

# Executive Summary

## Survey of Tier 1 Automotive Suppliers with Respect to the U.S. Greenhouse Gas Emission Standards for Light-duty Vehicles

The US National Program for greenhouse gas (GHG) emissions and fuel economy standards for light-duty vehicles (LDVs) was developed jointly by the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA), with the first phase of the Program running for model years (MYs) 2012 – 2016. In April 2020, the EPA and NHTSA released the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule to amend the previous Corporate Average Fuel Economy (CAFE) and GHG emission standards for LDVs, finalizing the current federal administration's revisions to the standards for MYs 2021 – 2026.

The SAFE Vehicles Rule weakens the previous CAFE and GHG emission standards, to increase annual fuel economy by 1.5% each year to 2026, compared with the previous CAFE standards issued in 2012, which would have increased annual fuel economy by 5% per year to 2025 (NHTSA, 2020). Conversely, international policymaking is displaying a shift towards incentivizing the uptake of zero- and low-emission vehicles. Therefore, it has become important to consider the level of ambition of the US LDV GHG emission standards, in the context of international policymaking.



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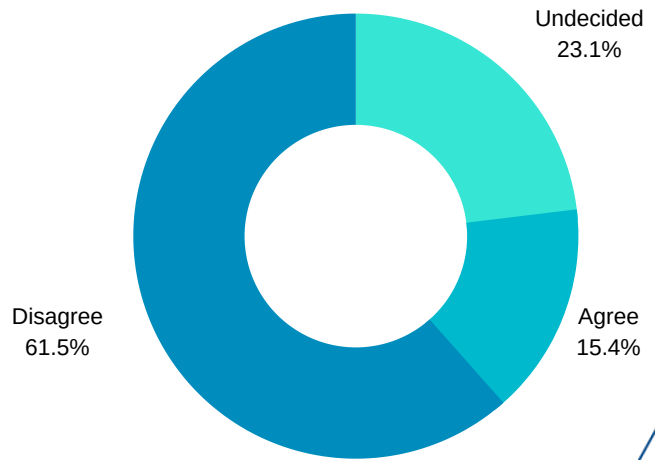
## CALSTART Survey of Tier 1 Automotive Suppliers with Respect to the U.S. Greenhouse Gas Emission Standards for Light-duty Vehicles

In light of the evolving legislative framework, Ricardo was commissioned by CALSTART to carry out a survey to examine the views of Tier 1 suppliers on the current US LDV GHG emission standards, and post-2026 ambition. This survey built upon two surveys conducted by Ricardo on behalf of CALSTART in 2018 and 2016, which assessed suppliers' views on the previous CAFE and GHG emission standards. The 2020 survey aimed to gather suppliers' views on the existing standards and future ambition, as well as the role of the standards in investment decision-making, innovation and job growth. The survey also aimed to examine perceptions relating to the key technologies required to achieve GHG emission reductions and fuel economy improvements in line with legislative measures in the LDV segment.

Due to technological advancements and a growing focus on zero-emission vehicles (ZEVs) in the sector, the survey aimed, in particular, to gather responses from suppliers which produce components for electric vehicles (EVs). The survey remained open for seven weeks, and upon closure on September 11, 2020, 21 complete responses and 5 partial responses were received, equating to a response rate of 6% (of 377 total contacts). Of the respondents, 20 out of 26 work for suppliers which produce some components for EVs, such as batteries, motors, thermal management systems and drivetrains.

The survey findings indicate a high level of consensus amongst suppliers in regard to the vast majority of topic areas explored. With regard to existing standards and future ambition, the majority of respondents disagree with the current federal administration's policy decision to adopt the SAFE Vehicles Rule.

### Majority of Suppliers Surveyed Disagree with Rollback of National Clean Car Standards





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In addition to this, an overwhelming majority of respondents (23 out of 25) indicated that standards should be made more ambitious post-2026, to further drive innovation in the sector and to help the US industry to remain competitive.

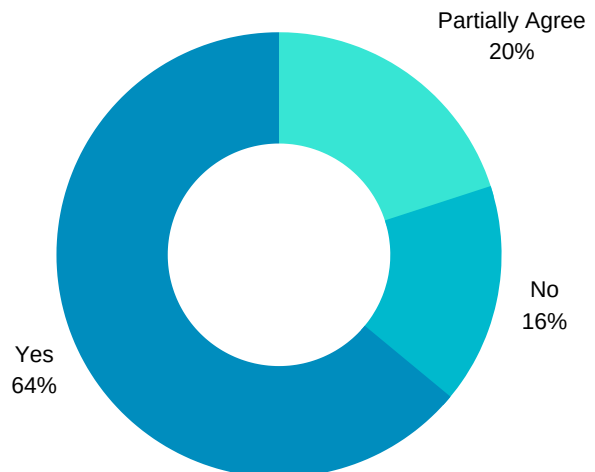
#### Clean Car Standards Should Be More Ambitious Post-2025

# 92%

**A supermajority of suppliers said that clean car standards should be made more ambitious post-2026, to further drive innovation in the sector and to help the U.S. supplier industry remain competitive in an increasingly efficient global marketplace.**

The vast majority of respondents (23 out of 26) also agreed that it is important to start planning and setting targets now for beyond 2026, to account for the long lead time required for technological development, and to speed up the transition towards low-carbon technology uptake to support climate change response. There was also consensus regarding state-level standards, with the majority of respondents (18 out of 21), stating that they would support, or partially support, a state-led process to set more stringent LDV standards. However, a number of respondents indicated that a single federal-level standard would be preferable, from a planning perspective, and to help avoid confusion.

#### 86% of Suppliers Support or Partially Support States Setting Their Own Stronger Clean Car Standards



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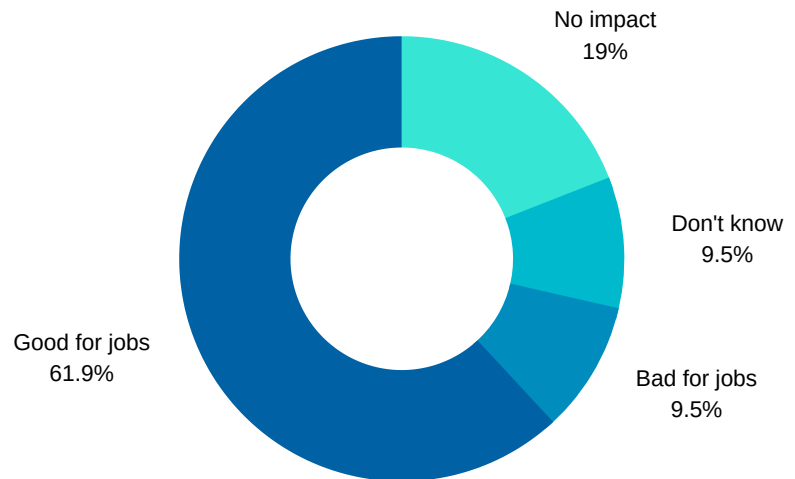
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With regard to a 100% ZEV sales target for 2035-40, the responses displayed a more mixed level of support. A small majority of respondents (14 out of 26) indicated that they would support the implementation of the target, to allow the US to align with global requirements, and to remain competitive. In addition, the majority of respondents (16 out of 26) stated that achieving 100% ZEV sales by 2035-40 for the LDV market is viable, indicating the existing technical feasibility. However, of those that did not consider the target to be viable, the lack of political feasibility was referenced.

The majority of respondents (17 out of 21) indicated that more ambitious US LDV vehicle efficiency standards tend to encourage more innovation and investment in the US. Therefore, there seems to be a general consensus that more ambitious standards, and an increased shift towards the uptake of vehicle efficiency technologies, will benefit the sector in terms of competitiveness, and in terms of enhancing innovation and investment.

There is also a general consensus that policies which encourage the uptake of ZEVs, and hence increase innovation in the automotive sector, would encourage job growth in the US. However, the consensus amongst respondents is that this is more likely to happen at the industry (15 out of 21) or company level (13 out of 21), rather than across the US economy as a whole.

### Strong Zero Emission Vehicle Standards Are Good for Jobs



**62% of respondents stated that U.S. policies that encourage or force the uptake of ZEVs also encourage job growth at their companies in the U.S.**

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For prior, existing and future standards, battery electric vehicles (BEVs) were viewed as the most important technology required to meet these legislative targets. Alongside BEVs, other EV types, including plug-in hybrid electric vehicles (PHEVs) and fuel cell electric vehicles (FCEVs), were also perceived as key, particularly in a post-2026 world. This indicates an increasing recognition of the importance of electrification in achieving the targets set out in LDV GHG emission standards, relative to the 2018 and 2016 survey results.

This report captures the key findings from the 2020 survey, as well as providing a comparison to the 2018 and 2016 survey findings, which will be used by CALSTART to inform their strategy for encouraging the adoption of clean LDVs.

**"The U.S. should aim to be in the vanguard of the zero emission technologies that will be required worldwide to enable countries and regions to move towards net zero emissions."**

*- Anonymous supplier*

