**July 26, 2024**

Clerk of the Board, California Air Resources Board

1001 I Street, Sacramento, California 95814

**Re: Stellantis' Comments on California Air Resources Board's (CARB's) second workshop on proposed amendments to the Advanced Clean Cars 2 (ACC2) Regulation**

Stellantis respectfully submits the following comments in response to CARB's second workshop on proposed amendments to the Advanced Clean Cars 2 Regulation held on June 26th, 2024. [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 of over 56,000 employees, including over 43,000 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 multi-use transmissions and power electronics modules.

## 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 United Auto Workers (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 the participating countries will work together to reach 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 (PC) and light-duty truck (LDT) fleet in the U.S. by 2030 (assuming conducive public policies). This commitment includes investments in developing four all-new electric platforms.

[1] Advanced Clean Cars 2 Amendments Second Public Workshop (June 26, 2024) presentation available at CARB ACC2 Workshop Presentation

[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."

On March 19, 2024, Stellantis entered into an agreement with CARB which demonstrates the company's resolve to achieve its industry-leading ambition to be carbon net zero by 2038, aligned with its Dare Forward 2030 strategic plan.

As part of its agreement with CARB, Stellantis pledged to expand its ongoing commitment to strengthen its electrification offensive through educational efforts for U.S. consumers and dealers on the benefits of EVs. This commitment includes collaborating with Veloz, the leader in promoting EV awareness efforts, providing discounted EVs to organizations in disadvantaged communities, and spending an additional $10 million for the installation of public EV chargers.

Stellantis offers the following comments and suggestions for future amendments to the ACC2 regulation.

## CARB Should Harmonize with Federal Standards

Stellantis supports comments submitted by the Association for Automotive Innovation (AAI) stating that California regulations should be aligned with those of the U.S. Environmental Protection Agency's (EPA's) recently finalized Multi-Pollutant Rule.

Federal greenhouse gas (GHG) and criteria emissions standards just finalized by the EPA and fuel economy standards just finalized by the National Highway Traffic Safety Administration (NHTSA) demand transformational levels of electrification nationwide and work to achieve the common emissions reduction goals of industry, CARB and the EPA. These federal standards, coupled with the California Zero-Emission Vehicle (ZEV) mandate, mean that industry is already driven both at the federal level and within the CARB S177 states to achieve significant emissions reductions.

Duplicative regulations drive unnecessary complexity for industry and regulators to manage, monitor and potentially revise if assumptions prove wrong. Instead of creating a fourth regulation, with similar goals but a different structure (i.e., an Internal Combustion Engine (ICE)-only GHG regulation), CARB should acknowledge the potential for unintended consequences and instead harmonize with federal EPA standards and compliance measures directly, or via a deemed to comply mechanism.

## ICE Backsliding Assumptions are Unrealistic

In the June 26th, 2024 workshop, CARB discussed backsliding concerns as justification for setting standards for an ICE-only fleet. CARB proposed that original equipment manufacturers (OEMs) would deteriorate ICE GHG performance through de-contenting individual models, discontinuing lower emitting (ICE) variants, and recalibrating for performance improvement rather than emission reductions.

Stellantis supports comments from AAI stating that these hypothetical risks that lead to backsliding do not exist and add unnecessary risk for industry:

- Achieving the targeted EV transformation and GHG reduction goals requires the complete focus of company resources to execute – altering the fundamental characteristics of the many vehicles in our ICE fleet is just not possible without risking federal GHG and criteria requirements.

- The backsliding premise assumes that CARB knows with precision how ZEV sales will progress in the marketplace, allowing a predictable and precise amount of ICE GHG degradation. This assumption drives CARB's perceived need for a stand-alone ICE fleet requirement. While Stellantis will comply with all regulatory requirements, and we are ardent supporters of electrification, this degree of precision, and thus the "certainty" of backsliding just does not exist given a multitude of consumer-facing market factors.

- The EPA Multi-Pollutant GHG rule enforces stringent GHG requirements that apply to all fifty states, meaning high levels of electrification and low GHG emitting ICE products will be required nationwide – a unique California/S177 backsliding requirement will only introduce additional, unnecessary compliance risk for OEMs.

Unrealistic backsliding assumptions used to justify an ICE-only fleet requirement that ignores the benefit of PHEV technology are unsound and create the potential for new and unnecessary compliance risk for industry.

## A New ICE-Only GHG Standard is Complicated and Unnecessary

To combat the hypothetical risk of ICE backsliding, CARB discussed the concept of an ICE-only GHG standard. An ICE-only regulation would overlap with already finalized EPA GHG standards and add significant and unnecessary complexity to an already complicated GHG compliance landscape that consists of three overlapping rules (EPA GHG, CAFE, and ZEV).

- Today OEMs are managing three light-duty vehicle fleets separately (i.e., PC, LDT and ZEV). CARB's proposal to add a new ICE-only fleet would force OEMs to manage five fleets of light-duty vehicles (PC BEV, LDT BEV, PC ICE+PHEV, LDT ICE+PHEV and ZEV) across 18 or more California and Section 177 States while still meeting the original three fleets federally (i.e., in all 50 states).

- An ICE-only standard could distort product plans by discouraging electrification of certain models (i.e., lower GHG emitting ICE products) that if electrified, will be removed from the ICE-only fleet average, degrading OEM compliance. This dynamic could distort or even prevent electrification regardless of market demand or compliance needs outside of an ICE-only regulation.

There is no environmental benefit to justify the added complexity of an ICE-only GHG regulation. CARB should instead rely on existing stringent federal EPA GHG standards and its ZEV mandate to maintain a focused approach to GHG reduction.

## PHEVs would be a GHG Liability in CARB's ICE-Only Fleet, Discouraging Electrification

Stellantis invested in PHEV technology for the GHG benefit and fuel savings of its all-electric operation

modes. Stellantis disagrees with CARB's proposal to exclude electric vehicle miles traveled (e-VMT) of PHEVs.

- Stellantis' in-house snapshot data shows that consumers plug-in their vehicles and utilize the electric operation of their PHEV technology.

- PHEVs are an important technology bridge to a full ZEV future, and in some use cases (e.g., towing) it may be the ONLY feasible electrified technology option.

- Disregarding electric operation transforms a PHEV into an inefficient ICE vehicle due to the added weight of the second powertrain (battery, motors, charger, heavier structure, etc.) that is arbitrarily "not allowed to operate" based on a misguided regulatory rationale. PHEV technology is the way many EV buyers initially experience the advantages of electrified technology before moving up to fully electrified BEV technology. This PHEV treatment by CARB is inconsistent with the ACC2 rule which allows 20% PHEV technology through 2035MY in the ZEV component of the very same ACC2 regulation.

- Ignoring electric operation of a PHEV creates incentive to eliminate PHEVs and their valuable GHG reductions, adding risk to ACC2 ZEV compliance as well.

Given PHEV's real-world GHG and consumer benefits, Stellantis urges CARB to create a level regulatory playing field for PHEVs. The best way to accurately handle the electric operation of a PHEV, is to develop an appropriate/updated Utility Factor (UF) that accounts for the GHG benefit of the electric operation of these vehicles. The National Labs, EPA, and industry have already joined together to begin work on an updated UF (SAE J2841). Rather than ignoring the all-electric benefits of PHEVs, we welcome CARB to join this effort. Stellantis stands ready to provide data and expertise working with ALL agencies to develop an appropriate UF that recognizes the very real GHG benefits of PHEV technology.

## To be Useful, Compliance Flexibilities Need to be Achievable.

Stellantis agrees with CARB that flexibilities would be needed to comply with an ICE-only GHG standard given the shrinking in size of the ICE fleet and the impact of removing EVs on ICE fleet performance. However, to be useful these flexibilities should be realistically achievable for an OEM. The flexibilities outlined by CARB in the workshop unfortunately are not useful:

- **Excess ZEV Credit Portability to ICE GHG Program:** Generating meaningful numbers of excess ZEVs over the aggressive mandated levels in this time frame seems very unlikely (i.e., must exceed 68% - or more than 2 out of 3 vehicles sold - in 2030MY). Recognizing the electric operation of PHEVs that are already in the ICE fleet would be a better way to incentivize EV product.

- **Banked Advanced Clean Cars 1 (ACC1) Credits exceeding EPA standards:** Though Stellantis supports a flat standard through 2029MY, the flexibility benefit is significantly diminished by referencing the EPA standard. For example, overperforming the ACC1 GHG standard in 2029MY by 55 g/mile only nets an OEM 5 g/mile of credit. We ask CARB to only reference the existing ACC1 GHG standard when calculating usable ACC2 banked credit without overlaying EPA requirements.

## Off-Cycle and Air Conditioning (A/C) Treatment Must Be Harmonized with EPA

As the agency has stated, flexibilities provided by the off-cycle technologies and A/C credit mechanisms are important incentives for manufacturers to reduce GHG emissions. These technologies provide GHG emission benefits during the entire vehicle usage profile, not just shown during laboratory test procedures. These are especially important on ICE vehicles where there are many more opportunities to use technologies for reductions.

As A/C system and off-cycle credits are potentially phased-out, electrification becomes the only GHG reducing technology available to OEMs to meet GHG standards. CARB harmonization with the EPA rule would provide OEMs the certainty needed to make business decisions related to these technologies.

**Off-Cycle Credits**

- The CARB proposal to phase out off-cycle credits is more burdensome than the phaseout and restriction on off-cycle credits finalized in the EPA rule.

- EPA's phasedown of allowable credit and elimination of credit for battery electric vehicle (BEV) and fuel cell electric vehicles (FCEV) starting in 2027MY risks OEMs investment in these technologies. By restricting these flexibilities further, CARB removes the incentive to keep these GHG reducing technologies in the fleet.

- CARB should phase down the off-cycle credit program, aligned with EPA's timing, to achieve harmonization.

**A/C Efficiency**

- Stellantis is supportive of the A/C efficiency credit alignment with EPA. These remain beneficial technologies reducing GHG emissions and are in-use for much more time in real-world operation than is reflected on laboratory test cycles.

**A/C Refrigerant**

- CARB's A/C direct credits for refrigerant leakage credit in the proposal are misaligned with EPA. This CARB proposed variable credit level is a disconnect from EPA program. A/C systems have been designed with low sealing leakage levels already for improved customer benefits, with the

GHG credit incentives that have been in place for many years. These credit levels were again validated in the EPA final rule.

- BEVs and PHEVs with their electric compressors have even better leakage rates than traditional ICE mechanical compressor technologies and as the fleet transforms, they offer increased benefits with those volumes. It is not necessary, nor will it be impactful to propose a mis-aligned leakage calculation method from EPA's final GHG rule.

- If CARB's desire is to backstop the reversion to higher leakage technologies in the fleet, harmonization with the EPA Multi-pollutant Final GHG rulemaking should be followed to determine the credit.

## Medium-Duty Passenger Vehicle (MDPV) Definition must be Aligned with EPA

Stellantis supports CARB's proposal to align the MDPV definition with EPA, but we object to the proposed 2030MY implementation contained in the workshop material. We request CARB align with EPA's timing which means the change doesn't take effect until 2031MY for both evaporative emissions[3] and criteria emissions[4] when on the default phase-in plan. It is neither feasible, nor reasonable to impose the MDPV definition changes sooner than EPA, therefore CARB must not implement the change for 2030MY (sooner than EPA).

## Criteria Emissions Requirements and Procedures Should be Aligned with EPA

Stellantis supports the comments submitted by AAI in response to CARB's proposed ACC2 amendments to criteria emissions including the additional points on quick-drive-off test and PHEV high powered cold start in AAI's January 15, 2024, letter to CARB. To summarize:

**Non-methane Organic Gases and Oxides of Nitrogen (NMOG+NOx) Fleet Average:**

- Support CARB's proposal to maintain light-duty fleet average of 30mg/mile with phase-out of ZEV inclusion.
- Recommend maintaining current ACC2 medium-duty fleet average aligned with light-duty approach and not further increase stringency or combine the Class 2b and Class 3 medium-duty classes of vehicles.

**Emissions Bin Structure:**

- Recommend that CARB fully align and adopt all EPA Tier 4 emission Bins for both light- and medium-duty vehicles.
- Support elimination of the Cleaner Federal Car provision for both light- and medium-duty vehicles.

[3] 40 CFR 86.1813-17(a)(2)(v)
[4] 40 CFR 86.1811-27(b)(6)(vi)

**Particulate Matter (PM) Standards:**

- Support the finalized CARB LEV IV PM standards.
- CARB plans to harmonize with EPA's PM standards for FTP25C and US06 drive cycles for 2030MY and beyond, but for medium-duty vehicles this should not occur until 2031MY to align with EPA default compliance path.

**Carbon Monoxide (CO) Emissions Standards:**

- Although not mentioned in the recent June 2024 CARB workshop, we recommend that CARB align with EPA CO emissions cap = 1.7 g/mile for FTP, HFET, and SCO3 at SULEV30 and lower emissions levels rather than lowering to 1.0 g/mile.

**Finalized Test Procedures (FTP) Quick Drive-Away:**

- ACC2 finalized test procedures add unnecessary burden for the test automation system to combine results from two separate tests. These tests add cost, complexity, increase risk of errors and will require added lead-time to implement into test automation systems. We recommend adding the original DRAFT ACC2 language as an option for labs that prefer to keep things simple and just modify the quick drive-away drive trace.

**High-Altitude (50F, SC03, US06):**

- High-altitude emissions requirements for 50F, US06 and SC03 were inadvertently added, provide no substantial emissions environmental benefits, add significant test facility investment/upgrades, increased development costs and development, and divert from electrification focused resources. Therefore, we recommend that CARB eliminate these high-altitude requirements in the amendments and submit the following additional details:

    - *50F*: Requiring 50F high-altitude emissions will unnecessarily increase test burden (to an already expanded list of new ACC2 testing requirements i.e., quick drive-away FTP, Intermediate soak FTP, and PHEV high powered cold start) and require additional test facilities with no emissions benefit. It is important to highlight that tailpipe CO emissions are higher at colder 50F temperatures compared to the 75F FTP and this is primarily due to delayed O2 sensor light off time and fueling compensation for fuel wall film under lower ambient temperatures, so it is important as previously mentioned that CARB align to EPA's Tier 4 CO cap = 1.7 g/mile for both FTP 75F and 50F for Bin30 and lower bins.

    - *SC03:* Current Stellantis altitude chamber test cells are not capable of performing SC03 testing. Adding solar capability is problematic as it will introduce sources or leaks into the altitude test chamber (due to the electrical wiring) making it difficult to control the cell pressure. Additionally, subjecting the SC03 solar load system (light bulbs) to changes in ambient pressure and cold ambient temperatures that will be run for other tests in altitude

cells introduces concerns for overall SC03 solar load / light system durability. Building all new high-altitude SC03 capable test cells to accommodate testing needs will require significant capital investment and long lead time to approve, build and commission. We recommend that the SC03 altitude requirement be eliminated.

- *US06:* US06 testing includes high load and acceleration vehicle operation that will challenge gas spark ignition (SI) engine's emissions. Due to the physics of air being less dense at high-altitude, gas SI engines operate in an expanded operation region where fuel enrichment is needed to protect engine and emissions systems components from thermal failure. Necessary fuel enrichment results in increased CO, NMOG and PM emissions. Without sufficient high-altitude emissions relief, engine and/or emissions system redesign is required. This redesign will divert significant capital and development resources from Stellantis' vehicle electrification focused efforts. We recommend that CARB remove the US06 high-altitude requirement. If not, the stringency must be appropriately adjusted to at least 2.0 times the sea level standard for NMOG + NOx, PM, and CO to avoid major new ICE / aftertreatment investments, development, and increased vehicle variable costs. Of note, the FTP Highway emissions standard does include high-altitude NMOG + NOx emissions relief and given the US06 is a hot test like the FTP Highway, relief should be provided if the requirement is not removed. If the standard is adjusted, additional testing resources and facility capacity to conduct high-altitude testing will still be required.

**Medium-duty Vehicle (MDV) Criteria Emissions:**

- *MDV Phase-ins:* Align medium-duty criteria emission phase-ins with EPA's Tier 4 MDV default path to start no sooner than 2031MY.

- *MDV NMOG + NOx Fleet Average:* Avoid further reduction of the fleet average, in-line with the light-duty approach; especially given CARB's Advanced Clean Trucks (ACT) ZEV regulation and MDV ZEVs do not count in the CARB MDV LEV IV fleet average. In a similar fashion, we propose to maintain separate Class 2b and Class 3 fleets average standards given the differences in use / operation.

- *Engine Certification Option:* Align to EPA's engine certification option based upon MDV gross combined weight rating (GCWR) >22k lbs. to ensure 50-state paths are completely aligned and avoid restricting certification flexibility and reduce discontinuities in useful life / warranty between medium- and heavy-duty regulatory programs.

- *Portable Emissions Measurement System (PEMS):* Delay MDV diesel PEMS to 2031MY (EPA default path) and align MDV PEMs stringency per the CARB Clean Trucks Partnership Agreement. This realignment to EPA will result in the removal of PEMS requirements for gas SI

engines and moving to the EPA 2-Bin Moving Average Window (MAW) approach for diesel engines. Since CARB originally based its medium-duty LEV IV in-use requirements on CARB's heavy-duty Omnibus engine certified in-use requirements, we recommend that CARB re-align to the latest changes being pursued for Omnibus and thus remove any PEMS requirements for high GCWR Gas SI vehicles.

## ZEV Assurance Measures

Below is a summary of Stellantis' comments regarding additional changes to ZEV assurance, ZEV durability, EV charging ports and support for additional recommendations submitted in AAI's January 15, 2024 letter to CARB regarding ACC2 amendments.

- **Environmental Performance Label**: CARB, EPA and other stakeholders should collaborate to develop new requirements within the appropriate SAE committees, including information that is helpful to BEV consumers (i.e., informed by the Mobile Source Technical Review Subcommittee (MSTRS)), utilize existing tests and the associated data (avoid added test burden), and incorporate the label onto the 50-State Monroney Label to avoid separate EPA and CARB labels.

- **EV Charging and Interoperability Standards:** Work through SAE process (SAE J2953/3) to develop necessary features including appropriate conformance tests for these features. These standards should be limited to BEVs and not be required for fast-charge capable PHEVs as this could result in discouraging fast-charge capability on PHEV due to added certification workload and cost.

- **ZEV Durability**: Recommend that CARB accept compliance with EPA multi-pollutant durability requirements instead of CARB ACC2 ZEV durability requirements to avoid excessive testing with no impact to customer protection.

- **Vehicle Charging Port**: We support revising CCR 1962.3 (CARB EV charging standard) to not require rigid charge port adapters for vehicles equipped with either CCS1/J1772 or J3400 charging ports; especially given industry-wide OEM public announcements (including Stellantis) that vehicle charge ports will move to SAE J3400 type.

- **Regulatory Updates:** Adopt ACC2 revisions recommended in AAI's January 15, 2024, letter to CARB regarding EV charging regulations (do not require rigid adapters for J3400 charging port equipped vehicles), battery state of health (align to EPA battery state of health metric/display to avoid consumer confusion), virtual mileage (include a "virtual distance" mileage metric for battery warranty and durability), and EV durability range (include an adjustment factor to account for vehicle-to-vehicle and battery-to-battery variability).

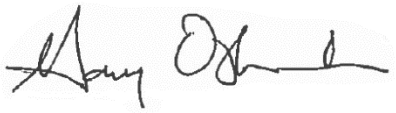
## Recommendations and Conclusion

Stellantis believes that fundamentally, CARB should align to existing federal regulations and procedures as much as possible to achieve common emission goals, minimizing overlap, unnecessary effort and distraction. In summary CARB should:

- Align to EPA GHG standards and compliance measures for 2030MY and beyond directly, or via deemed to comply mechanism.
- Disregard unrealistic backsliding assumptions and avoid development of complicated and unnecessary ICE-only regulation.
- Continue to recognize and incentivize PHEV technology and its electric operation as an important bridge to a fully electrified future.
- Avoid driving competing investments on dwindling ICE technology that distracts from EV focus.
- Incorporate fleet-level flexibilities that can be realistically leveraged in future regulation.
- Align with EPA off-cycle, A/C efficiency, and refrigerant credit flexibilities.
- Adopt criteria emissions and ZEV assurance recommendations detailed in ongoing industry feedback and submitted comments, removing conflict, streamline testing, and aligning to EPA.
- Align with EPA and minimize unnecessary test burden on MDV applications.

Stellantis appreciates CARB staff's consideration of our comments and recommendations. Stellantis stands ready to answer questions and work with CARB towards feasible amendments to the ACC2 regulation.

ON BEHALF OF STELLANTIS



Gary Oshnock

Director – Energy and Environment