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Replacement Tire Efficiency Program

Ken Rider – Senior Advisor to Chair Hochschild, Technical Lead for Tire Efficiency
June 10, 2026

Housekeeping



1. Hearing is being recorded on Zoom.
2. Presentation will be available at the proceeding webpage and docket. Hearing event page: <https://www.energy.ca.gov/events>.
3. Due to time constraints, we cannot respond to substantive questions live during today's hearing. If you have questions or wish to engage directly with staff, please email TIRES@energy.ca.gov.

Agenda



1. Background
2. Proposed Regulation
3. Key Findings
4. Next Steps
5. Public Comment

Background



Introduction to Tire Efficiency

Tires on new vehicles are significantly more efficient than replacement tires



- As a tire rolls, it flexes against the road — deforming and rebounding. That process generates heat using some of the energy that would otherwise keep the vehicle in motion. That energy loss is caused by rolling resistance.
- Lower rolling resistance tires commonly come standard on new vehicles, since they help automakers achieve better fuel economy and range.
- While low rolling resistance tires are also available as replacement tires, the average replacement tire is less efficient, which reduces fuel economy and range.
- This means that CA drivers will pay nearly \$1B more per year in fuel costs – often without knowing why, or how to fix it.

California Law Directs CEC to Act

Statute requires CEC to adopt standards, database, and rating system



Under Pub. Resources Code, § 25772, CEC is required to adopt:

... a tire energy efficiency program of statewide applicability for replacement tires, designed to **ensure that replacement tires sold in the state are at least as energy efficient, on average, as tires sold in the state as original equipment** on new passenger cars and light-duty trucks.

Under Pub. Resources Code, §§ 25771 and 25773, the CEC's program must include:

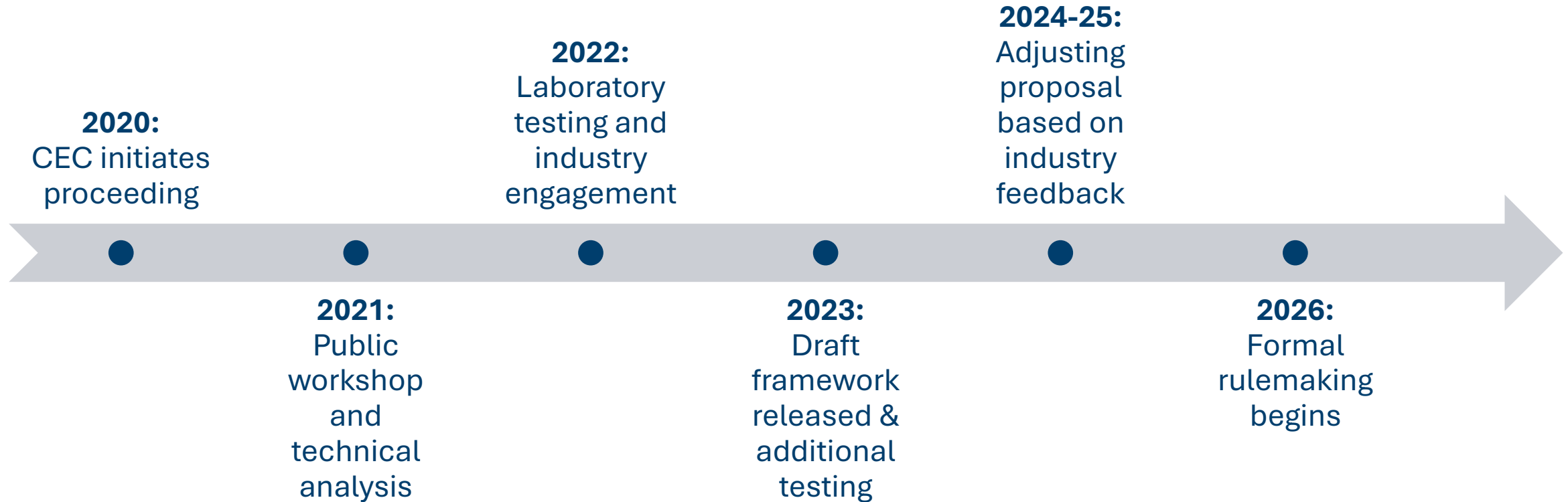
- Minimum performance standards
- Database and rating system

The minimum performance standards must:

- Be technically feasible and cost effective
- Not adversely affect tire safety
- Not adversely affect the average tire life of replacement tires
- Not adversely affect state efforts to manage scrap tires

Timeline of Proceeding

Proposal builds on prior staff proposal and industry engagement



CEC's Commitment

Towards an inclusive process and a well-crafted proposal



Over the last 5 years, CEC has endeavored to facilitate an inclusive, data-driven stakeholder process. **We are grateful to every manufacturer, retailer, trade association, advocate, and consumer that has provided feedback on this proposal.**

The CEC is committed to advancing a proposed regulation that:

- 1 Achieves strong consumer fuel savings with minimal additional costs
- 2 Ensures a robust, diverse supply of replacement tires that meet consumer expectations on safety, treadwear, and other key purchasing criteria
- 3 Provides a level-playing field for manufacturers and retailers in California

Proposed Regulation





Annual Benefits in 2035

Lower costs, lower energy demand, and cleaner air



Saves drivers **\$1B**
(gasoline & electricity)

*Equivalent to \$75 per year
per CA household*



Averts **2 million** metric
tons of CO₂e, **426 tons** of
NO_x, and **10 tons** of PM_{2.5}

*Equivalent to taking 400K
vehicles off the road each year*



Reduces electricity
demand by **0.9 TWh**

*Equivalent to annual
production of one smaller CA
natural gas plant*



Reduces gasoline demand
by **141M** gallons

*Equivalent to 1-2 months of
one CA refinery's annual
gasoline production*



Individual Driver Benefits

Estimate for light-duty gasoline cars

Phase 1: 2028 to 2031

Savings	Costs	Net Savings
\$85 per set	Per set: \$6 Per tire: \$1.50	\$79

Payback period of ~3-4 months

Phase 2: 2031 and beyond

Savings	Costs	Net Savings
\$179 per set	Per set: \$26 Per tire: \$6.50	\$153

Payback period of ~7 months

- Average driver of a light-duty gasoline vehicle will save about **\$179** over the life of their tires.
- These figures were calculated with gasoline prices of \$4.60 per gallon. At the elevated gasoline prices of mid-2026, the savings could be up to **25% higher** than estimated here.

Regulation Scope

Scope has been carefully refined based on industry feedback



In-Scope

- ✓ Replacement tires and limited production tires if:
 - Manufactured on or after Jan 1, 2028
 - Sold or offered for sale in California
 - Designed to replace a tire on a passenger car or light-duty truck

Out-of-Scope

- ✗ Retreaded or used
- ✗ Deep tread
- ✗ Winter-type
- ✗ Space-saver
- ✗ Temporary use spare
- ✗ Nominal rim diameter of 12" or less
- ✗ Motorcycle
- ✗ Manufactured specifically for use on an off-road motorized recreational vehicle
- ✗ Load index ≥ 122 , or where the load index is not marked and is rated for a maximum load that exceeds 1450 kg.
- ✗ Unable to maintain sustained speeds greater than 50 mph
- ✗ Sold for use on an emergency vehicle

Regulation Requirements

Clear, verifiable requirements



To be sold in California, a replacement tire must:

✓ Be certified using required test methods and listed on CEC database.

✓ Comply with maximum rolling resistance standard.

✓ Comply with minimum wet grip standard.

Regulation Requirements

Implementation of the regulation



Manufacturers

- Design tires that meet standards.
- Test their products.
- List products in the CEC database by providing data.

Retailers

- Verify products they sell are on the list or out of the regulation's scope.

CEC

- Maintains the tire database and its integrity.
- Keeps regulations updated.
- Enforces the standards.

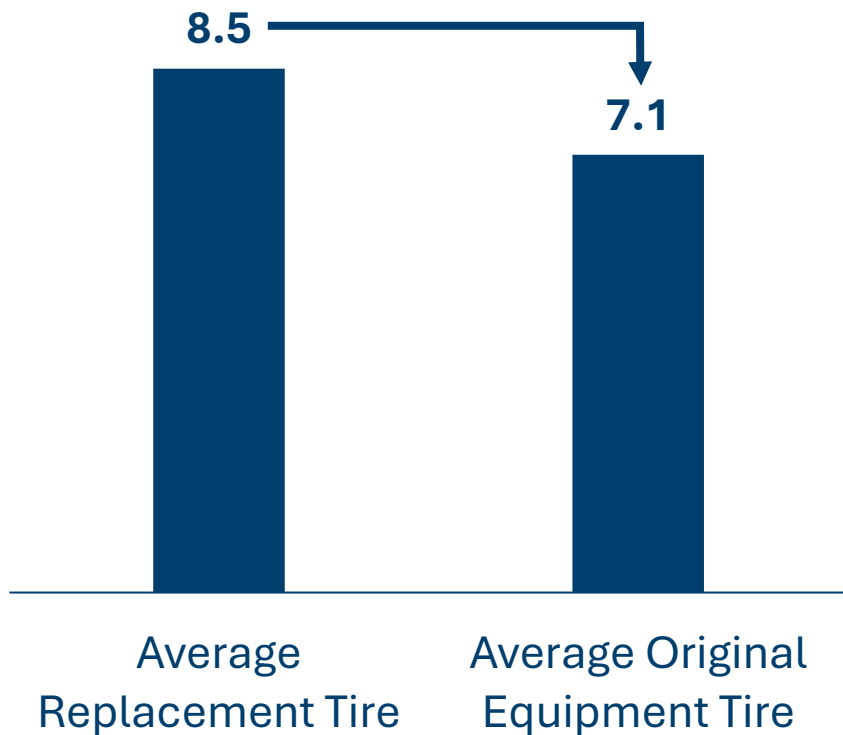
Rationale for Minimum Performance Standards

Closing the gap between replacement and original equipment (OE) tires



Market Gap Identified

RRC (N/kN, lower = more efficient)



- Statute directs CEC to “ensure that replacement tires sold in the state are at least as energy efficient, on average, as tires sold in the state as original equipment on new passenger cars and light-duty trucks.”
- CEC commissioned independent laboratory testing by Smithers for replacement and OE tires for the most popular vehicles in California
- Goal is not to require that replacement tires mimic every aspect of OE tires; rather, OE tires simply provide the default efficiency target for replacement tires

Rolling Resistance Standards

Multi-phase approach with adders for specific product categories



Maximum Rolling Resistance Coefficients (RRC) in N/kN

Tire Category	Phase 1: January 1, 2028	Phase 2: January 1, 2031
Default	9.0	7.1
Low-load-index tires	9.5	7.6
Light-truck tires	9.0	7.8
Long-life tires	9.4	7.8
Ultra-long-life and ultra-high-performance tires	9.8	8.5

Lower RRC means a more energy-efficient tire.

Wet Grip Standard

Removing the least-safe tires from California roads



Minimum Relative Wet Grip Breaking Performance Index Standard





Tire Category	Phase 1: January 1, 2028	Phase 2: January 1, 2031
All tires subject to RRC standards	1.0	1.0

Wet grip is a tire's ability to brake on a wet road surface, expressed as a relative wet grip braking performance index. A higher wet grip index means better wet braking performance.

Consumer Information System

Aligned with existing rating system; no signage required for retailers



Fuel Efficiency Class	RRC Range (N/kN)
	≤ 6.5
	6.6-7.7
	7.8-9.0
	9.1-10.5
[No Rating]	≥ 10.6

- Statute requires the CEC to develop a rating system for the efficiency of replacement tires
- CEC's recommended information system is displayed on the left and is aligned with the European Union rating system
- Information would be available on CEC website; retailers are not required to post signage with information

Enforcement

CEC committed to vigorous enforcement to ensure a level playing field



Enforcement Regime

- Manufacturer certification to CEC database of approved tires under penalty of perjury, verified through:
 - Independent laboratory testing
 - Mandatory provision of test reports
- Retailers may only sell compliant tires listed on CEC database, verified through physical and online market surveillance
- When noncompliance is identified, CEC pursues an enforcement strategy:
- When noncompliance identified found, CEC pursues an escalating enforcement strategy:
 - Notices sent to retailers
 - Formal CEC determination of violation
 - Legal action against retailer

CEC Enforcement Expertise

- CEC has a dedicated enforcement team that regulates over a dozen categories of products for energy and water efficiency
- Current staffing for enforcement is 14 full-time staff, with additional cross-functional support
- In a typical year, enforcement team:
 - Physically inspects retailers
 - Tests products for compliance
 - Answers manufacturer / retailer questions
 - Concludes 30+ enforcement cases
 - Audits 5-10 testing laboratories



Special Circumstances

Even if a tire is in-scope, it may be exempted from performance standards under special circumstances

A tire may still be sold in California if the tire is:

- **Limited production:** Tires produced or imported into US at fewer than 15,000 units per year. Requires annual certification with CEC.
- **Exempted via petition:** If no compliant tire is available in sufficient quantities for a specific vehicle fitment, a manufacturer may petition CEC for an exemption. Approved exempt tires are listed in the CEC database of approved tires and may still be sold.

Key Findings



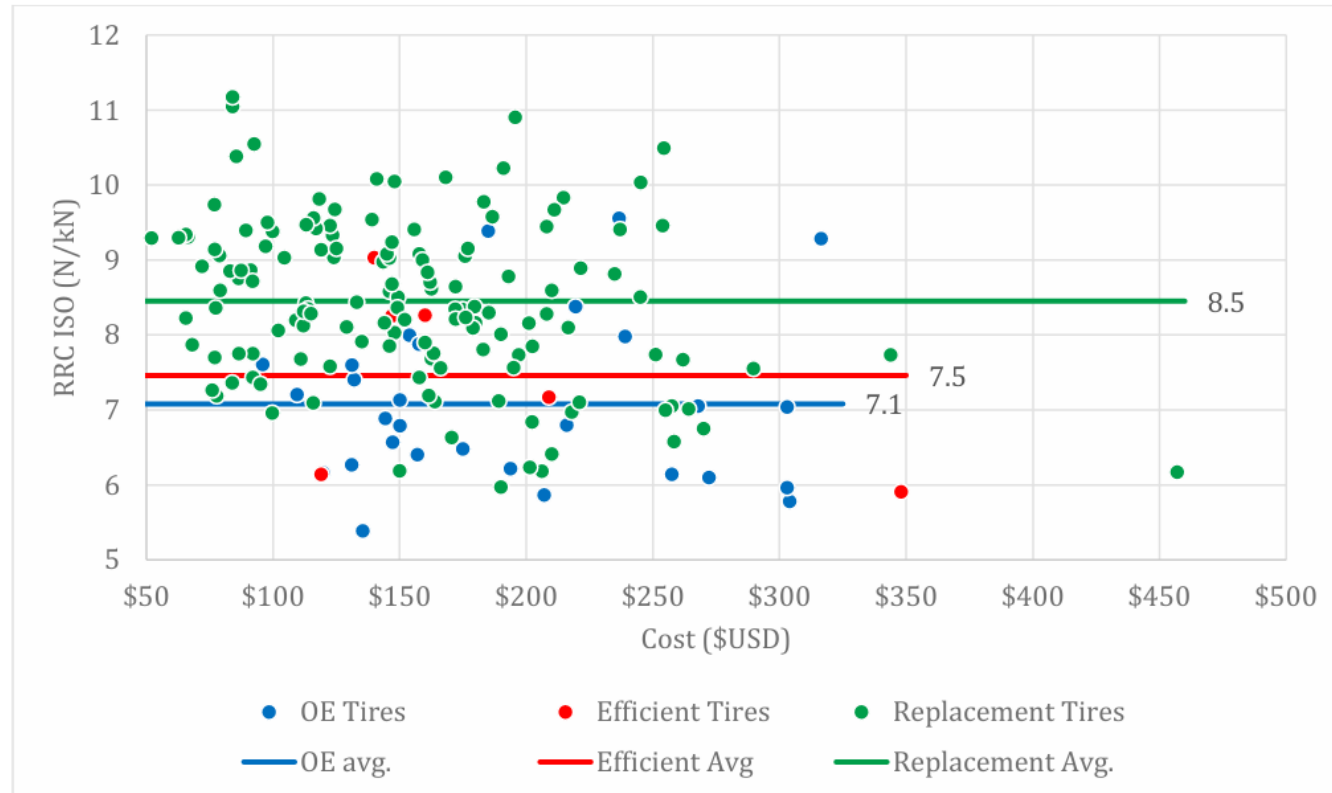


Standards Are Technically Feasible

More efficient technology is already widely-used in the California market



Smithers Testing: RRC (N/kN) vs. Cost

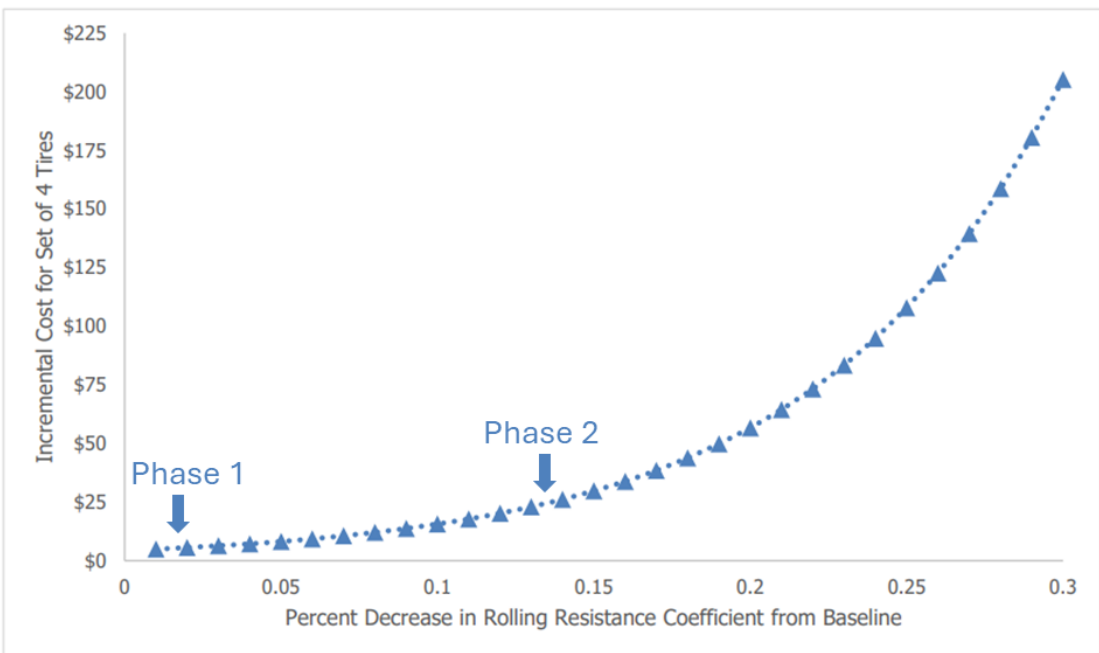


Minimal Cost Impacts for Consumers

More efficient technology has little impact on cost of tires

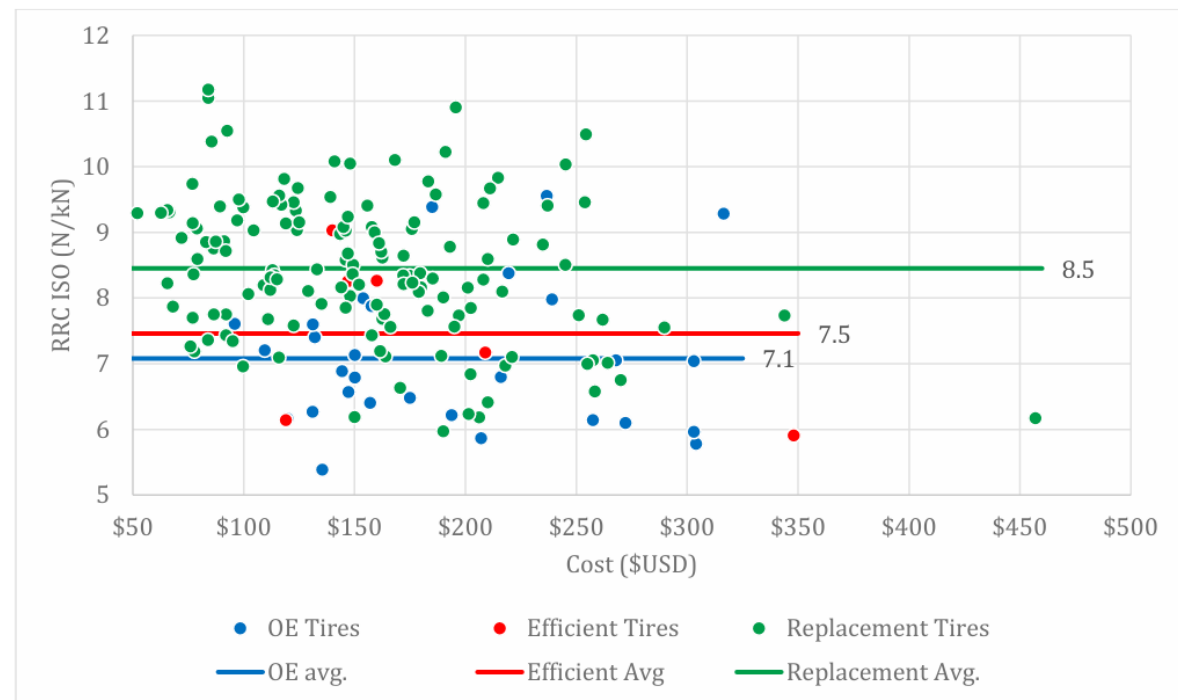
US EPA / NHTSA

Federal cost estimates suggest cost of compliance of \$1.50 per tire in Phase 1 and \$6.50 per tire in Phase 2



Smithers Testing

Testing confirms no significant relationship between efficiency and cost; many tires already comply or are near compliance.



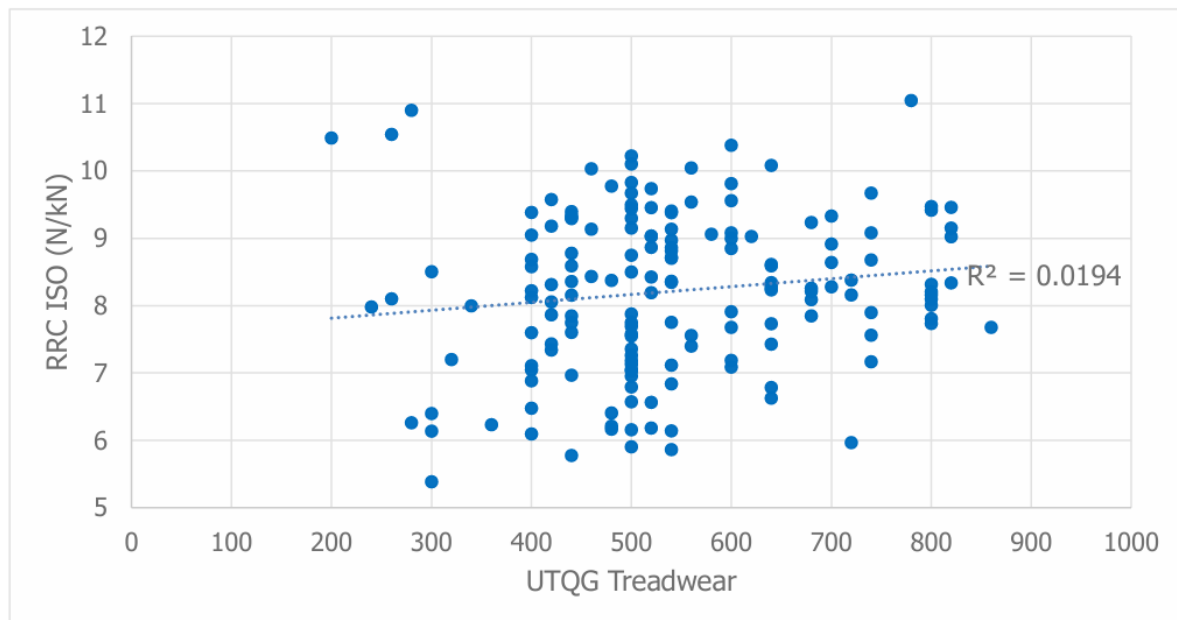


No Required Tradeoff With Tire Lifespan

Confirmed through real-life mileage and laboratory testing

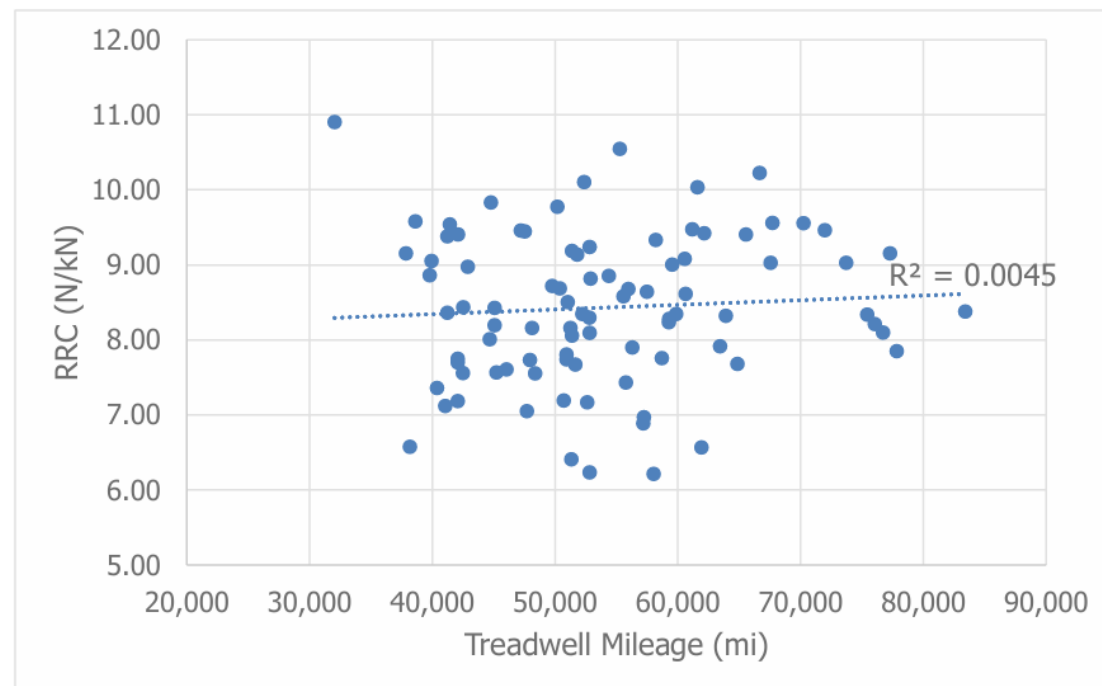
Federally Required Treadwear Disclosures (UTQG)

Data confirms no significant relationship between efficiency and UTQG treadwear (higher = better)



Discount Tire Treadwell™

Real-life mileage data confirms no significant relationship between efficiency and Treadwell™ mileage (higher = better)





No Required Tradeoff With Tire Lifespan

Standards are designed to incentivize longer-life tires

- Data indicates no required tradeoff between efficiency and treadwear / lifespan
- As additional measure, proposed regulation adds additional incentive for long-lasting tires:

	Long Life	Ultra-Long Life
Phase 1 RRC Adder	0.4	0.7
Phase 2 RRC Adder	0.8	1.4

- As a result:
 - **Increasing treadwear / lifespan** of tires will provide a compliance benefit
 - **Decreasing treadwear / lifespan** of tires will make compliance more difficult

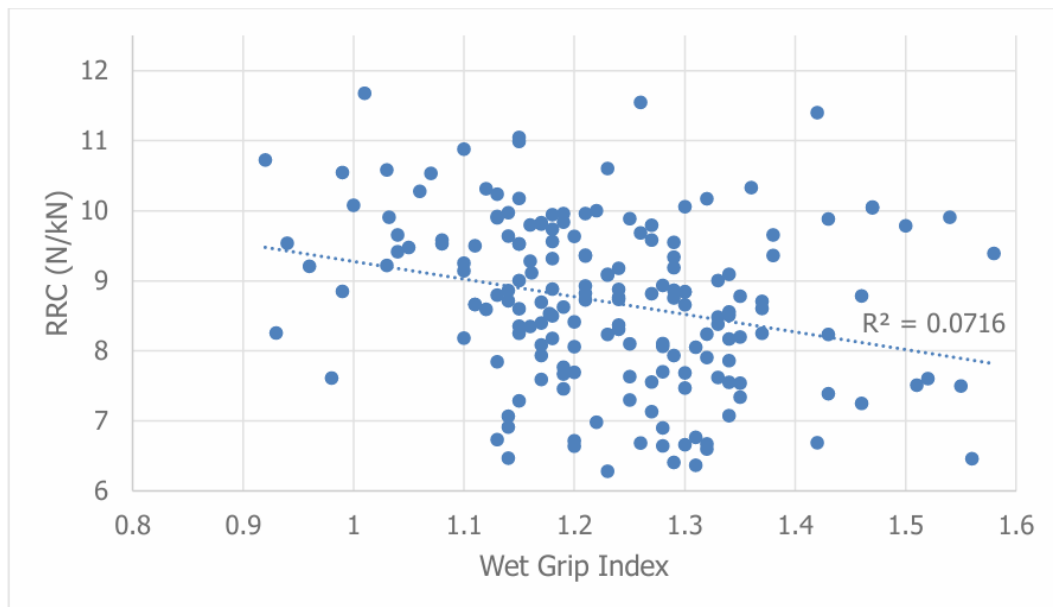


No Adverse Impacts on Safety

Confirmed through laboratory testing of both new and worn tires

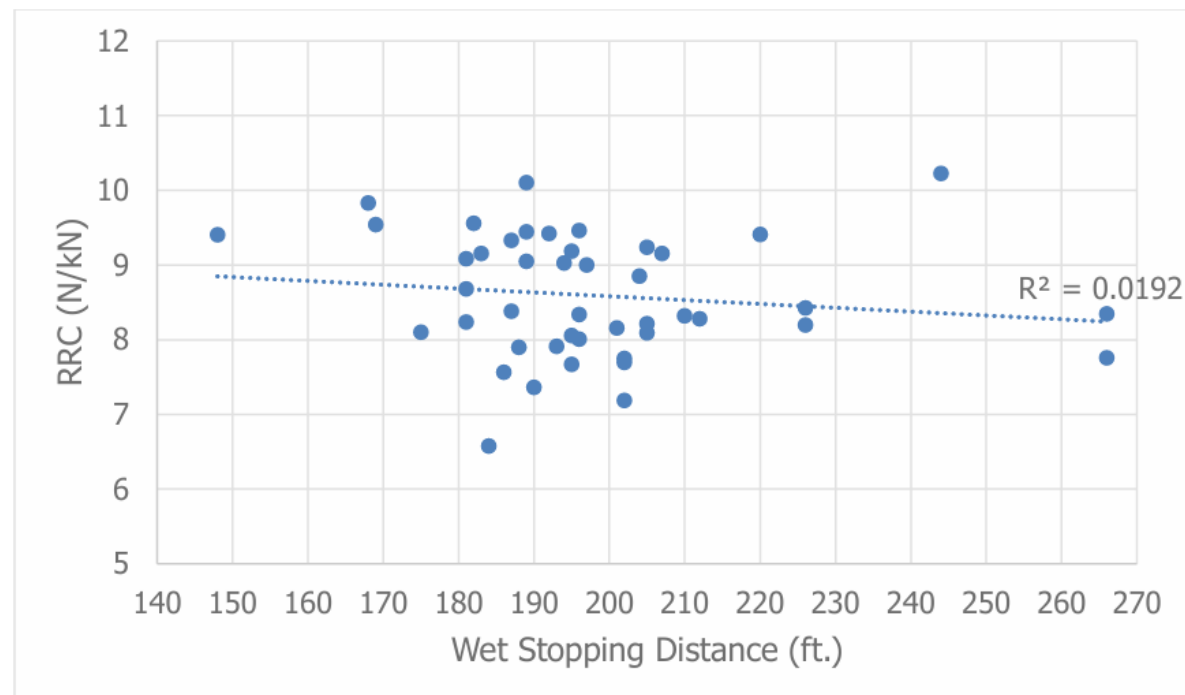
Smithers Laboratory Testing (New Tires)

Testing confirms no significant relationship between efficiency and wet grip index of new tires (higher = better)



Discount Tire Treadwell™ (Worn Tires)

Independent testing confirms no significant relationship between efficiency and the worn wet stopping distance (shorter = better)





No Adverse Impacts on Safety

Standards are designed to incentivize safer tires

- Data indicates no adverse safety impacts of higher efficiency tires
- As an additional measure, proposed regulation sets a minimum wet grip measure of 1.0
- As an additional measure, proposed regulation relaxes efficiency requirements for ultra-high-performance tires, which are tires with exceptional wet grip performance.

Ultra High Performance	
Phase 1 RRC Adder	0.8
Phase 2 RRC Adder	1.4

- As a result of these measures:
 - **Increasing wet grip** will provide a compliance benefit
 - **Decreasing wet grip** will make compliance more difficult

A Note on EU Comparisons

Proposal has been developed exclusively in context of California market



European Market

- Commonly shift between summer/winter tires
- Tires optimized for seasonal uses



U.S. / California Market

- Dominated by all-season tires for range of weather
- Tires optimized to remain on vehicle year-round

All season



Proposal exclusively developed using data from U.S. / California market

Next Steps





Next Steps

Public comments inform potential edits



- Staff will analyze the written comments submitted within the comment period (extended to June 16th at 5pm Pacific), as well as during today's hearing.
- Staff may choose to amend the proposed regulations after consideration. If so, it will post amended regulatory language and issue a notice of a new written comment period (typically 15 days in length) on those new changes.
- When staff decides to consider the regulations for adoption at a Business Meeting, there will be another oral comment opportunity.

Public Comments



Zoom Participants

- Use “raise hand” feature to make comments
- Use the “Q&A” feature to type your comments
- The chat feature has been disabled

Telephone Participants

- Dial *9 to raise your hand
- Dial *6 to mute / unmute you phone line

Time will be limited to **3 minutes** per commentor. Limit of one commentor per organization. Please state your name and affiliation for the record.

Due to time constraints, we cannot respond to substantive questions live during today’s hearing. If you have questions or wish to engage directly with staff, we encourage you to email TIRES@energy.ca.gov.