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ASAP ACEEE NRDC UCS Tire Efficiency Standards Comments

Additional submitted attachment is included below.

Appliance Standards Awareness Project
American Council for an Energy-Efficient Economy
National Resources Defense Council
Union of Concerned Scientists

June 16, 2026

California Energy Commission
Docket Unit
715 P Street, MS-4
Sacramento, CA 95814

RE: Docket No. 26-TIRE-01: Replacement Tire Efficiency Program

Dear Commission Staff:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), American Council for an Energy-Efficient Economy (ACEEE), Natural Resources Defense Council (NRDC), and the Union of Concerned Scientists (UCS) on the California Energy Commission (CEC) notice of proposed action (NOPA) for the replacement tire efficiency program. We appreciate the opportunity to provide input to the Commission.

We strongly support the Commission's NOPA for replacement tires, which would fulfill a 2003 state legislative mandate to ensure replacement tires are as efficient as original equipment (OE) tires equipped on new vehicles. The proposed rolling resistance standards represent a big win for consumers: CEC staff estimate they would save California drivers an average of \$179 to \$246 in fuel costs over the lifetime of a tire set; by 2035, annual statewide fuel savings would reach nearly \$1 billion.¹ The NOPA would also provide significant environmental and public health benefits. In 2035, the proposed efficiency standards would reduce annual greenhouse gas emissions by 2 million metric tons—equivalent to removing 400,000 gasoline vehicles from California roads—and annual nitrogen oxides (NO_x) and fine particulate (PM_{2.5}) emissions by about 430 and 10 tons, respectively.²

The Commission has been diligent in the development of this rulemaking, demonstrating genuine responsiveness to industry feedback by refining the proposed standards in direct response to stakeholder input. The underlying analysis is equally rigorous, drawing on a large and representative tire test sample to ensure the standards are both robust and practical. Critically, the proposed standards would not negatively impact safety—a point reinforced by inclusion of wet grip standards—nor compromise tire longevity. In addition, a proposed rolling resistance rating system and public database would also improve replacement tire market transparency. We therefore urge the Commission to promptly finalize this rulemaking.

The proposed standards are highly cost-effective for California drivers. The Commission is proposing two-tiered efficiency standards: Phase 1 (2028 compliance date) would eliminate the least efficient tires from the market, while Phase 2 (2031 compliance date) would bring replacement tires up to the efficiency level of typical OE tires. As shown in Table 1, CEC staff estimate that the Phase 2 efficiency

¹ pp. 6-7. Staff Report. efiling.energy.ca.gov/GetDocument.aspx?tn=269612&DocumentContentId=106704

² p. 7. *Ibid.*

standards would save drivers of lighter vehicles (passenger cars and SUVs) an average of \$179 in fuel costs over the lifetime of a tire set, while drivers of heavier vehicles (trucks and vans) would save \$246. These savings far outweigh the estimated incremental costs of \$26 and \$39 for a set of four tires for lighter and heavier vehicles, respectively.³ Even when accounting for these increased upfront costs, the life-cycle cost (LCC) savings are significant for both vehicle categories (\$153 and \$207, respectively). Furthermore, the additional upfront cost would be paid back in just 7 to 8 months on average⁴—a period significantly shorter than the four-year average lifespan of a replacement tire set. Notably, these substantial cost savings are calculated using a December 2023 estimate of the average gasoline price in California (\$4.60 per gallon), which is much lower than current prices.

Table 1. Phase 2 cost-effectiveness for gasoline vehicles for a set of four tires.

	Lighter Vehicles	Heavier Vehicles
Lifetime fuel savings (gallons)	39	54
Lifetime fuel savings*	\$179	\$246
Incremental cost	\$26	\$39
Net LCC savings	\$153	\$207
Simple payback period	7 months	8 months
Assumed Lifetime	4 years	4 years

*Assumes \$4.60/gallon of gasoline.

CEC’s incremental cost estimates are well-grounded in federal rulemaking analysis. The estimated incremental cost for the Phase 2 standards of \$6.50 per tire for “base tires”, the most common product class, is based on federal rulemaking analysis from the Department of Transportation (DOT) and the Environmental Protection Agency (EPA); this foundational federal analysis has underpinned feasible, real-world fuel economy improvements for decades and was developed through a rigorous stakeholder process that included direct consultation with the largest U.S. tire manufacturers.⁵ CEC’s incremental cost estimate is corroborated by a recent ASAP report for the Coalition for Clean Air (CCA) and the Consumer Federation of America (CFA), which applied a different version of the same federal methodology and estimated the same incremental cost of \$26 per set.⁶ Additionally, DOT and EPA projected a steep learning curve for rolling resistance improvements, anticipating that costs would continue to decline as the technology to improve efficiency gained widespread adoption.

The Commission’s methodology, grounded in federal rulemaking analysis, is more robust than analyzing current market prices, which is not an appropriate way to estimate the costs associated with a new

³ Incremental costs for lighter and heavier vehicles correspond to the base tire and light truck tire product classes, respectively.

⁴ This equates to approximately 7,000 miles driven for lighter vehicles and 7,500 miles for heavier vehicles.

⁵ pp. 3-209 and 3-210. U.S. EPA and U.S. DOT. August 2012. Draft Joint Technical Support Document: Proposed Rulemaking for 2017–2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards. www.nhtsa.gov/sites/nhtsa.gov/files/joint_final_tsd.pdf

⁶ appliance-standards.org/document/burning-rubber-and-cash-how-inefficient-replacement-tires-are-costing-californians

standard. As noted in the Staff Report, there is not a strong relationship between tire selling price and rolling resistance; instead, other market factors (e.g., brand, warranty, sidewall ratings) appear to be more significant drivers of retail costs.⁷ That said, efficient options are available at lower price points; for example, there are tires in CEC’s dataset meeting Phase 2 requirements below \$100 per tire, with some options under \$80 per tire.

ENSO, a tire manufacturer, has publicly stated that the technologies required to meet lower rolling-resistance thresholds are mature, widely available, and already in mass production globally; these technologies can be incorporated at low marginal cost without fundamentally increasing the unit cost of a tire.⁸ They further note that they already sell high-performance, low-rolling-resistance tires at prices competitive with, and often below, comparable products from established brands—underscoring that if a small independent company can deliver low rolling resistance tires at an affordable price, larger manufacturers can do the same. Further, the proposed 2031 compliance date provides ample lead time for manufacturers to redesign existing products to meet the Phase 2 efficiency standards, including providing lower-cost efficient options.

The proposed standards would not negatively impact safety. As part of the rulemaking, the consulting firm Smithers tested wet traction for 179 tire models using the wet grip index, a key safety metric measuring a tire’s ability to stop on wet pavement. Figure 1 (left) illustrates that there is no apparent correlation between wet grip index (where a higher score indicates better performance) and rolling resistance.⁹ In fact, the average wet grip of base tires that meet the proposed Phase 2 standards (1.26) is higher than the average for tires that do not meet the Phase 2 requirements (1.20).

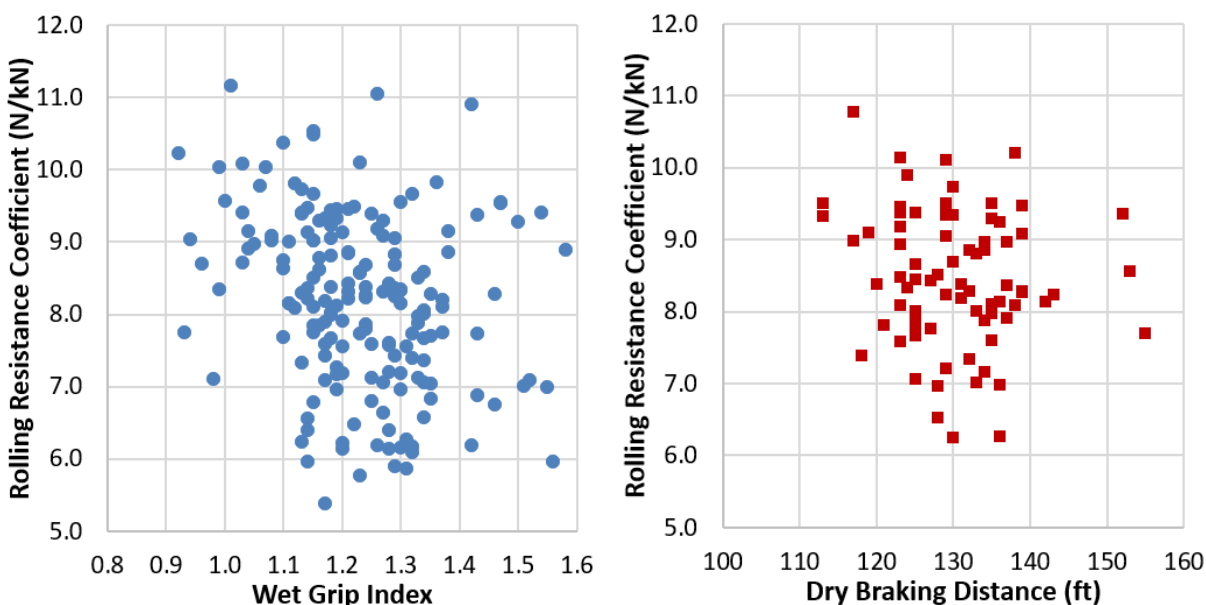


Figure 1: left) tire rolling resistance vs. wet grip; right) tire rolling resistance vs. dry braking distance.

⁷ p. 59, Staff Report.

⁸ p. 1. efiling.energy.ca.gov/GetDocument.aspx?tn=270470&DocumentContentId=107715

⁹ Plotted rolling resistance values represent the average of three test results per tire.

In addition to Smithers' wet grip data, the Commission used Discount Tire's Treadwell database to examine how rolling resistance correlates with both dry traction and worn wet braking performance. For the subset of tire models tested by Smithers included in the Treadwell database (89 models), there is no apparent correlation between tire efficiency and braking performance in dry conditions, shown in Figure 1 (right), or worn wet conditions.¹⁰ Taken together, this data indicates that the proposed rolling resistance standards would not negatively impact safety.

These findings are unsurprising due to advancements in tread compound technology, specifically the widespread use of silica.¹¹ Historically, tire manufacturers faced a practical engineering trade-off whereby reducing rolling resistance to improve fuel economy could compromise wet traction. However, modern tire compounds often utilize more silica, which can improve both rolling resistance and other performance characteristics including safety.¹² As a result, manufacturers can now meet efficiency targets without sacrificing traction.

To ensure wet traction is maintained alongside efficiency gains, the Commission is also proposing a minimum wet grip standard of 1.0. Notably, all 8 of the tires in the Smithers dataset that do not meet the proposed wet grip requirement are relatively inefficient; none of these would meet the proposed Phase 2 efficiency requirements. Consequently, the proposed standards would phase out underperforming, less safe tires by driving the market toward tires that excel in both efficiency and wet traction.

The proposed standards would not compromise tire lifetime. As part of the rulemaking, Smithers compiled treadwear data for the tires in the rolling resistance dataset. The results, shown in Figure 2, indicate no apparent correlation between a replacement tire's rolling resistance and its reported Uniform Tire Quality Grading (UTQG) treadwear rating. While official treadwear ratings can be both conservative and inconsistent between manufacturers,¹³ analysis of real-world data further supports the idea that improved rolling resistance does not compromise longevity. Our analysis of the Treadwell mileage estimates available in the docket,¹⁴ which reflect both testing and consumer service history, shows that base tires meeting the proposed Phase 2 requirements have an average estimated lifetime of about 52,000 miles—virtually on par with the 54,000-mile average of less efficient models. Real-world testing data from Consumer Reports further reinforces that efficient replacement tires last just as long as less efficient models. Of the 51 all-season tire models tested by Consumer Reports, tires with rolling resistance scores of 4 or 5 (out of 5) had average tested tread lifetimes that were about 3,000 miles higher than those of less efficient tires with rolling resistance scores of 3 or lower.¹⁵

¹⁰ pp. 49-51, Staff Report.

¹¹ www.continental-tires.com/about-us/sustainability/activities-and-initiatives/product-use/tire-related-use-phase-emissions/rolling-resistance/

¹² na.nokiantyres.com/tips/blogs/silica-helps-tires-perform/

¹³ www.tirerack.com/upgrade-garage/what-are-the-uniform-tire-quality-grade-utqg-standards

¹⁴ efiling.energy.ca.gov/GetDocument.aspx?tn=269613&DocumentContentId=106709

¹⁵ www.consumerreports.org/cars/tires/c200973/

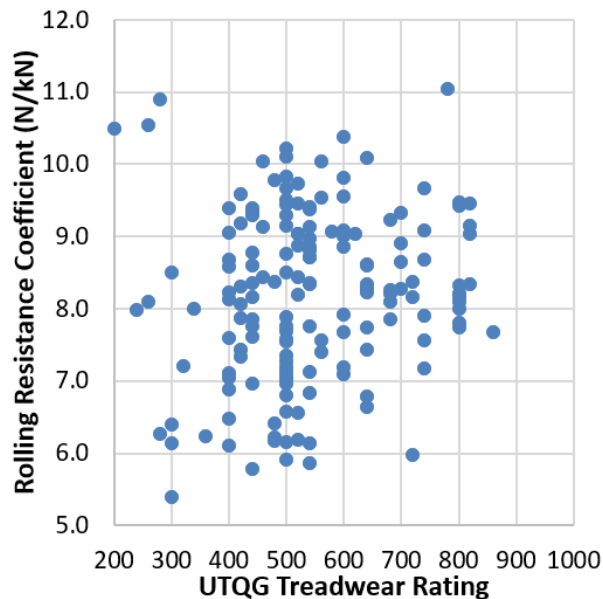


Figure 2: Tire rolling resistance vs. UTQG treadwear ratings.

Furthermore, while no tire can officially display a UTQG rating above 980 due to the federal sidewall labeling rules, this labeling cap likely does not reflect the full range of treadwear performance that tires on the market today offer. Manufacturers are permitted to underreport their UTQG treadwear ratings, and CEC staff note that raw testing results of longer-wearing tires exceed their sidewall values.¹⁶ The Commission’s proposal to establish separate, less stringent efficiency standards for “long-life” and “ultra-long life” classes acknowledges this reality and will help ensure that existing extended-wear tire characteristics remain in the market.

Finally, tire lifetime is a key driver of consumer purchasing decisions, giving manufacturers a strong market incentive to produce efficient tires while preserving the longevity that consumers expect. Leading manufacturers have already responded to this market incentive—Continental discusses how their tire compounds reduce rolling resistance without compromising longevity,¹⁷ Michelin discusses new tires delivering longer lifetimes and improved fuel efficiency versus leading competitors,¹⁸ and Goodyear discusses a new tire designed to deliver both improved rolling resistance and long-lasting tread life.¹⁹

The proposed standards would reduce harmful air pollution. Inefficient replacement tires increase fuel consumption, causing needless additional emissions of NO_x and PM_{2.5} that harm public health and the environment. These pollutants damage the human respiratory system and exacerbate conditions like asthma, particularly in vulnerable populations such as children and the elderly. The Commission

¹⁶ p. 29. Staff Report.

¹⁷ www.continental-tires.com/about-us/sustainability/activities-and-initiatives/product-use/tire-related-use-phase-emissions/rolling-resistance/

¹⁸ michelinmedia.com/eprimacyallseason/

¹⁹ news.goodyear.com/goodyear-introduces-goodyear-electricdrive-2-with-elevated-performance-capability-and-sustainable-materials

estimates that the proposed standards would reduce annual NO_x and PM_{2.5} emissions by about 430 and 10 tons, respectively.²⁰

The Commission’s proposal reflects a balanced, data-driven approach that incorporates significant industry feedback. Throughout the rulemaking process, CEC staff has proactively addressed technical concerns to ensure the standards are both robust and practical. This is evidenced by the inclusion of a wet-grip requirement—a key manufacturer request²¹—and standard levels less stringent than initially proposed.²² CEC's analysis was also guided by a large and representative test sample, drawing on data from 179 tires tested as part of this rulemaking and supplemented by the Treadwell database. Further, the creation of distinct product classes for low-load, light-truck, and long-life tires ensures that the diverse utility of products on the market today is protected.

Tire manufacturer claims confirm that low-rolling-resistance technology is both well-established and central to their business strategies. Goodyear’s 2025 Climate Transition Plan treats reducing rolling resistance as a core decarbonization strategy, targeting a 40% reduction across its global consumer tire portfolio from a 2005 baseline.²³ Bridgestone cites an analysis finding that about 90% of CO₂ emissions from tires occur during the use phase and highlights its investments in fuel-efficient tire technologies to address this impact.²⁴ In its 2025 Caring for the Future Report, Yokohama notes that reducing rolling resistance has been a key strategy for cutting passenger vehicle fuel consumption and CO₂ emissions since the mid-1990s.²⁵ Michelin remains committed to improving energy efficiency, targeting a 10% reduction in tire rolling resistance by 2030 compared to 2020 benchmarks²⁶—a commitment it has backed in practice, submitting written testimony in support of tire efficiency standards legislation in Rhode Island.²⁷ Continental stated in a recent press release that reducing rolling resistance is a key development goal, as minimizing the energy a vehicle needs to move allows it to travel further—saving customers money and benefiting the environment.²⁸ Taken together, these statements demonstrate that tire efficiency standards broadly align with existing industry priorities and proven technical capabilities.

The proposed rating system and public database will enhance market transparency. Currently, data on tire performance attributes including efficiency and wet grip can be difficult for both the public and stakeholders to access. The proposed efficiency rating system and centralized database would help establish a reliable record of tire performance data. This framework would support more informed

²⁰ p. 7. Staff Report

²¹ USTMA and TRAC Comments. efiling.energy.ca.gov/GetDocument.aspx?tn=249416&DocumentContentId=84020

²² CEC initially proposed levels of 8.3 N/kN (Phase 1) and 6.3 N/kN (Phase 2) with compliance dates of 2026 and 2028, respectively.

²³ pp. 8-9, 14. corporate.goodyear.com/content/dam/goodyear-corp/documents/responsibility/goodyear-2025-climate-transition-plan.pdf

²⁴ www.bridgestone.com/responsibilities/environment/reduce_co2/fuel_efficiency/

²⁵ pp. 34, 57.

www.y-yokohama.com/global/sustainability/information/backnumber/pdf/2025/sustainability2025_a4_en.pdf

²⁶ p. 192, 2024 Universal Registration Document. www.michelin.com/en/publications/regulated-information?year=2025

²⁷ [rilegislature.gov/Special/comdoc/House%20State%20Government%20and%20Elections%202026/03-03-2026--H7990--Francesca_Mosteller%20\(Michelin\)--SGE.pdf](https://rilegislature.gov/Special/comdoc/House%20State%20Government%20and%20Elections%202026/03-03-2026--H7990--Francesca_Mosteller%20(Michelin)--SGE.pdf)

²⁸ www.continental.com/en/press/press-releases/20251211-rolling-resistance/

market comparisons, ensure that efficiency ratings are verifiable, and provide a valuable resource for tracking future market trends.

The proposed standards would provide significant benefits to electric vehicle (EV) owners. By ensuring EV replacement tires are efficient, the proposed standards would deliver significant cost savings for EV drivers while also improving the overall EV ownership experience. A July 2025 report, prepared by ASAP for CCA and CFA, found that EV drivers in California would see cost savings from tire efficiency standards similar to those for gasoline vehicle drivers.²⁹ Furthermore, because inefficient replacement tires can reduce an EV's range by 10-15 miles or more, the proposed standards offer a critical performance benefit by preserving driving range.

The proposed standards would help improve electrical grid resilience. Improved EV efficiency from tire efficiency standards would reduce total EV charging load on the electrical grid, an impact that will grow over time as EV market share increases. By reducing overall electricity demand, particularly during peak periods, the proposed standards would lessen the strain on critical infrastructure, reducing the risk of outages and blackouts. Further, lowering demand can defer or eliminate the need for costly new power plants and transmission upgrades, helping to moderate long-term electricity rates for Californians.

We support the Commission's proposed definition of "winter-type snow tires". The proposed definition³⁰ is used to exempt dedicated winter tires from the replacement tire efficiency standards while ensuring that "all-weather" tires—all-season products that carry the Three-Peak Mountain Snowflake (3PMSF) symbol—would be subject to the proposed efficiency standards. Because all-weather tires utilize advanced rubber compounds and tread designs to achieve 3PMSF certification while maintaining year-round performance, they do not face the same seasonal constraints or rolling resistance trade-offs as dedicated winter tires. All-weather tires represent a rapidly growing market segment, so maintaining their inclusion is critical to ensuring the estimated savings are fully realized.

We encourage the Commission to ensure the proposed exemptions are well-defined. The CEC has proposed exemptions for several tire categories, including winter, deep-tread, and limited-production tires. While we understand the rationale for excluding these tire types from the proposed standards, it is important to maintain robust exemption definitions that help prevent potential loopholes. Furthermore, active market monitoring following standards implementation will be important to ensure that certain market segments do not shift into these exempted categories.

Thank you for considering these comments.

Sincerely,

²⁹ appliance-standards.org/document/burning-rubber-and-cash-how-inefficient-replacement-tires-are-costing-californians

³⁰ "Winter-type snow tire" means a tire that has all the characteristics of subsections (A), (B), and (C) of this definition. A tire subject to the UTQG standards is not a "winter-type snow tire." (A) Is limited in its acceptable use to winter periods by virtue of its design and construction. (B) Attains a traction index equal to or greater than 112, compared to the ASTM F2493 standard reference test tire when using the snow traction test on the medium pack snow surface as described in ASTM F1805-20. (C) Is equipped with studs or is marked with an Alpine Symbol, specified in the Federal Motor Vehicle Safety Standards at 49 Code of Federal Regulations part 571.139 S5.5(i) (2023), on at least one sidewall.



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