the large amount of uncertainty with how these key market enablers will develop over the next decade. At a minimum, Stellantis supports EPA adding modules to its annual EPA Automotive Trends Reports that capture important metrics such as the number of public EV charging stations deployed and percent of EVs purchased.

Greenhouse Gas Reductions are Front-Loaded

EPA proposes stringent standards for the 2027-2032MY that achieve ambitious GHG reductions. As shown in Figure 5 below, even the least stringent alternative (Alternative 2) proposed by EPA achieves a

50% reduction in GHG emissions by 2032 compared to 2026, while EPA's proposed or preferred stringency achieves 56% total reduction by 2032 compared to 2026.

Table 10. Comparison of proposed combined fleet standards to alternatives

Model Year	Proposed Stds CO_2 (g/mile)	Alternative 1 CO_2 (g/mile)	Alternative 2 CO_2 (g/mile)	Alternative 3 CO_2 (g/mile)
2026 adjusted	186	186	186	186
2027	152	141	162	165
2028	131	121	141	148
2029	111	101	122	132
2030	102	92	112	115
2031	93	83	103	99
2032 and later	82	72	92	82
% reduction vs. 2026	56%	61%	50%	56%

All alternatives require significant reductions in GHG emissions

Figure 5 - Comparison of alternatives proposed in the EPA NPRM

In addition to setting ambitious overall targets for CO_2 reduction, EPA's proposed rule demands that these reductions are primarily achieved early in the program with less reduction required in later years. In the proposed standards, the stringency jump required in the first year of the program (2027MY) is close to double that of stringency change in later years. This "front-loaded" stringency is even more evident when looking at the different fleets. Figure 6 below shows that in EPA's proposed stringency, pickup trucks must reduce GHG emissions by 14% per year in the initial 3 years in 2027-2029MY of the program followed by 10% per year reduction required in 2030-2032MY.

Industry Fleet Targets by MY (Preferred Alternative)

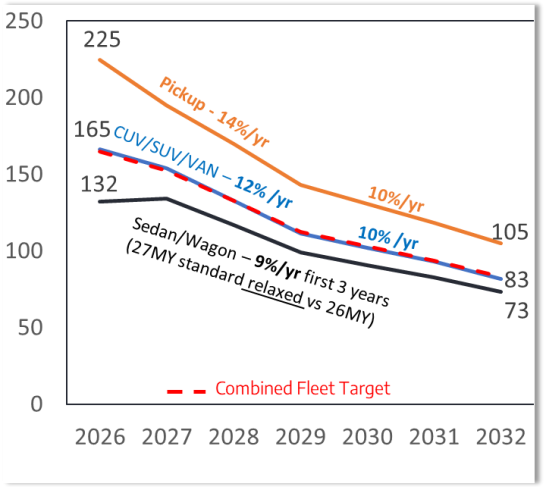


Figure 6 -Standards are much more stringent in the early years of the program – especially for trucks

Figure 7 below summarizes output from EPA's OMEGA model estimating the millions of megagrams of CO_2 saved under the proposed rule and Alternative 3, which is a more linear alternative that EPA also included the proposed rule that does not front load reductions.

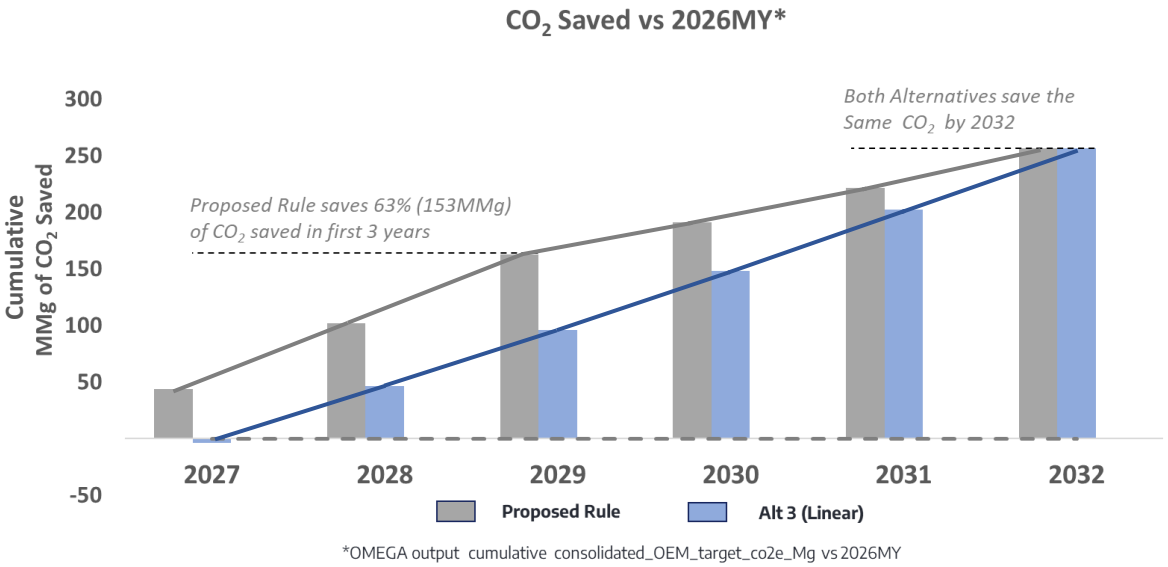


Figure 7-Proposed cumulative GHG savings are significantly front-loaded

This analysis shows that under the EPA's proposed rule 63% of the CO_2 saved would be achieved in the first 3 years of the program with the remaining approximately 35% being saved in the back end of the new program. Alternative 3 (or the more linear alternative) takes a more rational approach to realizing aggressive GHG reductions driven by a dramatic technology transformation. Stellantis shares AAI concerns that Alternative 3 exceeds the 40-50% EV commitment in 2030, however at least the CO_2 savings under Alternative 3 are spread out more evenly over the entire rulemaking period allowing more time early on to address market concerns.

Stellantis (and industry) have made bold commitments supporting an electrified future, but time and flexibility are needed to transition from an automotive market that today is less than 10% BEV and PHEV combined to a future that is dominated by electric vehicles. EPA's proposed rule significantly front loads stringency and GHG savings during this critical time of transition in a way that overlooks the needed market enablers. EPA should deploy a stringency that allows the time needed for a more practical transition to an EV dominated market. Stringency and GHG reductions should not be front-loaded but, instead, should ramp up and increase as the market increases.

Proposed Standards Tougher on the Most Popular Vehicles

As discussed above, EPA's rule sets aggressive targets for vehicle GHG emissions reductions. EPA's proposed rule targets fleet performance improvement exceeding a 50% reduction in CO_2 emissions.

Analysis shown in EPA's NPRM showcases industry fleet targets and impacts representing an aggregate of vehicle types. In reality, an industry or OEM fleet target is actually comprised of volume weighted targets of different vehicles divided into two separate car and truck fleets.

EPA proposes significantly more stringent standards for trucks and SUVs – the segments most demanded by customers – than it does for sedans/small cars. As seen in Figure 8 below, pickup stringency exceeds sedan stringency by 14% in 2027MY, and SUV stringency exceeds sedan stringency by 10%. In fact, sedan stringency is relaxed in the first year of the rule (by 1%).

Change in GHG Standards Per Year by Vehicle Type (Preferred Alternative)

	2027	2028	2029	2030	2031	2032
Total Fleet	-7%	-13%	-15%	-8%	-9%	-11%
CUV/SUV	-9%	-13%	-16%	-8%	-9%	-12%
Pickup	-13%	-13%	-16%	-9%	-9%	-11%
Sedan	1%	-13%	-15%	-8%	-9%	-11%

Figure 8 - Pick-up truck and SUV stringency is more severe than sedans at the start of the proposed rule

The disproportionate impact of EPA's proposal on different vehicle types can been seen in the footprint curves in the proposed rule. As seen in Figure 9 below, EPA is applying much more stringent targets to trucks and large sedans with much less stringent standards for small cars.

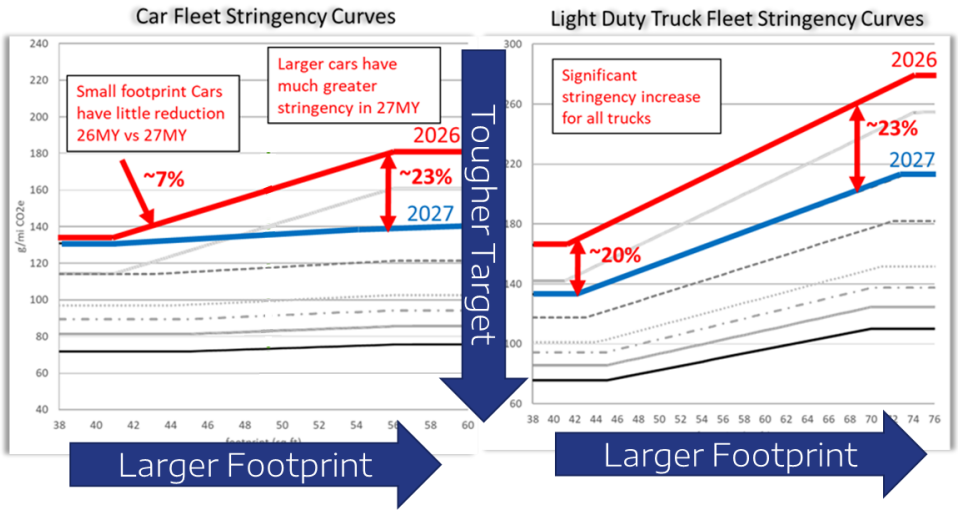


Figure 9 - Large cars and all trucks face more difficult standards

As shown in Figure 10 below, taken from the 2022 EPA Trends Report, pickups and truck SUVs are by far the most popular vehicles demanded by customers, making up over 60% of industry vehicle sales. EPA's proposed rule disproportionately punishes these vehicles while giving small sedans relief in initial years of the rule. This results in certain vehicles taking on more of the GHG reduction burden than others.

Also shown in Figure 10, OEM mix of vehicle types can vary widely, and these differences drive significant stringency differences when calculating an OEM's overall fleet average target. As discussed above, the NPRM proposes drastically different stringencies for cars vs trucks. This stringency imbalance will compound through an OEM's higher or lower mix of certain vehicle types producing disproportionately easier standards for "car centric" OEMs and harder standards for truck and SUV biased OEMs. These disproportionate stringencies may result in an electrification pace that is infeasible for some vehicle types and less challenging for others.

Table 3.4. Model Year 2021 Estimated Real-World Fuel Economy and CO_2 by Manufacturer and Vehicle Type

	Sedan/Wagon			Car SUV			Truck SUV			Minivan/Van			Pickup		
Manufacturer	Prod Share	Real-World CO_2 (g/mi)	Real-World FE (mpg)	Prod Share	Real-World CO_2 (g/mi)	Real-World FE (mpg)	Prod Share	Real-World CO_2 (g/mi)	Real-World FE (mpg)	Prod Share	Real-World CO_2 (g/mi)	Real-World FE (mpg)	Prod Share	Real-World CO_2 (g/mi)	Real-World FE (mpg)
BMW	49.7%	316	27.8	6.3%	307	29.0	44.0%	369	23.6	-	-	-	-	-	-
Ford	6.1%	259	29.9	8.1%	304	29.1	46.0%	383	23.2	1.6%	356	25.0	38.1%	425	20.9
GM	8.5%	297	29.4	12.6%	306	29.0	43.1%	421	21.1	-	-	-	35.9%	471	19.1
Honda	43.6%	274	32.4	10.6%	311	28.5	39.5%	340	26.1	4.0%	376	23.6	2.4%	424	21.0
Hyundai	43.5%	258	34.4	33.5%	323	27.3	23.0%	391	22.7	-	-	-	-	-	-
Kia	49.7%	266	33.4	8.2%	312	28.5	41.0%	359	24.8	1.2%	420	21.1	-	-	-
Mazda	20.5%	297	30.0	18.8%	308	28.8	60.8%	339	26.2	-	-	-	-	-	-
Mercedes	29.4%	342	26.0	14.4%	331	26.8	55.1%	405	22.0	1.0%	428	20.7	-	-	-
Nissan	56.8%	279	31.7	14.0%	292	30.4	20.7%	354	25.1	1.9%	356	24.9	6.5%	469	18.9
Stellantis	9.5%	417	21.3	4.0%	340	26.1	51.9%	400	22.1	6.4%	341	25.3	28.1%	478	18.7
Subaru	10.0%	326	27.3	-	-	-	90.0%	307	28.9	-	-	-	-	-	-
Tesla	47.2%	0	129.8	45.8%	0	119.0	7.0%	0	119.8	-	-	-	-	-	-
Toyota	30.3%	256	34.6	10.9%	310	28.7	39.5%	333	26.5	3.6%	248	35.8	15.7%	477	18.6
VW	29.0%	302	28.9	5.0%	201	35.7	66.0%	386	22.7	-	-	-	-	-	-
Other	16.5%	255	33.4	14.5%	287	29.4	68.0%	371	23.6	1.0%	341	26.0	-	-	-
All Manufacturers	**25.7%**	**270**	**32.2**	**11.4%**	**278**	**31.0**	**44.7%**	**368**	**24.1**	**2.2%**	**322**	**27.3**	**16.1%**	**463**	**19.3**

Pickups and truck SUVs account for > 60% of the market

Figure 10 – EPA is proposing more stringent standards on the trucks and SUVs – the most popular vehicles in the market today

EPA should apply stringency evenly across vehicle types driving the entire industry at the same rate of improvement regardless of vehicle types or product mix towards the ultimate goal of further GHG reductions by 2032MY.

EPA's Discounting of Technology Benefits Increases Implicit GHG Stringency

EPA has proposed AC, off-cycle and PHEV technology actions that would increase the implicit GHG stringency, making it even more difficult to achieve the explicit aggressive GHG targets. These EPA proposed actions are summarized below:

- Remove the Direct AC refrigerant and leak credit in a single model year (2027MY)
- Impose an artificial phase down of off-cycle credits, disregarding the real-world benefits of GHG saving technology
- Exclude PHEV technology from modeling and discount highly capable PHEV technology that would provide a bridge to a fully electrified future

These long-standing flexibilities have incentivized significant investment in GHG saving technology that now proliferates across the light-duty fleet. The Direct AC credit incentive has been a very successful program that industry has moved to implement at a very high rate. The investment and piece costs incurred to develop and introduce the lower Global Warming Potential (GWP) refrigerants and their systems are partially offset by the GHG credits received. In addition, the lower leak technologies and materials, now deployed across the ICE fleet, continue to achieve real-world GHG savings. This GHG benefit of low AC leak rates does not go away as we transition the fleet to higher rates of electrified product.

Similarly, the ongoing and already incurred investment and costs of GHG saving off-cycle technologies in the fleet have led to real world benefits. These benefits also do not go away as the fleet adds more EVs and PHEVs. While there may be less available menu credits for EVs versus ICE products, this naturally

achieves what the EPA is now proposing in this rule via a forced phase-down of the allowed credit cap. That is, the menu of available technologies will naturally decrease as fleet mix shifts to EVs. EPA's effort to drastically reduce the cap will immediately call into question the ongoing development and deployment of these GHG saving technologies.

These combined actions significantly increase the stringency of the proposed rule by making the extremely aggressive fleet targets more difficult to achieve while at the same time incentivizing OEMs to remove this GHG saving technology from products. ICE vehicles and EVs both benefit from many of these technologies and therefore their GHG compliance and real-world benefits should not be removed.

- The Direct AC credit and off-cycle credit programs need to be retained for continued GHG benefits on both ICE and EV products.
- The implicit stringency impact in the early years of this rulemaking is drastically increased by the additional burden experienced if the proposed flexibilities are removed.

Separately, EPA is discounting the benefit of a consumer facing technology that in the near-term addresses many of the concerns around pure BEV technology (e.g., range, infrastructure, etc.). Specifically, EPA is decreasing the GHG benefits of PHEV technology by proposing a change to PHEV Fleet Utility Factor (FUF) that will increase GHG emissions of light- and medium-duty PHEVs. EPA claims the published FUF used on test cycles to account for on-road electric operation is no longer appropriate. We have analyzed EPA's work and find shortcomings in the data sets (both the fuelly.com and CA-BAR), the filtering and analysis of the data, and the curve fitting techniques used. To address these problems, we propose that industry, EPA, SAE, DOT, and the national labs collaborate on an update to SAE J2841 that can be published following peer reviews.

The two issues that can lead to shortfalls in PHEV electric operation usage are (1) lack of charging and (2) differences in performance between regulated cycles and on-road operation. We believe charging rates will improve as more public infrastructure emerges and charging becomes ubiquitous. As for capability concerns, CARB is requiring a 70-mile combined cycle minimum range and a high-power cold start requirement (that EPA also proposes to adopt in this rule). These two requirements will force future PHEVs to have more range and power in all-electric operation, thus eliminating or minimizing any performance differences on-road versus regulated cycles.

EPA should be encouraging PHEV technology, not discouraging it. EPA clearly recognizes PHEVs could be an appropriate form of electrification for:

- Pickup trucks where BEVs struggle to deliver the needed range while towing
- Consumers who are not ready for BEVs, but could use a PHEV as a bridge

Improved capability PHEVs are coming and offer a battery mineral preserving bridge to full electrification (i.e., PHEVs can address consumer needs with smaller batteries than pure BEVs). EPA's

own analysis in the prior 2023-2026MY GHG emissions standards rulemaking[5] found that PHEVs can play a significant role in meeting GHG emissions standards.

Stellantis agrees with the Auto Innovators' recommendation that EPA should explicitly model PHEVs in the light-duty and MDV pickup applications in the final rule. However, the proposed Utility Factor will discourage PHEVs. Stellantis disagrees with the proposed Utility Factor changes and recommends that the current published Utility Factor remain in use.

The combined impact of the proposed changes described above compound the stringency of an already aggressive target makes the overall "net effect" of what EPA is proposing infeasible – especially in the initial year of the program. [redacted]

[redacted]

EPA Needs to Address EV Market Uncertainty & GHG Stringency Concerns

As discussed above, EPA has erred by assuming an overly optimistic market adoption of a single EV technology justified by policies that represent partial solutions. The GHG targets justified by these assumptions exceed what industry and the Biden administration jointly agreed to and likely exceed what

[5] Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards, 86 *Fed. Reg.* 74434, 74493-94 (Dec. 30, 2021).

reasonably can be achieved in a 50-state market. Targets are front-loaded and biased against the most popular trucks and SUVs that customers demand today.

Stellantis believes that EPA can address these concerns by incorporating key changes into the GHG footprint targets in the final rule.

First, EPA should finalize a fleet GHG target that can be achieved with a combined BEV, PHEV, and fuel cell electric vehicle (FCEV) penetration rate of 40-50% in 2030MY. This would align EPA to the ambitious and unprecedented transformation of the market that was jointly agreed to by the Biden administration, the UAW, Stellantis and other OEMs.

Second, EPA should set a footprint stringency that does not front-load the needed EV penetration rates and GHG savings by adopting a profile like Alternative 3 proposed in the NPRM. Alternative 3 (unlike the proposed scenario) is less stringent earlier in the program when new products and supply chains are critically coming "online". The Alternative 3 profile makes up for this early relief with increased stringency over the proposed option in later years. This strategy of "back loading" stringency ultimately delivers the same GHG savings as the proposed standards but does so in a way that recognizes the needed transition the market and industry need to make.

Figure 12 below demonstrates the approach Stellantis believes EPA should take when finalizing these targets. It is important to note that penetration rates and GHG targets beyond 2030 are uncertain as we remain focused on achieving the ambitious levels in 2030 jointly committed to by the Biden administration and industry.

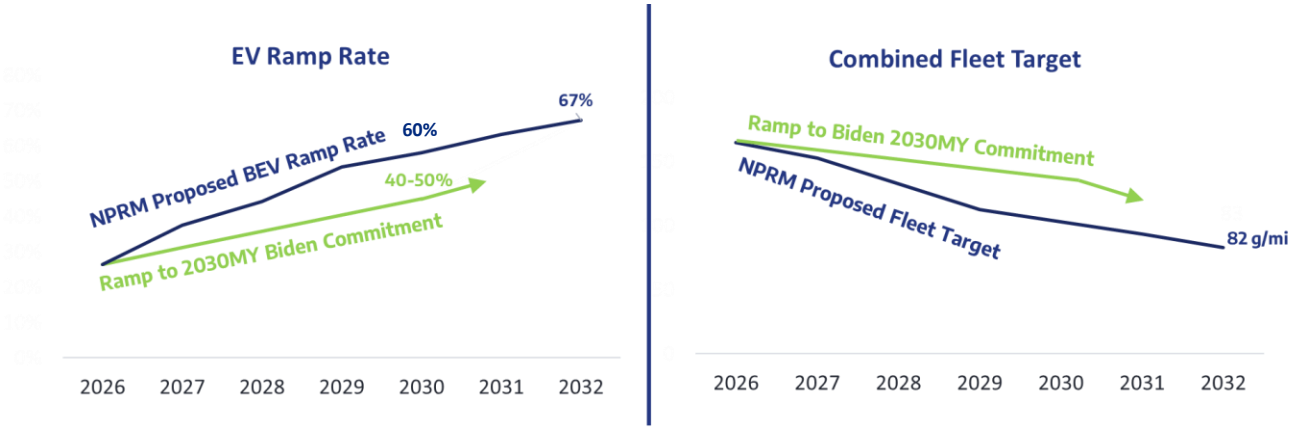


Figure 12 - EPA should set linear stringency through 2030 that can be achieved with 40-50% BEV+PHEV+FCEV penetration

Third, EPA should retain credit for off-cycle GHG technologies that will continue to reduce real-world GHG emissions on ICE and EV product without artificially ramping down credit prematurely. Similarly, EPA should retain today's PHEV Utility Factor to motivate sales of even more capable PHEVs. These technologies remain important in reducing the GHG emissions of a combined ICE/EV fleet, and the overall influence of the credit mechanisms in place to incentivize technology proliferation will scale down naturally as BEV technology proliferates.

In addition to these three pieces, and as a separate matter to setting feasible standards, EPA should consider implementing transparent and objective mechanisms that monitor key market enablers (infrastructure, battery costs, and raw material availability) and create adjustments if these essential enablers fall short of projections. These mechanisms are not a substitute for appropriately set targets, but rather a compliment to address uncertainties that are beyond the control of both industry and EPA.

Criteria Emissions Requirements are Infeasible & Distract from Electrification

Separate from the proposed GHG standards, EPA is proposing dramatic criteria emission reductions. Left unchanged, these reductions will force OEMs to divert engineering and financial resources from our march to electrification and refocus those resources on improvements to our shrinking ICE fleet. The rationale for these proposed actions now is difficult to fathom. EV technology greatly reduces or eliminates criteria emissions – and Stellantis has committed to 50% EV technology by 2030. EPA actions exceed aggressive CARB ACCII LEV IV requirements that could provide a large benefit over EPA's existing criteria standards (e.g., CARB PM standards are a 10-fold improvement over current EPA standards) while still maintaining an EV-focused plan. Below are the most critical changes EPA is proposing.

EPA Should Not Ban Enrichment or Set CO Standards Resulting in a Ban on Enrichment

Thermal enrichment is a necessary strategy to maintain the utility and safe operation of nearly all ICE vehicles currently being sold today. This critical control strategy has also enabled the proliferation of more efficient (lower emitting) down-sized turbocharged engines in applications that have typically been dominated by large displacement powertrains – a technology transition EPA itself has driven and supports. An enrichment strategy enables as much as a 50% increase in engine output, enabling a much lower displacement engine with much greater efficiency to meet the needs of a vehicle typically equipped with a large displacement, lower efficiency V8. This strategy allows for significant emissions savings during every-day driving where the down-sized engine can meet driving demands easily, relying on enrichment only for the infrequent times significantly more capability is needed by the customer.

Similarly, EPA proposes an infeasible US06 CO standard which is effectively a secondary ban on enrichment, as this CO standard can likely only be met at stoichiometric operation.

By banning enrichment outright (and setting an overly stringent US06 CO standard), EPA is eliminating the feasibility of using highly efficient down-sized turbocharged engines in these larger, more capable vehicle applications and markets. This forces OEMs to either invent new technology or revert back to larger displacement, less efficient engines that cannot use enrichment for peak output. Due to GHG requirements, reverting to larger displacement naturally aspirated engines is not possible. EPA should continue to allow enrichment enabled by the existing and robust AECD process and collect data to better understand if and where further emissions benefits could be gained by constraining (vs. banning) enrichment without compromising the progress industry has made, with any future changes being phased in over an adequate lead time to industry. We agree with Auto Innovators that the proposed prohibition on commanded enrichment is inappropriate.

Particulate Matter Standards Should Not Drive All New GPF Systems and Diagnostics

The proposed 0.5 mg/mi particulate matter (PM) standard is twice as stringent as California's recently adopted ACCII LEV IV requirement – a state with the largest number of nonattainment areas for PM 2.5

in the U.S.[6] EPA's proposal will force gasoline particulate filters (GPF), driving significant investments in vehicle/engine assembly plants and increasing the cost of vehicles. This incredibly expensive proposal only offers modest reductions in PM compared to the gains that will be achieved with market transition to electrification. The proposed Cold FTP standard will require all new test cells to robustly measure PM at the required low levels. Since the FTP and US06 will already force GPF, the Cold FTP PM standard becomes a very costly requirement that essentially delivers no environmental gain.

EPA also adds a diagnostic requirement that goes beyond the industry standard detection of a "missing GPF" to solve a theoretical tampering concern. This filtering efficiency requirement will drive sensing technology that does not exist in the market today and will require years to develop.

In lieu of this costly proposal, we recommend that the EPA adopt the PM standards and phase-in schedule that CARB promulgated with the ACC II LEV IV rule. As described in Auto Innovators' comments, PM emissions reductions of 90% will be achieved (from 10 mg/mi to 1 mg/mi) by 2028MY under ACC II LEV IV. In sum, CARB's ACC II LEV IV requirements provide a significant emissions reduction without driving the need for ongoing investments in a shrinking ICE fleet.

Structure of Fleet Average NMOG + NOx Standard Acting as De facto ZEV Mandate

EPA is proposing increasingly stringent light-duty vehicle NMOG+NOx standards for the sales weighted average inclusive of all LDV, LDT and MDPV. The proposed fleet average standards are only feasible if aggressive BEV technology penetration rates are achieved, like those discussed in the GHG section of our comments.

This exposes the criteria emissions compliance to the same market feasibility risks discussed earlier in the context of GHG compliance. Overly optimistic projected policy solutions lead to unrealistic assumptions of BEV market acceptance, along with resource redeployment to electrification and long lead times for ICE hardware changes, creating risk for compliance in the criteria emissions space that is untenable. Additionally, EV technology significantly increases the weight of electric models compared to their ICE counterparts which means that the emissions benefits of EVs may be pushed into higher weight classes, and therefore we are prevented from offsetting the emissions of comparable ICE models in lower weight classes. These issues were discussed and addressed recently during development of ACC II LEV IV criteria emissions rules established by CARB where the ICE fleet complies with criteria emissions requirements independent of BEV sales, allowing manufacturers to maintain compliance regardless of BEV penetration rates and weight class complexities.

EPA should adopt CARB's ACC II LEV IV 30 mg/mi ICE fleet average with BEV phasing out at declining rates, so that compliance is not dependent on BEV market penetration. In addition, one method of compliance (both testing and fleet management) can achieve the same (cleaner air) result and is more efficient.

EPA Should Adopt Stringent CARB ACCII LEV IV Criteria Emissions Standards

Stellantis fully supports AAI's comments and the recommendation to align to CARB ACC II LEV IV criteria emissions requirements. EPA should either adopt or align with California's stringent ACCII LEV IV criteria

[6] Counties Designated Nonattainment for PM-2.5 (1997), PM-2.5 (2006), and/or PM-2.5 (2012) | Green Book | US EPA, accessed 06/26/2023

requirements, avoiding the unnecessary development of all new technology to apply to a shrinking ICE fleet (distracting from EV focus). As highlighted in the examples above, the California standards still provide significant improvements over EPA's Tier 3 standards. EPA must also continue to allow enrichment for component protection which is critically needed for continued use of highly efficient downsized turbocharged powertrains and avoid PM requirements that mandate development of all-new GPF systems and/or extraneous new testing.

Battery Durability & Warranty Requirements are Beyond EPA's Scope

EPA has proposed new battery durability performance requirements for all light-duty PHEVs and BEVs, battery health monitoring and in-use accuracy for all light- and medium-duty PHEVs and BEVs, as well as warranties for PHEVs, BEVs, and FCEVs.

Stellantis concurs with Auto Innovators' comment that battery durability requirements are beyond the scope of EPA's statutory authority for BEVs. EPA's authority covers emissions standards under CAA section 202, but there are no applicable air pollutant emissions standards for BEVs, which do not produce any such emissions. Similarly, EPA lacks the authority to prescribe warranty standards for BEV powertrain and associated components that do not emit any air pollutants. Stellantis agrees with Auto Innovators that warranty requirements are typically left to the respective OEMs to determine and should here as well be addressed by individual OEMs. EPA should not attempt to reach into the regulatory realm of consumer protection as it relates to battery durability and warranty; EPA's jurisdiction does not reach so far. Stellantis agrees with Auto Innovators that the stringent new durability, testing, and warranty provisions in the proposed rule do not comport with the CAA.

Stellantis fully supports all technical AAI comments and recommendations on EPA's proposed battery durability and warranty requirements.

Implicit / Explicit MDV GHG Standards are Infeasible

The EPA is proposing a very challenging set of regulatory changes for the medium-duty vehicles that are infeasible. This includes direct core stringency changes along with four other actions that further increase stringency:

- **Core Stringency Changes** – Proposes an overall 37% reduction in work factor based GHG standards for 2028-32MY
- **Work Factor Cap** – Introduces a 22,000 lbs. GCWR Cap on Work Factor that further increases the GHG stringency [redacted]
- **Fuel Neutrality Changes** – Saddles gas product with an additional 6.1% reduction by modifying current 27MY standards (i.e., pushing fuel neutrality)
- **Medium-duty Passenger Vehicle (MDPV)** – Changes the MDPV definition which negatively impacts both light-duty and medium-duty greenhouse gas stringency
- **EV Multipliers** – Ends Advanced Technology (EV) multipliers in 2027MY (one year early) and is considering limiting/reducing 2025-26MY multiplier credits.

Core Stringency - EPA overestimated MDV GHG Reduction

EPA has proposed a 37% GHG reduction from 2028MY to 2032MY. The overall stringency is largely driven by a very high assumed rate (98% in 2032MY) of electrification for cargo vans. Stellantis supports AAI's comments questioning this level of electrification for cargo vans, and requests that EPA model industry electrification for the cargo van segment as just meeting CARB's requirements each year in California and states that adopted the HD ZEV rule, and no more than half that rate in other states. GHG standards should be established from this more realistic electrification rate.

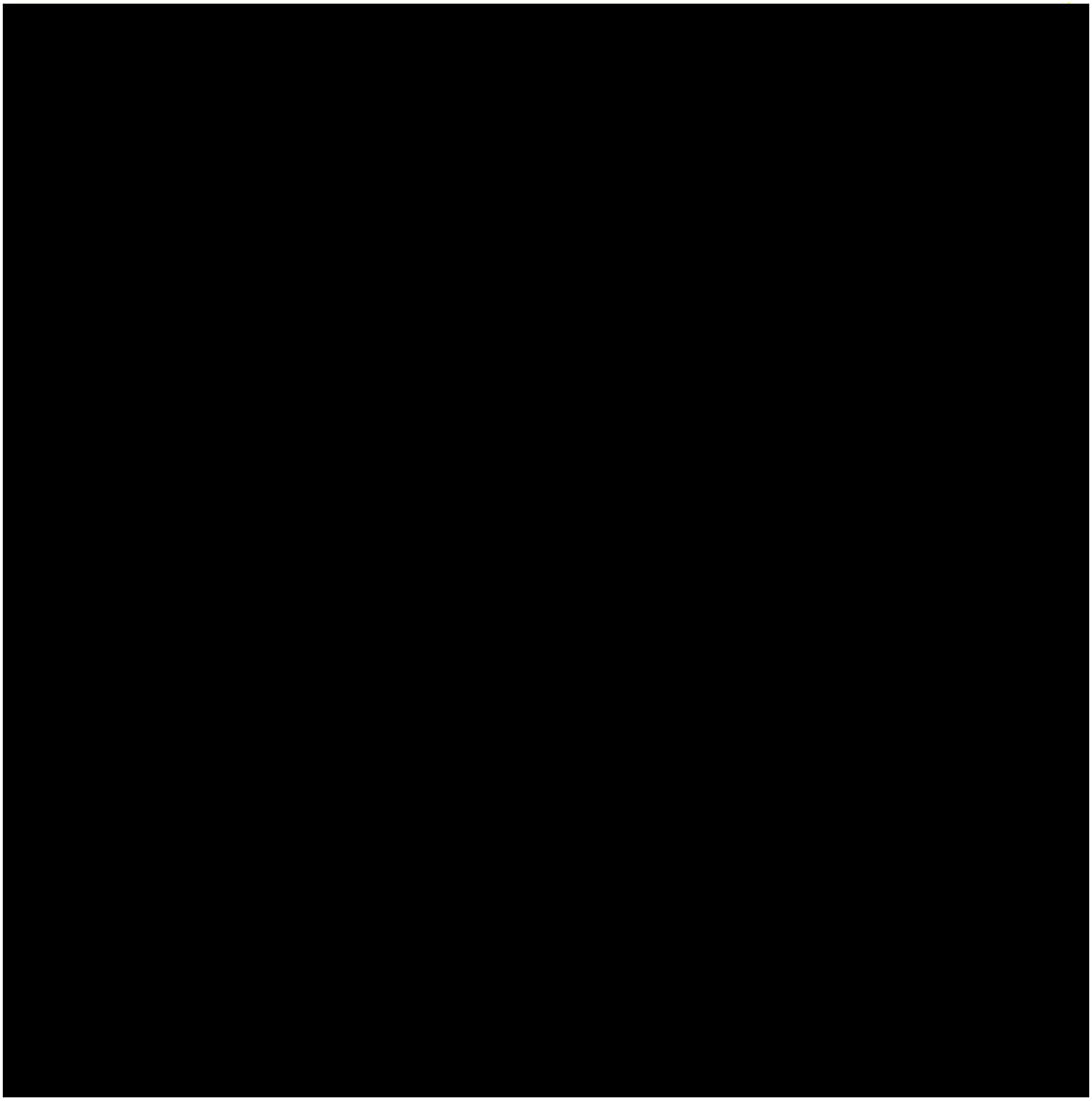
Work Factor Cap – Further increases MDV GHG Stringency (and Forces Criteria Engine Certification)

In the multi-pollutant draft rule, the agency proposes to limit the GCWR contribution to work factor calculations at 22,000 lb. starting in 2030MY. This is proposed due to an agency concern that higher GCWR values are not reflected in the inertia weight of the vehicle when tested for GHG. In the HD GHG Phase 1 rule[7], work factor was developed as a standard due its very high correlation to CO_2. The agency has not provided data to demonstrate this is no longer accurate.

[redacted]

[7] Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles, *76 Fed. Reg. 57106* (Sept. 15, 2011).

[redacted]



[redacted]

Also, vehicles over 22,000 lb. GCWR will be forced to certify on an engine dyno for criteria emissions. Because this is misaligned with California's ACC II LEV IV rules, it forces dual certification efforts, different hardware and uncertain impacts on GHG performance. Stellantis believes the 22,000 lb. GCWR proposed requirement should not be implemented for determination of criteria emissions standards, nor should it be used to alter the GHG stringency. To address EPA concerns, criteria emissions standards should be aligned with CARB's ACC II LEV IV rules instead.

[redacted]

Fuel Neutrality – EPA Punishes Gasoline ICE MDVs

EPA proposes new, fuel neutral GHG standards for medium-duty vehicles beginning in 2027MY for spark-ignition (gas) engines by reopening the Phase 2 GHG rule, resulting in a 6.1% jump in stringency. EPA explains that reopening of the current published rule is needed due to their anticipated levels of electrification of MDVs in 2027MY.

Stellantis disagrees with this approach. [redacted] Respecting lead time needs, fuel neutrality should be phased in over several years (30/60/100), and not fully implemented until 2032MY.

Medium-Duty Passenger Vehicle Classification Changes Hurt Medium-Duty Pickup Trucks

Revisions to the MDPV definition are proposed by EPA. EPA notes that the Work Factor threshold of 5,000 lb. was set to avoid capturing a significant number of work vans or trucks. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

In summary, the MDPV proposed revised definition needs to be changed because it:

- Reclassifies some GHG reducing BEVs back to LDT fleet, effectively harming MD GHG fleet
- [redacted]

EPA should maintain previously defined EV Multipliers

EPA is proposing to end advanced technology (BEV, FCEV, and PHEV) multipliers for medium-duty vehicles in 2027MY, one year earlier than scheduled. The agency also seeks comment on reducing the magnitude of the multipliers for 2025-26MY. Aligned with Auto Innovators, Stellantis does not believe the advanced technology credit multipliers should be adjusted or reduced in the 2025-27MY timeframe. The Phase 2 rule was finalized in 2016, and [redacted] We believe the proposal to change or end advanced technology multipliers in the 2025-27MY does not provide sufficient lead time as required by the Clean Air Act.

Improve Fuels and Implement a Nationwide Low Carbon Fuel Standard

Stellantis supports cost effective liquid fuel improvements that enable increased fuel efficiency and reduce emissions. To that end, Stellantis fully supports Auto Innovators' comments on improved liquid fuels, proposed changes to Tier 3 test fuel, and request for EPA to take action now on fuels.[8]

Auto Innovators states in their comments that out of the 290 million light-duty cars and trucks on the road in the United States,[9] 98% operate on gasoline or diesel fuel.[10] Auto Innovators also points out that the average age of a vehicle in the U.S. has grown to over 12 years.[11] It's clear, even with the NPRM's projected BEV penetration rate of 67% of new car sales in 2032, the car parc will continue to rely on liquid fuels for years to come. Liquid fuels will continue to play a significant role in transportation and, ultimately, air quality. Improved liquid fuel can benefit the entire parc with immediate impact once

[8] See Alliance for Automotive Innovation comments submitted to docket EPA-HQ-OAR-2022-0829, U.S. Environmental Protection Agency, "Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles"; Proposed Rule, 88 Fed. Reg. 29184 (May 5, 2023)

[9] *U.S. Vehicle Registration Statistics*, Hedges & Company, https://hedgescompany.com/automotive-market-research-statistics/auto-mailing-lists-and-marketing/ (accessed May 23, 2023).

[10] Figures compiled by Alliance for Automotive Innovation with registered vehicle data provided by IHS Markit, https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard. (accessed May 23, 2023)

[11] *U.S. Vehicle Registration Statistics*, Hedges & Company, https://hedgescompany.com/automotive-market-research-statistics/auto-mailing-lists-and-marketing/ (accessed May 23, 2023).

deployed and need not rely on turnover or the introduction of new vehicle technology, which can take decades to become widespread.

Improved liquid fuels will complement, not compete with, other technologies like electrification. Improving liquid fuels can provide significant reductions in GHG and non-GHG emissions from ICE equipped vehicles, engines, and equipment while the EV market grows. For example, implementation of a national low carbon fuel standard could act as a market-based approach to decarbonizing transportation fuel and provide revenue sources to incentivize market adoption of EVs. Eliminating a small fraction of heavy boiling aromatics in gasoline can significantly reduce PM emissions from all spark-ignited vehicles and engines. Capping the sulfur content of gasoline to no more than 10 ppm will enable advanced emissions control technology and will reduce the impact of sulfur on catalyst efficiency. Capping summer vapor pressure of gasoline to 9.0 psi or less, regardless of ethanol content, further reduces evaporative emissions. Additionally, octane is a critical fuel parameter for ICE vehicles, and low octane fuels (sub-87 anti-knock index) remain a barrier to market introduction of more efficient ICE vehicles. Furthermore, transitioning to a higher minimum-octane gasoline (*i.e.*, minimum 95–98 research octane number) would enable increased engine efficiency in new ICE vehicles.

EPA should act now to improve liquid fuels, treat vehicle and fuels as a system and leverage the opportunities that improved liquid fuels provide to the approximately 290M vehicles in the car parc.

Certification Enforcement Programs and In-Use Remedies

Finally, separate from the issues raised regarding the proposed GHG and criteria pollutant standards, Stellantis agrees with the concerns discussed in the Auto Innovators' comments on EPA's proposed revisions to enforce vehicle certification and in-use standards. As detailed by Auto Innovators, EPA has not provided a plausible rationale for its proposed retroactive impacts on existing certificates and other proposed "clarifications." Similarly, it is unclear that EPA has the authority to add the proposed in-use "recall order" regarding CO_2 emission standards/monitor accuracy requirements or CO_2 emission standards to the In-Use Confirmatory Test Program. Based on these shortcomings, EPA should not carry forward into the final rule the proposed "clarifications" or revisions to the enforcement programs and in-use remedies.

Recommendations and Conclusion

The standards proposed in the 2027-2032MY Multi-pollutant NPRM represent a focus on electrification of the automotive market that directionally Stellantis supports. However, the rate at which EPA has projected this transition far exceeds the ambitious targets the Biden administration and industry jointly agreed to, and even exceeds penetrations of the most mature EV markets in the U.S. The EPA bases these EV penetrations on an overly optimistic outcome of policy actions that represent only a fraction of what is needed to support a mature EV market. EPA compounds these errors by removing compliance flexibilities that have successfully incentivized proliferation of GHG saving technologies throughout the fleet.

From a criteria emissions standpoint, not only did EPA assume the same optimistic EV penetrations, it also proposes tailpipe requirements on ICE products that demand significant levels of all-new technology investment on a shrinking ICE fleet. Again, EPA chooses to exceed even the most forward-

leaning precedent of California driving new requirements and development that distracts from the focus needed to execute on our commitment to transition to an EV dominated market by 2035.

EPA must take a more realistic outlook on the policy enablers initiated that are only partially scoped to grow the EV market EPA predicts and set standards that promote a feasible transition to electrification without distracting with unnecessary ICE development. The proposed rule and draft Regulatory Impact Analysis (RIA) include projections of numerous variables (such as benefits and costs) out to 2055 (i.e., well beyond the time period of this rulemaking), which exacerbates the uncertainties that underlie multiple assumptions contained in the NPRM. Stellantis agrees with Auto Innovators' concern raised that the NPRM fails to adequately coordinate and harmonize the stringency between EPA's, NHTSA's, and CARB's standards. Given the significance of electrification, it is more important than ever that there is consistency between agencies to ensure multiple sets of standards do not work at cross-purposes with each other but instead are harmonized allowing automakers to build one fleet that efficiently and effectively meets all requirements.

Stellantis recommends that EPA should:

GHG Standards

- Revise standards that align to achievable EV adoption rates that do not force an overly optimistic technology transition for the market and industry:
  - Revise stringency adopting an 'Alternative 3' profile removing front-loading of EV adoption, modified to ensure 2030MY standards can be met with a 40-50% BEV+PHEV+FCEV combined technology penetration
  - Include PHEV technology as a critical transition technology to a fully electrified future – without incorrect discounting – particularly in highly capable vehicle segments
  - Retain GHG saving technology flexibilities recognizing the GHG benefit that continues to be present on electric vehicles and that will naturally decrease as EV penetration increases
  - Treat trucks and SUVs fairly by including PHEV technology as an important bridge to a BEV future, and ensure year-over-year required improvements are the same as cars
  - Fix incorrect MDV adjustments that mistakenly force medium-duty vehicles into light-duty standards and double stringency of high capability products arbitrarily
- Include a provision that compliance with EPA's GHG standards would constitute compliance with CAFE standards

Criteria Emissions

- Adopt the aggressive CARB ACC II LEV IV criteria emission standards recently finalized by California. Specifically, EPA should:
  - Eliminate counting vehicles without tail pipes (BEV, FCEVs) as part of a tail pipe emissions fleet
  - Avoid a wholesale prohibition on enrichment – whether by design requirement or unrealistic CO threshold – and continue to allow infrequent enrichment that enables proliferation of highly efficient down-sized engines to displace larger and much less efficient powertrains (a GHG and emission reduction strategy endorsed by the EPA)

- Adopt a more realistic PM standard that does not drive invention and development of all-new GPF systems, diagnostics and test requirements that cannot be certified without new facilities
- Improve liquid fuels to reduce GHG and criteria emissions from the approximately 280M ICE vehicles on the road

Lastly, this rule is broad in scope and high in complexity, proposing many changes to long-standing processes (i.e., a variety of new phase in requirements). Stellantis would welcome EPA providing industry training on implementation details when the rule is finalized. Stellantis requests that EPA offer classes/training, similar to the material and concise overview provided after the HD GHG Phase 1 rule was published. EPA's simplified slides provided more straight-forward rule interpretation and understanding. It would also be helpful for the training to include compliance calculation examples to resolve any potential ambiguity from the regulation.

We thank EPA staff for its engagement on this proposed rule and consideration of our comments and recommendations. Stellantis stands ready to answer questions and work with the EPA towards a feasible rule that meets the joint electrification and emissions goals of the Biden administration, the EPA and industry.

ON BEHALF OF STELLANTIS

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