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INITIAL STATEMENT OF REASONS

Replacement Tire Efficiency Program Rulemaking
Title 20, California Code of Regulations
Adoption of Article 1, sections 3301–3310 in Division 2, Chapter 14

Docket No. 26-TIRE-01
Notice Published on April 24, 2026

INTRODUCTION

The California Energy Commission (CEC) proposes to adopt the Replacement Tire Efficiency Program Rulemaking in the California Code of Regulations (CCR), Title 20, Chapter 14, Article 1, Sections 3301 through 3310 to implement the Replacement Tire Efficiency Program pursuant to Public Resources Code sections 25770, 25771, 25772, and 25773.

The Replacement Tire Efficiency Program proposes new regulations to increase the energy efficiency of replacement tires for passenger cars and light-duty trucks. The proposed regulations set energy performance standards for replacement tires sold in California and reporting requirements for tire manufacturers and brand name owners. Energy-efficient tires reduce passenger vehicle emissions while providing fuel savings for consumers.

PROBLEM STATEMENT

Assembly Bill (AB) 844 (Nation, Chapter 645, Statutes of 2003, codified at Public Resources Code sections 25770, 25771, 25772, and 25773) directs the CEC to adopt a replacement tire efficiency program designed to ensure that replacement tires for passenger cars and light-duty trucks sold in California are, on average, at least as energy-efficient as the original equipment (OE) tires. Replacement tires are those purchased by California consumers drivers to replace existing tires as opposed to the tires sold with new vehicles, which are referred to as OE tires. Tire efficiency is a key component of vehicle fuel efficiency. Energy-efficient tires have a “low rolling resistance,” meaning they can roll farther when given the same energy input as a tire with higher rolling resistance.

Testing commissioned by the CEC shows that, on average, OE tires are more efficient than replacement tires. The lack of replacement tire efficiency standards increases driving costs for all vehicles, regardless of fuel.

Pursuant to AB 844, the Replacement Tire Efficiency Program aims to ensure that replacement tires for passenger cars and light-duty trucks sold in California are at least as energy-efficient as OE tires on new vehicles. Such efficiency standards must also be

technically feasible and cost-effective and shall not adversely affect tire safety, tire life, or efforts to manage scrap tires.

BENEFITS

The proposed regulation and estimated fuel savings from increased tire efficiency will benefit California residents and the state's environment by reducing carbon dioxide equivalent emissions by 8.6 million metric tons between 2028 and 2035. The estimated economic benefit is approximately $4 billion in cumulative fuel cost savings to California drivers between 2028 and 2035, or $3 billion in net benefits over the same period, as defined as incremental fuel cost savings minus incremental costs.

These fuel savings are significant for individual drivers. For instance, a driver of a gasoline passenger vehicle with a set of higher efficiency tires would save $85 in Phase 1 and $179 in Phase 2. These fuel savings would accrue over the four-year lifespan of the tires.

Net fuel cost benefits are expected to increase household discretionary spending and result in the second-order creation of jobs and improved quality of life. The social benefits of abated carbon dioxide emissions include the health benefits associated with reduced air pollution. These benefits are described in more detail in Attachment A: *Standardized Regulatory Impact Assessment.*

STATEMENT OF SPECIFIC PURPOSE AND NECESSITY

SECTION 3301. SCOPE

Section: 3301(a)
Specific Purpose: The specific purpose of subsection 3301(a) identifies which types of entities are subject to the regulations implementing Public Resources Code sections 25770 through 25773. The regulations apply to tire retailers, tire manufacturers, and tire brand name owners of any replacement tire or limited production tire that is manufactured on or after January 1, 2028, and is sold or offered for sale in California, except as wholesale for final retail sale outside the state.
Necessity: Subsection 3301(a) is necessary to identify the scope of this regulation. This scope is necessary to implement Public Resources Code sections 25770(d) and 25772, which creates a tire energy efficiency program of statewide applicability for replacement tires. The scope is intended to be inclusive of the entities selling replacement tires in California, unless otherwise stated in the regulations. Tire manufacturers, brand name owners, and retailers are likely to sell tires directly to consumers. These types of entities are also within the scope of the federal tire fuel efficiency consumer information program, (49 C.F.R., § 575.106(a)), although the definitions of those entities are not necessarily the same in the federal program and other aspects of the state and federal programs vary. Manufacturers are also responsible for the design, efficiency, and testing of tires. This scope only applies to tires sold or offered for sale in California to a consumer and exempts wholesale tires destined for final retail outside of the state because the CEC is focused on the sale of

tires to the California consumer. An implementation date of January 1, 2028, will allow time for regulated entities to adapt to the regulations. The scope is modeled after the federal tire fuel efficiency consumer information program, (49 C.F.R., § 575.106(a)), which applies to the same types of entities, although the definitions of those entities and scope of the CEC's proposed regulations are not necessarily coterminous with the federal program.

SECTION 3302. DEFINITIONS

Section: 3302(a)(1)
Specific Purpose: "Align" means to allow direct interlaboratory comparisons of measured results by following the alignment procedure set forth in section 3303(a)(2)(F) of this article.
Necessity: It is necessary to define "align" for the CEC to adopt the test procedures set forth in section 3303, as required by Public Resources Code section 25771(a). Measuring rolling resistance requires precise instrumentation, calibration, test conditions, and equipment alignment for repeatable results. Specifically, to establish the comparison of testing standards, results, and relationships across tire testing laboratories. Once aligned, equipment and test variants can be compared. The CEC seeks to align common values for test results under these regulations with the European Union (EU) correlated rolling resistance coefficient (RRC). The tire industry is familiar with dealing with RRC correlated to the EU alignment.

Section: 3302(a)(2)
Specific Purpose: "Alignment tire" means a tire that is tested for the purpose of performing the alignment procedure pursuant to section 3303(a)(2)(F) of this article. The purpose is to allow alignment to obtain an RRC value aligned with EU values.
Necessity: It is necessary to define "alignment tire" as part of the CEC's adoption of test procedures set forth in section 3303 and required by Public Resources Code section 25771(a). Specifically, this definition is necessary to direct the regulated community to the procedure for selecting an alignment tire. Alignment is used to determine the correlation equation and the European Union (EU) correlated rolling resistance coefficient. The definition is based on the definition of "alignment tyre" in Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020, and has a similar meaning read in the context of section 3303(a)(2)(F) of this article.

Section: 3302(a)(3)
Specific Purpose: "Alignment tire set" means a set of five or more alignment tires used for the alignment of one single testing machine.
Necessity: It is necessary to define an "alignment tire set" for consistency with the EU alignment procedure in order to correlate rolling resistance coefficient test results under these regulations. The threshold of five or more tires is used in this definition because it is adopted from the definition of "alignment tyre set" in Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020, which also serves as the basis for the alignment procedures in section 3303(a)(2)(F).

Section: 3302(a)(4)
Specific Purpose: “Assigned RRC value” is the same as the “assigned value” defined in Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020, which states: “a theoretical value of the rolling resistance coefficient (RRC) of one alignment tyre as measured by a theoretical laboratory which is representative of the network of reference laboratories that is used for the laboratory alignment procedure.” The "assigned RRC value” is the value a reference laboratory needs to align to the network of reference laboratories. The purpose is to ensure that the RRC of an alignment tire under the CEC’s program is the same as the value for an alignment tire under the EU program.
Necessity: It is necessary to define “assigned RRC value” because the CEC needs to set a common standard for alignment with the EU in order to align common values for test results under these regulations with the European Union (EU) correlated rolling resistance coefficient. The definition of assigned RRC value is taken verbatim from Regulation (EU) 2020/740.

Section: 3302(a)(5)
Specific Purpose: “ASTM” means ASTM International.
Necessity: It is necessary to define “ASTM” as part of the directive of Public Resources Code sections 25571 through 25772 to regulate replacement tires, which do not include a winter-type snow tire under Public Resources Code section 25770(d)(2). It is necessary for the proposed regulations to identify a winter-type snow tire, and ASTM International provides the international standard test method for single wheel driving traction in a straight line on snow- and ice-covered surfaces, and the standard reference test tire associated with this test method. Additionally, this definition is necessary for the adoption of minimum energy efficiency standards for replacement tires that do not adversely affect tire safety under Public Resources Code section 25773(a)(1)(B). Specifically, ASTM International provides the standard reference test tire associated with measuring for relative wet grip performance.

Section: 3302(a)(6)
Specific Purpose: “Basic model” means all units of a given type of replacement tire (or class thereof) that are manufactured by one manufacturer and that share the same dimensions, rubber compounds, tread patterns, and energy consumption characteristics, or all units of a given limited production tire.
Necessity: It is necessary to define “basic model” as a general term for the basic unit of regulated products. This definition helps clarify when a manufacturer or brand name owner must report tires of the same model name (or class thereof) differently. Tires with the same model name may be available in a multitude of sizes which may affect the energy efficiency of that tire. This definition requires the data for a tire model to be submitted to the database separately when there is a difference in dimensions, rubber compounds, tread patterns, and energy efficiency from others with the same model name.

Section: 3302(a)(7)
Specific Purpose: “Brand name owner” or “tire brand name owner” means a person or entity, other than a tire manufacturer, who owns or has the right to control the brand name of a tire or who licenses another to purchase tires from a tire manufacturer bearing the licensor’s brand name.
Necessity: It is necessary to define “brand name owner” or “tire brand name owner,” because both the brand name owner and manufacturer are required reporting entities under this regulation. This definition adds clarity. This definition is based on, but not exactly the same, as the federal program under 49 C.F.R., § 575.106. These regulations intend to treat a tire brand name owner the same as a manufacturer in the case of tires marketed under a brand name different from the manufacturer name.

Section: 3302(a)(8)
Specific Purpose: “Candidate laboratory” means a laboratory participating in the laboratory alignment procedure set forth in section 3303(a)(2)(F) that is not a reference laboratory. A compliance verification laboratory is referred to as a candidate laboratory when participating in the laboratory alignment procedure set forth in section 3303(a)(2)(F). But a candidate laboratory is not necessarily a compliance verification laboratory, unless it meets the requirements set forth in section 3303(a)(2). This concept is adopted from the definition of “candidate laboratory” in Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020, to help align the CEC’s alignment procedure with the EU’s.
Necessity: It is necessary to define “candidate laboratory,” because a candidate laboratory must meet all the laboratory requirements of the alignment procedure to be considered a “compliance verification laboratory.” The rolling resistance coefficient obtained by the machine of a candidate laboratory shall be aligned to a reference laboratory. Here, it serves as the basis for the alignment procedures in section 3303(a)(2)(F).

Section: 3302(a)(9)
Specific Purpose: “Commission” means the State Energy Resources Conservation and Development Commission.
Necessity: It is necessary to define “commission” because it is the state agency responsible for promulgating replacement tire efficiency regulations under Public Resources Code sections 25770, 25771, 25772, and 25773.

Section: 3302(a)(10)
Specific Purpose: “Compliance verification laboratory” means a laboratory that may be presumed to provide an accurate EU correlated rolling resistance coefficient report for a tire because the laboratory complies with the requirements set forth in section 3303(a)(2), including without limitation that it has aligned its machines through a reference laboratory. A compliance verification laboratory is referred to as a candidate laboratory when participating in the laboratory alignment procedure set forth in section 3303(a)(2)(F).
Necessity: It is necessary to identify and define “compliance verification laboratory,” which is a laboratory that can provide precise rolling resistance coefficient values

correlated to the values of the network laboratories based on the alignment formula specific to that compliance verification laboratory. The CEC intended to create this new term rather than alter the definition of “candidate laboratory” further from Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020.

Section: 3302(a)(11)
Specific Purpose: “Database” means a centralized, digital repository maintained by the commission for the purposes of receiving and making available information reported by entities regulated within the scope of this Article.
Necessity: It is necessary to define “database” because Public Resources Code section 25771(a) requires the CEC to develop and adopt a database of the energy efficiency of a representative sample of replacement tires sold in the state. Manufacturers and brand name owners will submit information to the database specific to their tires under sections 3304 and 3305. Because the CEC may change or update this repository later, the name of the database may be updated but the purpose would remain the same.

Section: 3302(a)(12)
Specific Purpose: “Declared EU correlated rolling resistance coefficient” means the EU correlated rolling resistance coefficient for a basic model of a replacement tire, reported by the tire manufacturer or brand name owner to the database pursuant to section 3305(b)(6)(C), which shall be no lower than the EU correlated rolling resistance coefficient for the tire when tested pursuant to section 3303(a).
Necessity: It is necessary to define “declared EU correlated rolling resistance coefficient” because Public Resources Code section 25771(c) requires that the CEC develop and adopt requirements for tire manufacturers to report the energy efficiency of replacement tires sold in the state. This subsection is necessary because this coefficient represents the energy efficiency of a basic model of a replacement tire that tire manufacturers will report to the CEC. Furthermore, section 3307 of the proposed regulations provides for an energy efficiency rating system designed to enable consumers to make more informed decisions when purchasing tires for their vehicles, which implements Public Resources Code 25771(b). As part of this rating system, leaf values are assigned to replacement tires based on the declared EU correlated rolling resistance. Therefore, this definition is also necessary for the CEC to implement the rating system in section 3307.

Section: 3302(a)(13)
Specific Purpose: “Declared tire energy efficiency rating” means the energy efficiency rating, or “leaf value” or “leaves” listed in the database.
Necessity: It is necessary to define “declared energy efficiency rating,” which is a required reporting field under subsections 3305(b)(6)(D) and (e)(4), pursuant to Public Resources Code section 25771(c). The tire manufacturer or brand name owner must declare the tire energy efficiency rating of each replacement tire basic model as a single number, which corresponds to its leaf value according to the tire energy efficiency rating system. Requiring tire manufacturers and brand name owners to declare a tire energy efficiency rating is necessary for the CEC to develop and adopt a rating system for the

energy efficiency of replacement tires that will enable consumers to make more informed decisions when purchasing tires under Public Resources Code section 25771(b).

Section: 3302(a)(14)
Specific Purpose: “Deep tread tire” means a tire with a tread depth of 18/32 inch or greater.
Necessity: It is necessary to define “deep tread tire” because Public Resources Code sections 25771 through 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(2) states that a "replacement tire” does not include deep tread tires. Therefore, this definition is necessary to exempt deep tread tires from the proposed regulations. Other National Highway Traffic Safety Administration, Department of Transportation regulations exclude tires with a tread depth of 18/32 inch or greater. (See 49 C.F.R., § 571.139.)

Section: 3302(a)(15)
Specific Purpose: “DOT” is an acronym for United States Department of Transportation.
Necessity: It is necessary to define “DOT” because identifying characteristics of tires is necessary information for the CEC to develop the database, rating system, and tire manufacturer reporting requirement pursuant to Public Resources Code section 25771. This includes the DOT Tire Identification Number pursuant to Section 3305(e)(2)(C), which is a labeling requirement for tire manufacturers that must be present on the side of every tire.

Section: 3302(a)(16)
Specific Purpose: “Energy performance standard” means the requirements under subsections (a), (b), (c), (d), and (f) of section 3306.
Necessity: It is necessary to define “energy performance standard” because Public Resources Code section 25773(a)(1) directs the CEC to develop and adopt minimum energy efficiency standards for replacement tires. Therefore, it is necessary to define “energy performance standard” for each tire according to the performance specifications of that tire. The energy performance standards set different minimum performance values when a tire is expected to meet other characteristics such as long-life, high-performance, low-load, or light-truck.

Section: 3302(a)(17)
Specific Purpose: “EU” is an abbreviation for the European Union.
Necessity: It is necessary to define the “EU” because the values reported to the CEC for rolling resistance coefficient and ratings shall be correlated to the assigned RRC value that is determined by Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020.

Section: 3302(a)(18)
Specific Purpose: “EU correlated rolling resistance coefficient” means the rolling resistance coefficient value of a tire that is equal to the value obtained using ISO 28580:2018 performed at a reference laboratory or compliance verification laboratory,

which aligns the testing equipment and allows the results to be correlated to values used for the EU program.
Necessity: It is necessary to define "EU correlated rolling resistance coefficient," because reference laboratories and compliance verification laboratories are required to follow an EU alignment procedure—Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020—in order to obtain an assigned RRC value, and section 3305(e)(5) requires tire manufacturers or brand name owners to report to the CEC the EU correlated rolling resistance coefficient for each basic model by correlating the rolling resistance coefficient obtained by following ISO 28580:2018 with the assigned RRC value. This correlation requirement is based upon feedback by representatives of the tire manufacturing industry to simplify compliance, as tire manufacturers already report rolling resistance coefficient values to the EU and would prefer not to have different testing procedures and values for different market regions.

Section: 3302(a)(19)
Specific Purpose: "Executive Director" means the Executive Director of the CEC or the Executive Director's designee.
Necessity: It is necessary to define "Executive Director" because this reference is used extensively throughout the regulation for the submission of tire data, requests for exemption, and the determination of compliance. When a determination is made by the Executive Director, it can also mean a determination made by the person designated to act in place of the Executive Director.

Section: 3302(a)(20)
Specific Purpose: "ISO" is an acronym for International Organization for Standardization.
Necessity: It is necessary to define "ISO" because ISO standards ISO 28580:2018, ISO 23671:2021, ISO 10191:2021, and ISO 4000-1:2024 are incorporated by reference into the regulation. ISO standards provide international alignment for multiple tire testing procedures, and the regulation requires tire testing to be performed according to these standards. Therefore, this definition is necessary for the CEC to adopt test procedures pursuant to Public Resources Code section 25771(a).

Section: 3302(a)(21)
Specific Purpose: "Laboratory" means a body that performs one or more of the following activities: testing, calibration, or sampling associated with testing or calibration.
Necessity: It is necessary to define "laboratory" as the regulation includes requirements or alignments to reference laboratories, candidate laboratories, and compliance verification laboratories.

Section: 3302(a)(22)
Specific Purpose: "Light truck replacement tire" means a replacement tire that carries a "LT" designation by the manufacturer on the tire sidewall and is intended for use on light-duty trucks, sport utility vehicles, and vans.
Necessity: It is necessary to define "light truck replacement tire" because tires designated as light truck (LT) replace tires designed for light-duty trucks, which are expressly within the scope of the program pursuant to Public Resources Code sections

25770(d) and 25772. Section 25770(d) requires that tires designed for light-duty trucks be subject to the tire efficiency regulations. Section 25772 requires the CEC to implement a tire energy efficiency program 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 CEC's regulations, light truck replacement tires are eligible for a different energy performance standard than that of basic models for passenger cars.

Section: 3302(a)(23)
Specific Purpose: "Light-duty truck" means any motor vehicle other than a motorcycle, trailer, or passenger car that has a design capacity not exceeding 10,000 pounds gross vehicle weight rating.
Necessity: It is necessary to define "light-duty truck" to establish the scope of the regulation. The definition of "replacement tire" used in Public Resources Code section 25770(d) requires that tires designed for light-duty trucks be subject to the tire efficiency regulations. And section 25772 requires the CEC to implement a tire energy efficiency program 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. The CEC intends the definition to be broad to eliminate loopholes between light-duty trucks and passenger cars. The weight rating of 10,000 pounds is intended to align with the definition of passenger car tire under the federal tire fuel efficiency consumer information program (49 C.F.R., § 575.106.) NHTSA uses 10,000 pounds GVWR as a threshold in several Federal Motor Vehicle Safety Standards (FMVSS) and related regulations, such as 49 C.F.R., sections 571.110 and 571.138.

Section: 3302(a)(24)
Specific Purpose: "Limited production tire" means all units of a tire that are manufactured by one manufacturer that share the same dimensions, rubber compounds, tread patterns, and energy consumption characteristics, calendar year of manufacture, and manufacture plant, that would qualify as a replacement tire but for the fact that the total production in the United States or importation into the United States by the tire's manufacturer, or in the case of a tire marketed under a brand name, the total annual domestic purchase and purchase for importation into the United States by the tire's brand name owner, will be less than 15,000 tires during the current calendar year and has been less than 15,000 during every prior calendar year.
Necessity: It is necessary to define "limited production tire," because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate the fuel efficiency of replacement tires, and Public Resources Code section 25770(d)(1) states that a "replacement tire" does not include a tire or group of tires for which the volume produced or imported is less than 15,000 annually. Therefore, this definition is necessary to exempt limited production tires from the minimum performance standards for replacement tires under sections 3306 and 3308 pursuant to Public Resources Code section 25773. This definition is based on, but is not identical to, federal regulation 49 C.F.R., § 575.104(c)(2).

Section: 3302(a)(25)
Specific Purpose: “Load index” means a number associated with the weight a tire can carry when operated in conformity with requirements governing utilization specified by the manufacturer.
Necessity: It is necessary to define “load index” as the load index value is a primary tire attribute and is a required reporting field under section 3305(e)(2)(E) of the regulation. The load index shall be reported in accordance with Table 2– Equivalence between load index and tyre load carrying capacity, in ISO 4000-1:2024.

Section: 3302(a)(26)
Specific Purpose: “Long-life” means a tire with a UTQG wear test score of at least 1,000 but less than 1,400, as evaluated according to the treadwear rating conditions and grading procedure in 49 Code of Federal Regulation part 575.104(e) (2023).
Necessity: It is necessary to define “long-life,” as this term is used to define eligibility for a specific tire performance category. Federal regulation 49 C.F.R., § 575.104, which governs the Uniform Tire Quality Grading Standards (UTQG), requires tire manufacturers to assign a treadwear grade as a comparative rating, but it does not classify tires into categories like “long life” or “short life,” but a treadwear rating of 1,000–1,400 would be considered high and suggest a long-lasting tire .

Section: 3302(a)(27)
Specific Purpose: “Low Load index” means a tire with a load index of 91 or less.
Necessity: It is necessary to define “low load index,” as this term is used to define eligibility for a specific tire performance category. Tires designated as low load are eligible for a different energy performance standard than that of other basic models. Because low load index tires are typically equipped with smaller, more fuel-efficient vehicles and they tend to be smaller tires than tires with a higher load index. These characteristics are different and therefore necessitate a different energy performance standard.

Section: 3302(a)(28)
Specific Purpose: “Machine” means every tire rolling resistance testing spindle in one specific measurement method; for example, two spindles acting on the same drum shall not be considered as one machine.
Necessity: It is necessary to define “machine” because this is a term used in the procedure for determining the EU correlated rolling resistance coefficient pursuant to section 3303(a).

Section: 3302(a)(29)
Specific Purpose: “Manufacturer” or “tire manufacturer” means a person or entity manufacturing or assembling replacement tires or limited production tires for resale or importing replacement tires or limited production tires for resale. This term includes any parent corporation, any subsidiary or affiliate, and any subsidiary or affiliate of a parent corporation of a person or entity manufacturing or assembling replacement tires or limited production tires for resale or importing replacement tires or limited production tires for resale.

Necessity: It is necessary to define “manufacturer” to establish the scope of the regulation. Both the brand name owner and manufacturer are entities required to report to tire data to the CEC database, under this regulation. This definition is based on, but not necessarily the same entities, as the federal program under 49 C.F.R., § 575.106.

Section: 3302(a)(30)
Specific Purpose: “Material change” means a change to a tire of such a type or magnitude as to raise the reasonable expectation of a change in the declared tire energy efficiency rating listed in the database.
Necessity: It is necessary to define “material change,” since a material change in a tire model could cause a change in the rolling resistance value of that tire. This would require the submission of a separate statement to report those modifications or efficiency rating, as established in section 3305(g)(1) of this regulation, to ensure that the CEC complies with the directive in Public Resources Code 25771(a) to develop and adopt a database of the energy efficiency of a representative sample of replacement tires sold in the state.

Section: 3302(a)(31)
Specific Purpose: “Measured rolling resistance coefficient” means the rolling resistance coefficient obtained in a reference laboratory following the alignment procedure set forth in section 3303(a)(2)(F).
Necessity: It is necessary to define “measured rolling resistance coefficient” because it is used in the alignment procedure in section 3303(a)(2)(F). Specifically, ISO 28580:2018 requires interlaboratory reference laboratory network comparisons of measured rolling resistance coefficients as well as requiring measured rolling resistance coefficients from machines in candidate laboratories to be aligned with a reference laboratory.

Section: 3302(a)(32)
Specific Purpose: “Model name” is synonymous with “tire line” and means the entire name used by a tire manufacturer to designate a tire product, including all prefixes and suffixes as they appear on the sidewall of a tire.
Necessity: It is necessary to define “model name,” because this information is necessary for the CEC to compile information for the database of the energy efficiency of a representative sample or replacement tires sold in the state pursuant to the directive of Public Resources Code 25771(a). In implementing this directive, the model name of a tire is a required reporting field under sections 3305(e)(2)(B) and 3305(f)(1)(B)(iii) of this regulation.

Section: 3302(a)(33)
Specific Purpose: “Motorcycle” means a motorized vehicle designed to be driven astride a seat or saddle and designed to travel on not more than three wheels in contact with the ground.
Necessity: It is necessary to define “motorcycle,” because tires designed for use on a motorcycle are excluded from the definition of replacement tire by Public Resources Code section 25770(d)(4).

Section: 3302(a)(34)
Specific Purpose: “Motorcycle tire” means a tire intended for use on a motorcycle.
Necessity: It is necessary to define “motorcycle tire” because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(3) states that a "replacement tire” does not include motorcycle tires. Therefore, this definition is necessary to exempt motorcycle tires from the proposed regulations.

Section: 3302(a)(35)
Specific Purpose: “Motor vehicle” means a vehicle driven or drawn by electrical or mechanical power, with a maximum speed capacity greater than 35 mph, and designed primarily for driving on a highway, as defined in Section 360 of the Vehicle Code.
Necessity: It is necessary to define “motor vehicle”, as this term is used to define different types of vehicles and exemptions throughout this regulation.

Section: 3302(a)(36)
Specific Purpose: “Network of reference laboratories” means the group of reference laboratories created by the European Parliament and of the Council to perform inter-laboratory comparison tests on sample tires to establish reference data that is required for the laboratory alignment procedure for the measurement of rolling resistance pursuant to Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020.
Necessity: It is necessary to define “network of reference laboratories,” because the EU correlated rolling resistance coefficient specified in section 3303(a) must be aligned to the assigned rolling resistance coefficient of a reference laboratory within the EU’s network of reference laboratories to ensure that RRC values can be correlated.

Section: 3302(a)(37)
Specific Purpose: “Nominal rim diameter” means the diameter of a wheel measured at the intersection of the bead seat and the flange.
Necessity: It is necessary to define “nominal rim diameter” because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(3) states that a "replacement tire” does not include a tire with a nominal rim diameter of 12 inches or less. Therefore, this definition is necessary to exempt tires with a nominal rim diameter from the proposed regulations.

Section: 3302(a)(38)
Specific Purpose: “Off-road motorized recreational vehicle” means either a motor vehicle commonly referred to as a sand buggy, dune buggy, or all-terrain vehicle; or a recreational off-highway vehicle as defined in Vehicle Code section 500.
Necessity: It is necessary to define “off-road motorized recreational vehicle” because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(5) states that a "replacement tire” does not include a tire manufactured specifically for use in an off-road motorized recreational vehicle. Vehicle Code section 500 provides criteria that would encompass off-road vehicles under Public Resources Code section 25570(d)(5).

However, this definition expands upon the criteria in Vehicle Code section 500 to provide clarity on specific vehicles that would satisfy the criteria of an off-road motorized recreational vehicle.

Section: 3302(a)(39)
Specific Purpose: "Passenger car" means any 4-wheeled motor vehicle designed primarily for transportation of persons, having a design capacity of ten persons or less, and not exceeding 10,000 pounds gross vehicle weight rating.
Necessity: It is necessary to define "passenger car" because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d) defines "replacement tires" as a tire sold in the state that is designed to replace a tire sold with a new passenger car. Therefore, this definition is necessary to establish the scope of the regulations. The ten persons or less concept is from the RRC test method. The gross vehicle weight rating limit of 10,000 pounds to align with the weight limit definition of "passenger car tire" in the federal Tire Fuel Efficiency Consumer Information Program at 49 C.F.R., § 575.106(a).

Section: 3302(a)(40)
Specific Purpose: "Passenger car tire" means a tire intended for application on a passenger car.
Necessity: It is necessary to define "passenger car tire", as any tire designed to replace a tire on a passenger car, falls under the scope of the regulation.

Section: 3302(a)(41)
Specific Purpose: "Reference laboratory" means a laboratory that is part of the network of reference laboratories, the names of which were published by European Commission communication 2012/C 86/03 in the Official Journal of the European Union, plus RDW of Netherlands, and that is able to achieve the accuracy of test results determined in Section 3 of Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020.
Necessity: It is necessary to define "reference laboratory," as the testing specifications of section 3303(a) require that tire rolling resistance coefficients be reported as EU correlated rolling resistance coefficients. The EU correlated rolling resistance coefficient can only be determined with alignment to a reference laboratory. The measured rolling resistance coefficient obtained in a reference laboratory shall be aligned to the assigned values of the network of reference laboratories.

Section: 3302(a)(42)
Specific Purpose: "Relative wet grip braking performance index" means the relative wet grip braking performance index as calculated pursuant to section 3303(b).
Necessity: It is necessary to define "relative wet grip braking performance index" because reporting what range the wet grip index falls within is a reporting requirement under section 3305(e)(7) of the regulation. Reporting this information to the CEC is necessary to implement Public Resources Code section 25771(c) and is also necessary for the CEC to develop and adopt minimum energy efficiency standards that do not adversely affect tire safety under Public Resources Code section 25773(a)(1)(B).

Section: 3302(a)(43)
Specific Purpose: “Relative wet grip braking performance index performance standard” means the requirement under section 3308(a).
Necessity: It is necessary to define “relative wet grip braking performance index performance standard” to implement the mandate in Public Resources Code section 25773(a)(1)(B). Specifically, wet grip is a measure of how quickly a tire can stop on wet roads and is widely used as an indicator of safety. By setting a relative wet grip braking performance index performance standard ensures that the CEC has adopted minimum energy efficiency standards without adversely affecting tire safety.

Section: 3302(a)(44)
Specific Purpose: “Replacement tire” means a new tire sold or offered for sale in California, except as wholesale for final retail sale outside the state, and is designed to replace a tire on a passenger car or light-duty truck. “Replacement tire” does not include a retreaded tire; a used tire; a deep tread tire; a winter-type snow tire; a space-saver tire; a temporary use spare tire; a tire with a nominal rim diameter of 12 inches or less; a motorcycle tire; a tire manufactured specifically for use on an off-road motorized recreational vehicle; a limited production tire; a tire with a load index of 122 or greater, or where the load index is not marked and the tire is rated for a maximum load that exceeds 1,450 kg; or a tire that is not capable of maintaining sustained speeds of greater than 50 miles per hour.
Necessity: It is necessary to define “replacement tire” to establish the scope of the regulation in compliance with Public Resources Code section 25770(d). A tire that meets the definition of a replacement tire would fall under the scope of the regulation. This definition also contains specific tire designs and conditions that would exclude a tire from being considered a “replacement tire”, to align with the definition of “replacement tire” in Public Resources Code section 25770(d)(1), (2), (3), (4), and (5). This definition is necessary to establish that tires that do not fall within the definition of a “replacement tire” are not subject to minimum energy efficiency standards. Public Resources Code sections 25773(a)(1)(A) and 25773(a)(1)(D) mandate that the tire efficiency standards must be technically feasible and cost effective and not adversely affect the management of scrap tires. For these reasons, CEC staff does not propose used and retreaded tires fall under the scope of the regulation. It is not feasible to test used and retreaded tires for compliance with the minimum performance standards. Used tires that are untested cannot be reported to the tire database and would be deemed illegal for resale which would increase the amount of waste tires.

Section: 3302(a)(45)
Specific Purpose: “Retreaded tire” means a tire that has had its tread reattached to the tire casing as defined by 49 Code of Federal Regulations part 571.117 (April 9, 2004).
Necessity: It is necessary to define “retreaded tire,” because retreaded tires do not fall under the scope of the regulation. Public Resources Code section 25773(a)(1)(A) requires that the minimum performance standards for energy efficiency be technically feasible and cost effective. Retreading attaches a new tread to an old tire casing but does not mean that the retreaded tire still meets all the specifications on the sidewall of the original tire. It is not feasible or cost effective for retreaded tires to be retested for

UTQG ratings or performance standards and for manufacturers to identify retreaded tires as basic tire models in order to submit them to the tire database. The CEC does not propose that retreaded tires be included in the scope of replacement tire efficiency standards.

Section: 3302(a)(46)
Specific Purpose: "Rolling resistance coefficient" means the ratio of the rolling resistance force, in newtons (N), to the load on the tire in kilonewtons (kN). This quantity is dimensionless.
Necessity: It is necessary to define "rolling resistance coefficient", because Public Resources Code section 25772 directs the CEC to implement a tire energy efficiency program 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. Tire efficiency is a key component of vehicle fuel efficiency. Energy-efficient tires have a "low rolling resistance," meaning they can roll farther when given the same energy input as a tire with higher rolling resistance. Tire efficiency is quantified as a rolling resistance coefficient, expressed in newtons/kilonewtons, as defined by International Organization for Standardization Test Protocol 28580 and correlated to European Union values, an internationally recognized tire testing protocol. All other factors being equal, a tire with a lower rolling resistance coefficient is more efficient than a tire with a higher rolling resistance coefficient. Furthermore, rolling resistence coefficients are used to determine compliance with the regulation under section 3306, which is necssary for the CEC to develop and adopt minimum energy efficiency standards under Public Resources code section 25773(a)(1).

Section: 3302(a)(47)
Specific Purpose: "Rolling resistance force" means the loss of energy (or energy consumed) per unit of distance traveled. The unit conventionally used for the rolling resistance is newton meter per meter (N m/m). This is equivalent to a drag force in newtons (N).
Necessity: It is necessary to define "rolling resistance force", because the rolling resistance force is used in the calculation of the rolling resistance coefficient. The rolling resistance coefficient indicates a tire's fuel efficiency.

Section: 3302(a)(48)
Specific Purpose: "RRC" is an acronym for rolling resistance coefficient.
Necessity: It is necessary to define "RRC" as this acronym is used throughout the regulation in place of "rolling resistance coefficient".

Section: 3302(a)(49)
Specific Purpose: "Smaller truck and bus tire" means a truck and bus tire with a load index of 121 or smaller or, where the load index is not marked, a maximum load of 1,450 kg or lower.
Necessity: It is necessary to define "smaller truck and bus tire", as a smaller truck and bus tire are a required alignment tire set for determining the EU correlated rolling

resistance coefficient pursuant to section 3303(a)(2)(F). Smaller truck and bus tires are specified by ISO 28580:2018, which is the industry standard for tire testing alignment.

Section: 3302(a)(50)
Specific Purpose: “Sold or offered for sale in California” means any sale of or offer to sell a replacement tire or limited production tire for end use in the state, regardless of the seller’s physical location, and includes, without limitation, internet, telephone, and mail order transactions. For purposes of this Article, the Uniform Commercial Code--Sales (Division 2 (commencing with section 2101) of the Commercial Code) does not define “sold or offered for sale” or determine where sales or offers for sale occur.
Necessity: It is necessary to define the term “sold or offered for sale in California” because Public Resources Code section 25772 directs the CEC to implement a tire energy efficiency program designed to ensure that replacement tires sold in the state are at least energy efficient, on average, as tires sold in the state as original equipment on new passenger cars and light-duty trucks. This definition is therefore necessary for the CEC to implement the tire energy efficiency program because it establishes the scope of the regulation. Tires that otherwise pass through the state do not fall under this scope.

Section: 3302(a)(51)
Specific Purpose: “Space-saver tire” means a temporary use spare tire of reduced size for fitting in a confined space.
Necessity: It is necessary to define “space-saver tire” because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(2) states that a "replacement tire” does not include space-saver tires. Therefore, this definition is necessary to exempt space-saver tires from the proposed regulations.

Section: 3302(a)(52)
Specific Purpose: “Temporary use spare tire” means a tire with a “T” in the size designation under the ISO 4000-1:2024 specification, as incorporated by reference in subsection 3305, that carries a T designation on the tire sidewall and is intended for temporary use.
Necessity: It is necessary to define “temporary use spare tire” because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(2) states that a "replacement tire” does not include temporary use spare tires. Therefore, this definition is necessary to exempt temporary use spare tires from the proposed regulations.

Section: 3302(a)(53)
Specific Purpose: “Tire dealer” means a person or entity selling and distributing replacement tires or limited production tires primarily to purchasers that in good faith purchase them other than for resale.
Necessity: It is necessary to define “tire dealer” which is a term is used in the definition for tire retailer. The scope of this regulation applies to all tire retailers including the tire dealer. This definition is based on but not necessarily identical to the definition of dealer the federal Tire Fuel Efficiency Consumer Information Program (49 C.F.R., § 575.106).

Section: 3302(a)(54)
Specific Purpose: “Tire distributor” means a person or entity selling and distributing replacement tires or limited production tires primarily for resale.
Necessity: It is necessary to define “tire distributor” which is a term used in the definition for tire retailer. The scope of this regulation applies to all tire retailers including the tire distributor. This definition is based on but not necessarily identical to the definition of distributor the federal Tire Fuel Efficiency Consumer Information Program (49 C.F.R., § 575.106).

Section: 3302(a)(55)
Specific Purpose: “Tire energy efficiency rating” or “leaf value” or “leaves” means the rating under section 3307 based on the test method set forth in section 3303.
Necessity: It is necessary to define the tire energy efficiency rating, because the CEC is required to establish a replacement tire energy efficiency rating system, pursuant to Public Resources Code section 25771(b). The rating system provides additional information that may be useful for consumers to make a more informed decision when purchasing tires. Different ranges of EU correlated rolling resistance coefficients make up the efficiency ratings which are represented by leaves.

Section: 3302(a)(56)
Specific Purpose: “Tire retailer” means a tire dealer or tire distributor of replacement tires or limited production tires.
Necessity: It is necessary to define “tire retailer” to establish the scope of the regulation. Absent an exemption, only replacement tires that meet the minimum performance standards of the regulation are legal for sale in California. Compliance with the sale of approved tires is determined at the retailer level by reviewing tire listing information in the database of approved tires. This definition is based on but not necessarily identical to the definition of retailer in the federal Tire Fuel Efficiency Consumer Information Program (49 C.F.R., § 575.106).

Section: 3302(a)(57)
Specific Purpose: “Tire size designation” means the nominal section width, nominal aspect ratio, and rim diameter of a tire.
Necessity: It is necessary to define “tire size designation” because the tire size designation for each basic model is a reporting requirement of subsections 3305(e)(3) and 3305(f)(2)(E). This definition is necessary because it relates to a tire’s primary attributes including its physical dimensions.

Section: 3302(a)(58)
Specific Purpose: “Ultra high-performance” means a tire that both bears a speed category symbol of "W," "(W)," "Y," or "(Y)" and is capable of maintaining maximum speeds of 168 miles per hour or above, and that has a relative wet grip braking performance index of at least 1.45.
Necessity: It is necessary to define the term “ultra high-performance,” because this term is used to define eligibility for a specific tire performance category. Tires designed for ultra high-performance and meeting the wet grip performance index of 1.45 are

eligible for a different energy performance standard than that of other basic models. Speed rating symbols are based on industry standards.

Section: 3302(a)(59)
Specific Purpose: “Ultra long-life” means a tire with a UTQG wear test score of 1,400 or higher, as evaluated according to the treadwear rating conditions and grading procedure in 49 Code of Federal Regulation part 575.104(e) (2023).
Necessity: It is necessary to define “ultra long-life” because the CEC intends to create categories for tires with superior wear characteristics based upon the treadwear rating conditions and grading procedure in 49 Code of Federal Regulations part 575.104(e). It is necessary to define “ultra long-life” because this term is used to define eligibility for a specific tire performance category. Tires that meet the treadwear requirements of an ultra long-life tire are eligible for a different energy performance standard, other than that of basic models.

Section: 3302(a)(60)
Specific Purpose: "Used tire” means a tire that was previously sold for end use, was previously mounted on a motor vehicle for more than 24 hours, and is disclosed as being a used tire when it is sold or offered for sale. Tires mounted on a motor vehicle when the vehicle is sold or resold are used tires within the meaning of this definition regardless of whether they have been mounted for more than 24 hours or disclosed as being a used tire when the vehicle is sold.
Necessity: It is necessary to define “used tire” because used tires do not fall under the scope of the regulation. Per Public Resources Code sections 25771(a)(1)(a) and (d), the tire energy efficiency standards must be technically feasible and cost effective and not affect state efforts to manage scrap tires. Wear and tear on each used tire are unique, making it infeasible to retest and determine compliance for individual used tires. Including used tires under the regulation would make these tires illegal for sale without a manufacturer verifying and reporting that tire to the database. Retailers would be unable to sell used tires, which would contribute to an increase in tire waste. The CEC does not propose used tires be included in the scope of replacement tire efficiency standards.

Section: 3302(a)(61)
Specific Purpose: “UTQG” is an acronym for the Uniform Tire Quality Grading System of the United States Department of Transportation, National Highway Traffic Safety Administration.
Necessity: It is necessary to define “UTQG”, as the UTQG ratings for traction, treadwear and temperature are all required reporting fields as established by subsections 3305(e)(2)(G), (H), and (I) and provides a basis for a replacement tire to be subject to a different performance standard than other basic models under section 3306.

Section: 3302(a)(62)
Specific Purpose: “Winter-type snow tire” means a tire that is limited in its acceptable use to winter periods by virtue of its design and construction; 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; and 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. The purpose of the definition of a winter-type snow tire" is to exclude them from the replacement tire efficiency program, as provided in Public Resources Code section 25770(d)(2). Since the UTQG system does not include ratings for "winter-type snow tires," the purpose of this definition is to provide the characteristics of qualifying winter tires that are exempted from this program.
Necessity: It is necessary to define "winter-type snow tire" because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(2) states that a "replacement tire" does not include a winter-type snow tire. UTQG standards do not apply for winter-type snow tires, therefore a tire must meet each of the characteristics listed in this definition to qualify as a winter-type snow tire. This definition is necessary to exempt winter-type snow tires from the proposed regulations.

Section: 3302(a)(63)
Specific Purpose: "Year" means calendar year.
Necessity: It is necessary to define "year," as the term year is used throughout this regulation to define manufacturing dates and timeframes associated with reporting, effectiveness, and exemptions.

SECTION 3303. TESTING SPECIFICATIONS

Section: 3303(a)
Specific Purpose: The specific purpose of subsection 3303(a) is to establish how the tire rolling resistance coefficient must be reported under the program. The tire rolling resistance coefficient must be reported as an EU correlated rolling resistance coefficient.
Necessity: Subsection 3303(a) is necessary to specify how the tire rolling resistance coefficient shall be reported by a reference laboratory or compliance verification laboratory. This subsection is necessary for the CEC to implement minimum energy efficiency standards for replacement tires under Public Resources Code 25773(a)(1), as a tire's rolling resistance is indicative of its energy efficiency. Rolling resistance coefficients reported to the CEC as EU correlated rolling resistance coefficients simplifies international compliance and consistency for tire manufacturers and brand name owners. Rolling resistance values that are comparable also support enforcement and tire efficiency for consumers.

Section: 3303(a)(1)
Specific Purpose: The specific purpose of subsection 3303(a)(1) is to establish that only a reference laboratory or compliance verification laboratory may determine the EU correlated rolling resistance coefficient, based on the ISO 28580:2018 test standard.
Necessity: Subsection 3303(a)(1) is necessary to specify who can determine the tire rolling resistance coefficient and the standard used to measure that value. Only reference and compliance laboratories can perform this test procedure because they have been aligned with the EU network of reference laboratories. Replacement tire

rolling resistance shall be tested according to the ISO 28580:2018 standard which is an internationally recognized test procedure. This test method also aligns with federal rules and procedures, providing a single set of testing standards and conditions for both state and federal regulations. A standard is necessary to set consistent and uniform rules for energy efficiency pursuant to Public Resources Code 25773(a)(1) throughout the industry.

Section: 3303(a)(2)
Specific Purpose: The specific purpose of subsection 3303(a)(2) is to establish the standard lab practices for which a laboratory must comply to be considered a compliance verification laboratory.
Necessity: Subsection 3303(a)(2) is necessary to ensure that a compliance verification laboratory maintains and documents all equipment and test procedures, and agrees to provide reports and testing as requested by the Executive Director.

Section: 3303(a)(2)(A)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(A) is to require a compliance verification laboratory to properly calibrate and maintain all equipment, materials, and facilities as necessary to meet the ISO 28580:2018 test procedures.
Necessity: Subsection 3303(a)(2)(A) is one of the specifically listed requirements that a laboratory shall follow to be a compliant verification laboratory. This subsection requires the compliance verification laboratories to follow the calibration and maintenance procedures for all equipment, materials, and facilities to ensure that ISO 28580:2018 standards are met.

Section: 3303(a)(2)(B)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(B) is to require a compliance verification laboratory to maintain documentation that shows test results follow the alignment procedure and are accurate.
Necessity: Subsection 3303(a)(2)(B) is necessary because proof of alignment and test accuracy must be made available to the CEC for verification, upon request. Proper alignment is necessary to obtain comparable measurements from both the reference and candidate laboratories, which are used in the correlation equation described in section 3303(c)(2)(F)(5) to determine the European Union (EU) correlated rolling resistance coefficient. Accurate test results are necessary to provide the basis for comparison of tire efficiency across tires on the market.

Section: 3303(a)(2)(C)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(C) is to require the compliance verification laboratory to agree to and maintain copies of all test reports and provide those reports to the Executive Director or commission staff upon request.
Necessity: Subsection 3303(a)(2)(C) is necessary to enable the CEC to verify test results for tire manufacturers' or brand name owners' compliance with our regulations. Because tire manufacturers or brand name owners will self-certify the EU correlated rolling resistance value of their basic tire models, verification of the determined reported values is necessary for compliance enforcement.

Section: 3303(a)(2)(D)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(D) is to require the compliance verification laboratory to agree to and allow the Executive Director or commission staff to witness any tire test upon request.
Necessity: Subsection 3303(a)(2)(D) is necessary to enable the CEC to verify the test procedures and results of tire testing. Because tire manufacturers and brand name owners will self-certify the EU correlated rolling resistance coefficient of their basic tire models, additional investigation of test methods may be necessary to determine compliance.

Section: 3303(a)(2)(E)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(E) is to specify that a laboratory cannot serve as a compliance verification laboratory if it has been prohibited from doing so by the CEC or the Executive Director.
Necessity: Subsection 3303(a)(2)(E) is necessary to prevent a laboratory that has already been prohibited by the CEC as a compliance verification laboratory, from serving as a compliance verification laboratory for tire testing. This prohibition is needed to prevent any attempt to circumvent the Executive Director's determination that a laboratory cannot serve as a compliance verification laboratory. Tire test results from a prohibited testing laboratory will result in the tire being removed from the database.

Section: 3303(a)(2)(F)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F) is to require that a compliance verification laboratory maintain the alignment of the testing equipment according to the stated alignment procedure.
Necessity: Subsection 3303(a)(2)(F) is necessary to ensure that tire efficiency testing is measured consistently across tire testing laboratories. Laboratories must use the same tire alignment procedures and maintain that equipment alignment for test results to be comparable with other laboratories. The alignment procedures are derived from Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020, including steps that are taken verbatim.

Section: 3303(a)(2)(F)(i)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i) is to provide the general provisions that a compliance verification laboratory must follow regarding the alignment procedure.
Necessity: Subsection 3303(a)(2)(F)(i) is necessary to provide the expected alignment procedure that ensures tire rolling resistance is measured consistently across tire testing facilities. These include the principle which explains how the measured rolling resistance coefficient is aligned across a candidate laboratory, reference laboratory, and the network of reference laboratories; tire selection; measurement methods; and data formats.

Section: 3303(a)(2)(F)(i)a.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)a. is to provide the principle of the alignment procedure: how the measured rolling resistance coefficient is obtained and aligned across laboratories. Measurements obtained by a reference

laboratory must be aligned to the assigned RRC values of the network of reference laboratories, and the rolling resistance coefficient obtained by a machine in a candidate laboratory must be aligned through a reference laboratory chosen from the network of reference laboratories.
Necessity: Subsection 3303(b)(2)(F)(i)a. is necessary to ensure that all measured rolling resistance coefficients are correlated to the rolling resistance coefficient of the network of reference laboratories to ensure accuracy, precision, and compliance for industry. The network of reference laboratories is designated to perform inter-laboratory comparison tests on sample tires to establish reference data that is required for the laboratory alignment procedure for the measurement of rolling resistance pursuant to Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020.

Section: 3303(a)(2)(F)(i)b.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b. is to describe the tire selection requirements for the alignment tire sets used in the alignment procedure. Alignment tire sets must include one tire set for passenger car and smaller truck and bus tires together.
Necessity: Subsection 3303(a)(2)(F)(i)b. is necessary because it specifies the criteria for the selection of alignment tire sets for different tire types for the alignment procedure. As provided in Section 3303(a)(2)(F)(iv), the selection of an alignment tire set must consist of five or more tires and the range of rolling resistances from the alignment tires better calibrates machine alignment and ensures more accurate correlation of the rolling resistance coefficient. The alignment tire set requirements align with ISO 28580:2018.

Section: 3303(a)(2)(F)(i)b.1.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b.1. is to cover the range of different measured rolling resistance coefficients for each alignment tire set and to set the minimum allowed difference between the highest and lowest measured RRC of the alignment tire sets. This subsection also specifies that the difference in measured RRC for the passenger car and smaller truck and bus tire alignment tire set before and after alignment must equal at least 3 N/kN.
Necessity: Subsection 3303(a)(2)(F)(i)b.1. is necessary to specify that the alignment tire set includes a range of different rolling resistance coefficients. Each tire set must meet the minimum allowed difference between the highest and lowest measured RRC values as identified for that tire set to be compliant with the ISO 28580:2018 standard. A minimum rolling resistance coefficient range in alignment tire sets ensure sensitivity of the testing process and allows the test equipment to accurately capture differences between tires. This subsection is necessary to specify the minimum range of measured rolling resistance coefficient for the passenger car and smaller truck and bus tire alignment set to be compliant with the ISO 28580:2018 standard and to align with Annex V of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020. This rolling resistance range requirement is necessary to assure that the passenger car and smaller truck and bus tire sets cover the lower end of tires that may be tested.

Section: 3303(a)(2)(F)(i)b.2.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b.2. is to require candidate and reference laboratories to select an alignment set of tires based on measured rolling resistance coefficients that are evenly distributed across the range of RRC values of each alignment tire of the alignment tire set.
Necessity: Subsection 3303(a)(2)(F)(i)b.2. is necessary to ensure that measured RRC is obtained using an alignment set that has a uniform range distribution. A more uniform distribution of alignment tires will provide results that are more representative of the tires tested within that range, sufficient sensitivity in the test system, and more accuracy in the correlation equation.

Section: 3303(a)(2)(F)(i)b.3.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b.3. is to require that the range of the load index of the alignment tires adequately covers the range of tires to be tested.
Necessity: Subsection 3303(a)(2)(F)(i)b.3. is necessary to ensure that the alignment tire sets are representative of the load index of the tires that are present in the market. Adequately covering the load index range ensures more accuracy in the correlation equation.

Section: 3303(a)(2)(F)(i)b.4.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b.4. is to establish the conditions for when an alignment tire must be checked and replaced.
Necessity: Subsection 3303(a)(2)(F)(i)b.4. is necessary to ensure that each alignment tire is checked prior to use and requires tires to be replaced when certain conditions are met. This minimizes the chance that changes in the condition of the alignment tire could attribute to inaccurate measurements to the rolling resistance coefficient test.

Section: 3303(a)(2)(F)(i)b.4.A.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b.4.A. is to specify that an alignment tire must be replaced when it shows a condition that makes it unusable for further testing.
Necessity: Subsection 3303(a)(2)(F)(i)b.4.A. is necessary to minimize the chance that changes in the condition of the alignment tire could attribute inaccurate measurements to the alignment procedure.

Section: 3303(a)(2)(F)(i)b.4.B.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)b.4.B. is to specify that an alignment tire must be replaced when there are deviations of candidate laboratory measured RRC values or reference laboratory measured RRC values greater than 1.5% relative to earlier measurements after any corrections for machine drift.
Necessity: Subsection 3303(a)(2)(F)(i)b.4.B. is necessary to exclude tires exhibiting significant deviation in its rolling resistance coefficient measurement from previous measurements. To ensure accurate test results, tires with a deviation greater than 1.5% shall be removed from the tire alignment set.

Section: 3303(a)(2)(F)(i)c.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)c. is to provide the measurement method for each alignment tire. Reference laboratories shall measure each alignment tire four times and retain the last three results for further analysis, in accordance with ISO 28580:2018 standards. Candidate laboratories shall measure each alignment tire based on the formula $n + 1$ times, where $(n + 1) \geq 4$. Each measurement requires the tire/well assembly to be removed from the machine.
Necessity: Subsection 3303(a)(2)(F)(i)c. is necessary to set measurement method procedures consistent with ISO 28580:2018. Specifically, this subsection is necessary to establish how many times an alignment tire is to be measured to get the measured RRC value. The number of times an alignment tire is tested varies for a reference laboratory and a candidate laboratory. The alignment tire must also be removed from the machine between each test repetition to ensure that each measurement is true and unique.

Section: 3303(a)(2)(F)(i)c.1.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)c.1. requires the candidate or reference laboratory to calculate the measured value of each alignment tire as specified in Sections 9.2 and 9.3 of ISO 28580:2018.
Necessity: Subsection 3303(a)(2)(F)(i)c.1. is necessary to correct the measured values for each alignment tire for a temperature of 25°C and a drum diameter of 2 m. This ensures all RRC values are correlated to the same points of reference and follows the ISO 28580:2018 testing standard.

Section: 3303(a)(2)(F)(i)c.2.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)c.2. is to establish that reference laboratories must calculate the mean value of the last three measured values of each alignment tire and that candidate laboratories must use the last n measured values of each alignment tire to determine the rolling resistance coefficient.
Necessity: Subsection 3303(a)(2)(F)(i)c.2. is necessary to determine the mean value of each alignment tire's test results, which is the determined rolling resistance coefficient for each alignment tire. The tire values used to calculate the mean value vary for reference and candidate laboratories.

Section: 3303(a)(2)(F)(i)c.3.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)c.3. is to provide the formula for calculating the standard deviation of the rolling resistance coefficient measurement.
Necessity: Subsection 3303(a)(2)(F)(i)c.3. is necessary to calculate the standard deviation for each alignment tire. The standard deviation equation is taken verbatim from ISO 28580:2018. This calculation is needed for the EU RRC correlation.

Section: 3303(a)(2)(F)(i)d.
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(i)d. is to establish the data format and significant figures that should be used for computations and results. Measured RRC values corrected for temperature and drum diameter shall be rounded

to two decimal places, but all following computations shall be made with all digits and only rounded on the final alignment equation. Standard deviation values shall be displayed to three decimal places, RRC shall be displayed to two decimal places, and alignment coefficients shall be rounded and displayed to four decimal places.
Necessity: Subsection 3303(a)(2)(F)(i)d. is necessary to provide consistency for calculating values that are needed for the correlation formula. This will minimize the amount of rounding and significant figures that occur before the final alignment equations.

Section: 3303(a)(2)(F)(ii)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(ii) is to establish the requirements that are applicable to the reference laboratories and the determination of assigned RRC values. The assigned RRC value for each alignment tire shall be determined by the network of reference laboratories and the stability and validity of those assigned RRC values shall be reassessed by the network every second year. Each reference laboratory participating in the network shall comply with the standard deviation specifications of ISO 28580:2018 and shall not be greater than 0.05 N/kN for passenger vehicles and light-truck tires. The assigned RRC value for each alignment tire is the result of the average measured values from the network of reference laboratories.
Necessity: Subsection 3303(a)(2)(F)(ii) is necessary to establish the responsibilities of the reference laboratories that determine assigned RRC values. The assigned RRC value is necessary to produce the EU correlated RRC. This subsection is also necessary to produce valid and comparable assigned RRC values across different laboratories and tire manufacturers. The assigned RRC value for any alignment tire can only be determined as the average of the values from all participating network reference laboratories.

Section: 3303(a)(2)(F)(iii)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(iii) is to require that each reference laboratory align itself to each new set of assigned RRC values after a significant machine change or drift in machine control tire monitoring data. This subsection establishes the linear regression formula for each regression coefficient.
Necessity: Subsection 3303(a)(2)(F)(iii) is necessary to enable reference laboratories to update their process for calculating assigned RRC values after significant changes. The formula provided for calculating the regression coefficients is taken verbatim from ISO 28580:2018.

Section: 3303(a)(2)(F)(iv)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(iv) is to establish the requirements that are applicable to the candidate laboratories and the determination of assigned RRC values. Certified laboratories must test their alignment machines biennially and after any significant machine change or drift in machine control tire monitoring data. A common set of five reference tires conforming with the requirements of the ISO 28580:2018 test standard must be provided. The alignment tires are first measured by the candidate laboratory before they are measured by the reference

laboratory. This subsection also specifies that each candidate laboratory must comply with the standard deviation specifications of ISO 28580:2018 and shall not be greater than 0.075 N/kN for passenger car and smaller truck and bus tires. If the standard deviation is greater than the allowed values, the value of *n* + 1, shall be increased for the entire batch.
Necessity: Subsection 3303(a)(2)(F)(iv) is necessary to identify the order of testing that allows certified laboratories to align their rolling resistance coefficient measurements with the results of their selected reference laboratory. The candidate laboratory must provide the alignment tire set to the reference laboratory. The candidate laboratory shall comply with the specifications of ISO 28580:2018 for standard deviations. This subsection is also necessary to provide the standard deviation thresholds and *n* + 1, formula for determining the number of tests for each replacement tire. The formula provided for calculating the number of tests, *n* + 1, is taken verbatim from ISO 28580:2018.

Section: 3303(a)(2)(F)(v)
Specific Purpose: The specific purpose of subsection 3303(a)(2)(F)(v) is to outline the procedure for alignment of a candidate laboratory to the reference laboratory. One reference laboratory of the network shall calculate the linear regression function on all individual data of the candidate laboratory. If the coefficient of determination is lower than 0.97, the candidate laboratory is not aligned. This subsection also provides the calculation for the RRC value of aligned RRC tire values.
Necessity: Subsection 3303(a)(2)(F)(v) is necessary to establish the procedure for alignment of the results from the candidate laboratory to the reference laboratory.

Section: 3303(b)
Specific Purpose: The specific purpose of subsection 3303(b) is to establish the relative wet grip braking performance index test method. Specifically, this subsection specifies the test method, procedures, and conditions to determine the peak coefficient of friction for a replacement tires shall follow ISO 23671:2021 and the ASTM F2493-20 standard reference tire for the required ISO 23671:2021 wet grip performance index test.
Necessity: Subsection 3303(b) is necessary to establish the test procedure required to determine the peak coefficient of friction of a replacement tire. The wet grip value of a tire is used to determine compliance with the minimum wet grip performance standard and determine eligibility for the ultra high-performance tire category. This subsection is necessary for uniform and consistent test results for the relative wet grip braking performance index minimum performance standard. ISO 23671:2021 is the industry standard for this test procedure. Finally, this subsection is necessary to ensure all wet grip performance index tests are performed using the required standard reference tire which is the point of reference that determines the wet grip index value. This procedure is identical to the test used federal Tire Fuel Efficiency Consumer Information Program and is the UTQG traction test with modifications to collect data on peak coefficient of friction (49 C.F.R., § 575.106(g)(1)(iii)), and this testing method was suggested by stakeholders during the pre-rulemaking phase.

Section: 3303(c)
Specific Purpose: The specific purpose of subsection 3303(c) is to establish the specific test method, procedures, and conditions for the tire load index test. Specifically, this subsection specifies that the tire load index value shall be determined using the ISO 10191:2021 test.
Necessity: Subsection 3303(c) is necessary to ensure that all replacement tires are tested using the same load index test across testing laboratories. This subsection is necessary to specify the test procedure required to determine the maximum weight a tire can support when properly inflated. Tire manufacturers must certify the tire load index using the ISO 10191:2021 standard, which is an internationally recognized industry standard.

Section: 3303(d)
Specific Purpose: The specific purpose of subsection 3303(d) is to specify the required test for measuring the speed rating of a tire. Specifically, this subsection specifies that the speed rating shall be determined using the ISO 10191:2021 test.
Necessity: Subsection 3303(c) is necessary to ensure that all tires are tested using the same speed rating test across tire testing laboratories. This subsection is necessary to set the test procedure required to determine the maximum speed a tire can safely carry the weight of the vehicle. Tire manufacturers must certify the tire speed rating using the ISO 10191:2021 standard, which is an internationally recognized industry standard.

Section: 3303(e)
Specific Purpose: The specific purpose of subsection 3303(e) is to specify the required test for determining the tire UTQG traction rating. Specifically, this subsection specifies that the UTQG traction rating shall be determined in conformance with 49 Code of Federal Regulations part 575.104(f) (2023).
Necessity: Subsection 3303(e) is necessary to ensure that all tires are tested using the same UTQG traction test across tire testing laboratories. This subsection is necessary to set the test procedure required to determine the tire traction for drive stability, control, and handling. Tire manufacturers must certify the tire traction rating using the federal regulation 49 Code of Federal Regulation Section 575.104(f)

Section: 3303(f)
Specific Purpose: The specific purpose of subsection 3303(f) is to specify the required test for determining the tire UTQG treadwear rating. Specifically, this subsection specifies that the UTQG treadwear rating shall be determined in conformance with 49 Code of Federal Regulations part 575.104(e) (2023).
Necessity: Subsection 3303(f) is necessary to ensure that all tires are tested using the same UTQG treadwear test across tire testing laboratories. The test score values are different from the treadwear rating that is imprinted on the tire. This subsection is necessary to set the test procedure required to determine the tire treadwear or expected lifespan. Tire manufacturers must certify the tire treadwear rating using the federal regulation 49 Code of Federal Regulation Section 575.104(e).

Section: 3303(g)
Specific Purpose: The specific purpose of subsection 3303(g) is to specify the required test for determining the tire UTQG temperature rating. Specifically, this subsection specifies that the tire UTQG temperature rating shall be determined in conformance with 49 Code of Federal Regulations part 575.104(g) (2023).
Necessity: Subsection 3303(g) is necessary to ensure that all tires are tested using the same UTQG temperature test across tire testing laboratories. This subsection is necessary to set the test procedure for determining the temperature at which a tire can effectively withstand heat and maintain structural integrity. Tire manufacturers must certify the tire temperature rating using the federal regulation 49 Code of Federal Regulation Section 575.104(g).

SECTION 3304. DATABASE OF REPLACEMENT TIRES

Section: 3304(a)
Specific Purpose: The specific purpose of subsection 3304(a) is for the CEC to create and maintain a database for tires that are approved for sale in California. The database will consist of two parts.
Necessity: Subsection 3304(a) is necessary to implement the directives of Public Resources Code section 25771. This subsection is necessary to establish that only tires listed in the tire database are legal for sale. The database will contain information for all replacement tires that are sold or offered for sale within the state. Tires no longer compliant or available for sale will be removed to an archival portion of the database.

Section: 3304(a)(1)
Specific Purpose: The specific purpose of subsection 3304(a)(1) is to establish that the main part of the database contains the inventory of approved tires. The database of approved tires shall contain information on all basic models including limited production tires and tires designated as a tire of last resort.
Necessity: Subsection 3304(a)(1) is necessary to establish the roles of the tire database. The database is an inventory of tires that are approved for sale in California, including tires that qualify as a limited production tire and those granted the designation of a tire of last resort. Ony the database of approved tires is available for public viewing. Establishing this database through this subsection is necessary to implement the directives in Public Resources Code section 25771.

Section: 3304(a)(1)(A)
Specific Purpose: The specific purpose of subsection 3304(a)(1) is to provide an expected retention period for each data submission to the database. Information submitted to the database of approved tires is maintained by the CEC for 7 years from the date of submission, then it is moved to the database of archived tires.
Necessity: Subsection 3304(a)(1)(A) is necessary to ensure that the database of approved tires consists of current tire information because the 7-year time frame coincides with the expected life expiration of an unsold tire. Since tire model reporting is not required annually, manufacturers will only need to resubmit data if the tire is still in production beyond the 7-year retention period. Changes to the status of any tire is the

responsibility of the manufacturer, including resubmission when the tire information expires.

Section: 3304(a)(2)
Specific Purpose: The specific purpose of subsection 3304(a)(2) is to establish the archive portion of the tire database. The database of archived tires contains all tire listings that have been removed from the database of approved tires or are no longer sold or offered for sale in California.
Necessity: Subsection 3304(a)(2) is necessary to provide temporary storage for data that is removed from the database of approved tires. As products expire or are removed from the tire database for any reason, the information is stored in the database of archived tires before it is ultimately deleted. It is important to note that archived information does not guarantee that the tire was ever compliant with any applicable energy performance standard or relative wet grip braking performance index performance standard.

Section: 3304(a)(2)(A)
Specific Purpose: The specific purpose of subsection 3304(a)(2)(A) is to set a retention period for the information held in the database of archived tires. Listings may be moved from the database of approved tires to the archive database by designated CEC staff or automatically, when the listing has expired. The tire information shall be maintained for two years from the date of archiving, then the information may be deleted without notice.
Necessity: Subsection 3304(a)(2)(A) is necessary to identify the retention period of the database for archived tires. This portion of the database is only a 2-year storage period before the tire information is deleted. Archived data is not available for public viewing and is only accessible to the CEC. This data will be retained for 2 years, which is the same duration tire manufacturers are required to retain the data associated with that submission. Changes to the status of any tire is the responsibility of the manufacturer or brand name owner, including resubmission when the tire information expires or is moved to the database of archived tires.

SECTION 3305. SUBMITTING TIRE INFORMATION TO THE DATABASE

Section: 3305(a)
Specific Purpose: The specific purpose of subsection 3305(a) is to establish the requirement for each manufacturer or brand name owner to electronically submit, to commission staff, a statement for each basic model tire sold or offered for sale in California. Statements that are complete and comply with all tire requirements will be listed in the database of approved tires.
Necessity: Subsection 3305(a) is necessary to implement Public Resources Code section 25771(c), which directs the CEC to develop and adopt requirements for tire manufacturers to report the energy efficiency of replacement tires. Specifically, this subsection provides the expected method for submitting tire information to the database. Limited production tires have different reporting requirements than all other basic model replacement tires, and this section clarifies which requirements are applicable to limited production tires.

Section: 3305(b)
Specific Purpose: The specific purpose of subsection 3305(b) is to establish the data requirements and reporting procedures for any basic model statement.
Necessity: Subsection 3305(b) is necessary to identify and describe the tire information that needs to be reported to the CEC tire database.

Section: 3305(b)(1)
Specific Purpose: The specific purpose of subsection 3305(b)(1) is to establish that the information reported to the CEC by tire manufacturers and brand name owners must be submitted in a format and in categories specified by the Executive Director.
Necessity: Subsection 3305(b)(1) is necessary to provide reporting entities with a standard submission format and data expectations. Providing the commission staff the authority to specify the format and categories permits administrative refinement to most efficiently collect the data specified in Section 3305.

Section: 3305(b)(2)
Specific Purpose: The specific purpose of subsection 3305(b)(2) is to require tire manufacturers and brand name owners to register a database profile or account before it can add a tire to, or modify tire information listed in, the tire database.
Necessity: Subsection 3305(b)(2) is necessary to ensure that the profile for a reporting party is created and properly registered to the manufacturer or brand name owner prior to the submission of any tire information. Modifications and tire additions can only be made by the registered profile to prevent database entries from false modifications by a third-party.

Section: 3305(b)(2)(A)
Specific Purpose: The specific purpose of subsection 3305(b)(2)(A) is to establish that only one profile or account is allowed for any manufacturer, brand name owner, or tire model name.
Necessity: Subsection 3305(b)(2)(A) is necessary to prevent tire information from being submitted or modified without the appropriate association to the corresponding tire manufacturer or brand name owner. Only one reporting profile is allowed for each manufacturer or brand name owner.

Section: 3305(b)(2)(B)
Specific Purpose: The specific purpose of subsection 3305(b)(2)(B) is to establish that if a manufacturer or brand name owner does not submit a complete statement for a basic model tire within 48 hours of registering a profile, that profile or account may be removed from the database.
Necessity: Subsection 3305(b)(2)(B) is necessary to prevent multiple profiles or accounts from being created in the tire database in bad faith or without reason. The 48-hour time frame is necessary so that a complete statement for a basic model is timely completed after the registration of a new profile and serves to verify that the profile created is legitimate. Only one reporting profile is allowed for each manufacturer or brand name owner and the only purpose for a profile is to submit tire information.

Section: 3305(b)(2)(C)
Specific Purpose: The specific purpose of subsection 3305(b)(2)(C) is to prevent tire models from being listed multiple times in the database, by different profiles. Only the first profile to submit the tire data will remain in the database of approved tires and all other listings for that same model by other profiles will be moved to the database of archived tires.
Necessity: Subsection 3305(b)(2)(C) is necessary to prevent duplication of tire submissions for the same basic model, by a different manufacturer or brand name owner. When duplication does occur, only the listing of the first profile to report that basic model will remain in the database of approved tires. This section describes the process the CEC will follow to determine which listing will remain in the database. The CEC staff may also require substantiation of a registered federal trademark if there is a dispute over control of a basic model.

Section: 3305(b)(3)
Specific Purpose: The specific purpose of subsection 3305(b)(3) is to establish that each basic model (that is not a limited production tire) must be reported separately and shall only be listed once, unless modified as described in subsection (5). A limited production tire may be listed separately based on manufacture year, manufacture plant, or both.
Necessity: Subsection 3305(b)(3) is necessary to make each approved tire listing unique. The data submission for any basic model should only be specifications for that one basic model. A basic model should not be submitted more than once, unless the model was modified, such as to meet a more stringent performance standard.

Section: 3305(b)(4)
Specific Purpose: The specific purpose of subsection 3305(b)(4) is to permit separate listings of limited production tires by manufacture year, manufacture plant, or both, and require that the categories of information submitted for a limited production tire shall be (re)submitted to the database of approved tires annually, on or before April 15.
Necessity: Subsection 3305(b)(4) is necessary because the limited production tire criteria is restricted to less than 15,000 tires produced or imported annually, based on the restrictions of Public Resources Code section 25770(d)(1). Subsection (f) specifies that, to be considered a limited production tire, the manufacturer or brand name owner must submit a statement for each base model annually and attest to the annual limit on tires produced or imported. This subsection (4) requires annual reporting for limited production tires, which is necessary to ensure that the production for the claimed limited production tire remains at less than 15,000 tires per year.

Section: 3305(b)(5)
Specific Purpose: The specific purpose of subsection 3305(b)(5) is to specify that only limited production tires must submit annual statements. Otherwise, a new statement is required when a characteristic of the basic model has changed, such that it becomes a new basic model, or upon a material change to the basic model.
Necessity: Subsection 3305(b)(5) is necessary to establish when it is necessary for a tire manufacturer or brand name owner to submit a statement on a basic tire model to

the CEC. Unlike limited production tires that require annual statements, other basic tire models that comply with the minimum performance standards are only required to submit a statement to the CEC upon specified changes to the basic model.

Section: 3305(b)(6)
Specific Purpose: The specific purpose of 3305(b)(6) is to provide guidance on what tire information must be reported to the database of approved tires when entities report under subsection 3305(e) and (f).
Necessity: Subsection 3305(b)(6) is necessary for the CEC to develop and adopt requirements for tire manufacturers to report the energy efficiency of replacement tires sold in the state pursuant to Public Resources Code section 25771(c). This subsection is necessary to provide a description of the information to be reported for basic models under subsection 3305(e) and (f) of the proposed regulations.

Section: 3305(b)(6)(A)
Specific Purpose: The specific purpose of 3305(b)(6)(A) is to require that the basic tire model name be reported to the database through a database profile. All tires of the same model shall be listed with that same model name. An appendix to the model name may be allowed to distinguish different basic models sharing the same dimensions and model name.
Necessity: Subsection 3305(b)(6)(A) is necessary to specify the tire data required for each basic model. The model name is a necessary reporting item to identify the tire being reported upon. The model name is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires.

Section: 3305(b)(6)(B)
Specific Purpose: The specific purpose of 3305(b)(6)(B) is to require the tire size designation to be reported to the database for each basic model. The tire size designation includes the section width in millimeters, the aspect ratio, and the rim diameter in inches.
Necessity: Subsection 3305(b)(6)(B) is necessary to identify the different tire sizes associated with any basic model name. The tire size is a necessary reporting item to identify the tire being reported upon. The size designation is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires.

Section: 3305(b)(6)(C)
Specific Purpose: The specific purpose of subsection 3305(b)(6)(C) is to require the declared EU correlated rolling resistance coefficient to be reported in N/kN, to the tenths place value. The reported value cannot be lower than the exact result of the EU correlated rolling resistance coefficient for the tire when tested according to the specifications in 3303(a).
Necessity: Subsection 3305(b)(6)(C) is necessary to ensure that all tire manufacturers and brand name owners report rolling resistance coefficients for each basic model of a replacement tire in EU correlated terms, for consistency. Because a lower RRC value means that a tire is more energy efficient, the reported value of the RRC value cannot be reported as lower than the actual calculated value. This subsection is also necessary

for the CEC to implement Public Resources Code section 25771(c) by requiring tire manufacturers to report the energy efficiency of replacement tires sold in the state.

Section: 3305(b)(6)(D)
Specific Purpose: The specific purpose of subsection 3305(b)(6)(D) is to require that the tire energy efficiency rating must be based on the EU correlated rolling resistance coefficient and reported according to the ratings set forth in section 3307.
Necessity: Subsection 3305(b)(6)(D) is necessary because Public Resources Code section 25771(b) directs the CEC to develop and adopt a rating system for the energy efficiency of replacement tires sold in the state, that will enable consumers to make more informed decisions when purchasing tires for their vehicles. This subsection is necessary to ensure accurate and fair comparison of tire energy efficiency ratings across tires. Manufacturers and brand name owners cannot inflate their energy rating and cannot report a higher leaf rating than the RRC value. The leaf rating system allows for a range of RRC values, and the reported leaf value must coincide with the correct range for each basic model. Furthermore, this subsection is necessary for the CEC to implement Public Resources Code section 25771(c) by requiring tire manufacturers to report the energy efficiency of replacement tires sold in the state.

Section: 3305(b)(6)(E)
Specific Purpose: The specific purpose of subsection 3305(b)(6)(E) is to require that the relative wet grip braking performance index be reported to the CEC. This value will be reported as being within a range of one of three categories: below 1.0, equal to or greater than 1.0, or equal to or greater than 1.45. The value reported shall not be higher than the exact result of the calculation.
Necessity: Subsection 3305(b)(6)(E) is necessary to establish how the relative wet grip performance index should be reported for each basic model of a replacement tire. This subsection is necessary for the CEC to implement Public Resources Code section 25773(a)(1)(B) by developing and adopting minimum energy efficiency standards for replacement tires that do not adversely affect tire safety. The wet grip value is used to determine compliance with the wet grip minimum performance standard and potential eligibility for the ultra high-performance tire category. A basic model of a replacement tire must meet the wet grip performance index of 1.0 to be legal for sale in California. If the relative wet grip performance index is equal to or greater than 1.45 the tire may qualify as an ultra high-performance tire and energy performance standard associated with that tire category.

Section: 3305(b)(6)(F)
Specific Purpose: The specific purpose of 3305(b)(6)(F) is to specify that tire tread depth must be reported in values of 1/32 of an inch, measured from the bottom of the groove.
Necessity: Subsection 3305(b)(6)(F) is necessary to ensure accurate comparisons of tire tread depth across tire manufacturers and track market developments. Tread depth is one of several specifications that must be correct and complete for a tire to be listed in the database of approved tires.

Section: 3305(b)(6)(G)
Specific Purpose: The specific purpose of 3305(b)(6)(G) is to specify how tire load index shall be reported for each tire. If present, the load index shall be reported as the load index designation marking on the tire. If the marking is not present, the load index shall be based on the test method specified in section 3303(c) and shall be reported for each replacement tire based on the corresponding load carrying capacity in kilograms (kg), in accordance with Table 2– Equivalence between load index and tyre load carrying capacity, in ISO 4000-1:2024.
Necessity: Subsection 3305(b)(6)(G) is necessary to ensure consistent reporting of tire load index across tire manufacturers. The load index value is also used to determine eligibility for the low load index tire category and energy performance standard. The load index is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires. This subsection is also necessary to ensure consistency between designation markers printed on a tire and information reported to the database of approved tires.

Section: 3305(b)(6)(H)
Specific Purpose: The specific purpose of 3305(b)(6)(H) is to specify how the tire speed rating shall be reported. If present, the speed rating shall be reported as the speed rating designation marking on the tire. If the marking is not present, the speed rating shall be based on the test method specified in section 3303(d) and shall be reported as the corresponding speed symbol for each replacement tire based on the maximum speed the tire can sustain in kilometers per hour (km/h), in accordance with Table 3 – Speed symbols and corresponding speed, in ISO 4000-1:2024.
Necessity: Subsection 3305(b)(6)(H) is necessary to ensure consistent reporting of tire speed rating across tire manufacturers. The speed rating is also used to determine eligibility for the ultra high-performance tire category and performance standard. The speed rating is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires. This subsection is also necessary to ensure consistency between designation markers printed on a tire and information reported to the database of approved tires.

Section: 3305(b)(6)(I)
Specific Purpose: The specific purpose of 3305(b)(6)(I) is to specify how the tire UTQG traction rating shall be reported. If present, the UTQG traction rating shall be reported as the UTQG traction rating designation marking on the tire. If the marking is not present, the UTQG traction rating shall be based on the test method specified in section 3303(e) and shall be reported as AA, A, B, or C for each replacement tire.
Necessity: Subsection 3305(b)(6)(I) is necessary to ensure consistent reporting of tire traction ratings across tire manufacturers and to monitor market developments. The tire traction rating is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires. This subsection is also necessary to ensure consistency between designation markers printed on a tire and information reported to the database of approved tires.

Section: 3305(b)(6)(J)
Specific Purpose: The specific purpose of 3305(b)(6)(J) is to specify how the UTQG treadwear rating shall be reported. If present, the UTQG treadwear rating shall be reported as the UTQG treadwear rating designation marking on the tire. If the marking is not present, the UTQG treadwear rating shall be based on the test method specified in section 3303(f) and shall be reported as a number of three digits representing the tire's grade for treadwear and expressed in multiples of 20 for each replacement tire.
Necessity: Subsection 3305(b)(6)(J) is necessary to ensure consistent reporting of tire treadwear ratings across tire manufacturers and to monitor market developments. The treadwear rating is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires. This subsection is also necessary to ensure consistency between designation markers printed on a tire and information reported to the database of approved tires.

Section: 3305(b)(6)(K)
Specific Purpose: The specific purpose of subsection 3305(b)(6)(K) is to specify how the UTQG temperature rating shall be reported. If present, the UTQG temperature rating shall be reported as the UTQG temperature rating designation marking on the tire. If the marking is not present, the UTQG temperature rating shall be based on the test method specified in section 3303(g) and shall be reported as A, B, or C for each replacement tire.
Necessity: Subsection 3305(b)(6)(K) is necessary to ensure consistent reporting of tire temperature ratings across tire manufacturers and to monitor market developments. The tire temperature rating is only one of many specifications that must be correct and complete for a tire to be listed in the database of approved tires. This subsection is also necessary to ensure consistency between designation markers printed on a tire and information reported to the database of approved tires.

Section: 3305(b)(6)(L)
Specific Purpose: The specific purpose of subsection 3305(b)(6)(L) is to set the limitations on the year of manufacture for basic tire models. This date shall include the beginning date when the basic model first complied with the standards of this Article, up to ten years prior to the date of submission, and an end date when the basic model no longer complies with this Article, which may be listed as "ongoing". The selection of an ongoing date will result in the database applying the submitted tire attributes to all subsequent years until modified by the manufacturer.
Necessity: Subsection 3305(b)(6)(L) is necessary to report, track, and determine compliance of a tire across different implementation phases, changes to basic models, or annual limited production status. A manufacturer or brand name owner is not required to resubmit tire data for a basic model of a replacement tire following the beginning year if there have been no changes. Reporting changes to the status of any tire is the responsibility of the manufacturer or brand name owner, including resubmission when the tire data expires or is moved to the database of archived tires. By accurately reporting the beginning and end year of a basic model, the database will enable the tracking of the compliance of each tire across program years, or when the characteristics, importation, or production of a basic model change.

Section: 3305(c)
Specific Purpose: The specific purpose of subsection 3305(c) is to establish the information that tire manufacturers and brand name owners must provide to the CEC.
Necessity: Subsection 3305(c) is necessary to identify the party responsible for any tire submitted to the tire database. This includes basic contact information regarding the manufacturer or brand name owner and contact information to reach the individual responsible for issues associated with the statement or tire.

Section: 3305(c)(1)
Specific Purpose: The specific purpose of subsection 3305(c)(1) is to require the name, address, telephone number, email address, and if available, URL address of the manufacturer and brand name owner. The entity responsible must be clearly identified.
Necessity: Subsection 3305(c)(1) is necessary to identify the manufacturer or brand name owner that will be held responsible for any tire statement submitted to the database.

Section: 3305(c)(2)
Specific Purpose: The specific purpose of subsection 3305(c)(2) is to provide contact information for an individual who is identified as the designated contact for the tire manufacturer or brand name owner. Only one individual can be listed as the designated contact.
Necessity: Subsection 3305(c)(2) is necessary to provide the CEC staff the ability to contact the submitter, in the event of missing data or any other issue with a statement submission. The contact information provided is necessary to resolve any questions or concerns regarding the verification of eligibility or compliance.

Section: 3305(c)(3)
Specific Purpose: The specific purpose of subsection 3305(c)(3) is to identify the person signing the declaration associated with tire data submission. The name, address, telephone number, and email address of the individual must be provided in the statement.
Necessity: Subsection 3305(c)(3) is necessary to enable the CEC staff to contact the person who filed a tire statement, in the event of missing data or related issues with the data submission. The contact information provided is necessary to resolve any questions or concerns regarding reporting, eligibility, or compliance for any replacement tire.

Section: 3305(d)
Specific Purpose: The specific purpose of subsection 3305(d) is to establish the requirements of the declaration when tire manufacturers and brand name owners submit a tire statement.
Necessity: Subsection 3305(d) is necessary to ensure that the information submitted to the CEC database is accurate and true.

Section: 3305(d)(1)
Specific Purpose: The specific purpose of subsection 3305(d)(1) is to establish that the declaration is submitted under the penalty of perjury. All information in the statement

should be true, complete, accurate, and in compliance with all applicable provisions of the article.
Necessity: Subsection 3305(d)(1) is necessary to allow the CEC staff to ensure the accuracy of tire statements submitted to the database.

Section: 3305(d)(2)
Specific Purpose: The specific purpose of subsection 3305(d)(2) is to require that the declaration be electronically signed by an individual authorized to make the declaration if the declaration is executed by a corporation, partnership, or other business entity.
Necessity: Subsection 3305(d)(2) is necessary to enable the CEC staff to identify the individual responsible for the submission of any tire information.

Section: 3305(d)(3)
Specific Purpose: The specific purpose of subsection 3305(d)(3) is to require the electronic submission of the declaration through the tire database and to specify that the declaration shall be maintained by the Executive Director for a period of at least nine years, as required by subsection 3310(c).
Necessity: Subsection 3305(d)(3) is necessary to establish the electronic submission method and record retention requirements of the declaration.

Section: 3305(e)
Specific Purpose: The specific purpose of subsection 3305(e) is to establish the information that must be provided in the statement for each replacement tire basic model, other than a limited production tire.
Necessity: Subsection 3305(e) is necessary to establish the information that tire manufacturers or brand name owners are required to report for each replacement tire basic model, which is not a limited production tire as defined under section 3302. If any information is missing, the statement is incomplete.

Section: 3305(e)(1)
Specific Purpose: The specific purpose of subsection 3305(e)(1) is to require that the statement of information for any replacement tire basic model include the name of the tire manufacturer or brand name owner.
Necessity: Subsection 3305(e)(1) is necessary to identify the basic model tire manufacture or brand name owner. This information is used to track regulated entities and confirm compliance.

Section: 3305(e)(2)
Specific Purpose: The specific purpose of subsection 3305(e)(2) is to require the tire manufacturer or brand name owner to report certain information marked on the sidewall of each replacement tire basic model.
Necessity: Subsection 3305(e)(2) is necessary to identify the UTQG markings on each reported replacement tire basic model. This information is needed to identify unique replacement tire products and monitor market trends.

Section: 3305(e)(2)(A)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(A) is to require the brand name marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(A) is necessary to track and monitor products from one entity.

Section: 3305(e)(2)(B)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(B) is to require the model name that is marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(B) is necessary to track and monitor products and prevent duplication of basic models in the database.

Section: 3305(e)(2)(C)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(C) is to require the first nine digits of the DOT identification number marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(C) is necessary to monitor and track unique products, including the production location, tire size, and manufacturer code.

Section: 3305(e)(2)(D)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(D) is to require the tread and sidewall ply and material identification marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(D) is necessary to monitor and track unique products and market trends.

Section: 3305(e)(2)(E)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(E) is to require the load index marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(E) is necessary to track unique products, market trends, and determine if a basic tire model qualifies for the low load index energy performance standard.

Section: 3305(e)(2)(F)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(F) is to require the speed rating marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(F) is necessary to monitor and track unique products, market trends, and determine if a basic tire model qualifies for the ultra high-performance energy performance standard.

Section: 3305(e)(2)(G)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(G) is to require the UTQG traction rating marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(G) is necessary to monitor and track unique products and market trends.

Section: 3305(e)(2)(H)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(H) is to require the UTQG treadwear marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(E) is necessary to monitor and track unique products and market trends.

Section: 3305(e)(2)(I)
Specific Purpose: The specific purpose of subsection 3305(e)(2)(I) is to require the UTQG temperature marked on the tire sidewall to be included in the statement of information.
Necessity: Subsection 3305(e)(2)(I) is necessary to monitor and track unique products and market trends.

Section: 3305(e)(3)
Specific Purpose: The specific purpose of subsection 3305(e)(3) is to require the tire size to be included in the statement of information.
Necessity: Subsection 3305(e)(3) is necessary to verify the compliance of a basic model based on the tire size.

Section: 3305(e)(4)
Specific Purpose: The specific purpose of subsection 3305(e)(4) is to report the tire efficiency rating as a single number that represents the number of leaves, in accordance with the rating set forth in section 3307.
Necessity: Subsection 3305(e)(4) is necessary to provide the efficiency rating for each basic model tire. This information is required for the tire database and serves as information available to consumers.

Section: 3305(e)(5)
Specific Purpose: The specific purpose of subsection 3305(e)(5) is to require the EU correlated rolling resistance coefficient to be included in the statement of information.
Necessity: Subsection 3305(e)(5) is necessary to provide the EU correlated rolling resistance coefficient for each basic model tire. The EU correlated rolling resistance coefficient is needed to ensure compliance to the minimum energy performance standards set by the regulation.

Section: 3305(e)(6)
Specific Purpose: The specific purpose of subsection 3305(e)(6) is to identify applicable conditions necessary to determine the energy performance standard that applies to a specific basic model tire.
Necessity: Subsection 3305(e)(6) is necessary to identify additional applicable characteristics that determine when a tire is eligible for another tire category and energy performance standard under section 3306.

Section: 3305(e)(6)(A)
Specific Purpose: The specific purpose of subsection 3305(e)(6)(A) is to identify when a basic model tire has a UTQG treadwear test score of equal to or greater than 1,400.

Necessity: Subsection 3305(e)(6)(A) is necessary to determine if a tire is eligible for the ultra long-life tire category. A treadwear test score that is equal to or greater than 1,400 qualifies for the ultra long-life energy performance standard.

Section: 3305(e)(6)(B)
Specific Purpose: The specific purpose of subsection 3305(e)(6)(B) is to identify when a basic model tire has a UTQG treadwear test score of at least 1,000 but less than 1,400.
Necessity: Subsection 3305(e)(6)(B) necessary to determine if a tire is eligible for the long-life tire category. A treadwear test score of at least 1,000 but less than 1,400 is required to qualify for the long-life energy performance standard.

Section: 3305(e)(6)(C)
Specific Purpose: The specific purpose of subsection 3305(e)(6)(C) is to identify when a basic model tire has a load index of 91 or lower.
Necessity: Subsection 3305(e)(6)(C) to determine if a tire is eligible for the low load index tire category. A load index of 91 or lower is required to qualify for the low load index energy performance standard.

Section: 3305(e)(6)(D)
Specific Purpose: The specific purpose of subsection 3305(e)(6)(D) is to identify when a basic model tire is designated as a light truck tire.
Necessity: Subsection 3305(e)(6)(D) is necessary to determine if a tire has the designation as a light truck tire, which is required to qualify for the light truck category and energy performance standard.

Section: 3305(e)(7)
Specific Purpose: The specific purpose of subsection 3305(e)(7) is to identify whether the basic model tire has a relative wet grip braking performance index of less than 1.0, at least 1.0 and less than 1.45, or 1.45 and greater.
Necessity: Subsection 3305(e)(7) is necessary to ensure compliance with the wet grip minimum performance standard. A basic model tire with a wet grip performance index less than 1.0 would not be legal for sale in California and a wet grip performance index greater than or equal to 1.45, may qualify a tire in the ultra high-performance tire.

Section: 3305(e)(8)
Specific Purpose: The specific purpose of subsection 3305(e)(8) is to provide the tire tread depth.
Necessity: Subsection 3305(e)(8) is necessary to identify the tread depth of the replacement tire basic model. This information is needed to monitor tire market tread depth developments.

Section: 3305(e)(9)
Specific Purpose: The specific purpose of subsection 3305(e)(8) is to provide the tire manufacture year.
Necessity: Subsection 3305(e)(9) is necessary to identify the year the tire was manufactured. This information is needed to track product compliance.

Section: 3305(e)(10)
Specific Purpose: The specific purpose of subsection 3305(e)(10) is to provide the tire plant code, when the information is necessary to distinguish the tire basic model from other basic models.
Necessity: Subsection 3305(e)(10) is necessary to distinguish otherwise-similar basic models from each other. The plant code is printed on the tire sidewall as the first two characters of the DOT number, which is required by 49 Code of Federal Regulations part 574.5(b)(1) (2023). This information is used to ensure that similar products are indeed unique.

Section: 3305(f)
Specific Purpose: The specific purpose of subsection 3305(f) is to identify all the tire information that is required for submitting a tires statement for a limited production tire.
Necessity: Subsection 3305(f) is necessary to establish the information required for a basic model to be considered a limited production replacement tire. Limited production tires are not subject to the minimum performance standards of this regulation, but the tire's identifying information and information about its production and importation are required to be submitted to the tire database to be eligible for sale.

Section: 3305(f)(1)
Specific Purpose: The specific purpose of subsection 3305(f)(1)(A) is to require tire manufacturers or brand name owners to claim that a basic model tire is a limited product tire, and to state that the basic model tire meets the definition of limited production tire in section 3302, for manufacture year claimed. This statement is required annually.
Necessity: Subsection 3305(f)(1) is necessary because it is the responsibility of the manufacturer to attest that a given tire basic model qualifies as a limited production tire. Because Public Resources Code sections 25771, 25772, and 25773 direct the CEC to regulate replacement tires, and Public Resources Code section 25770(d)(1) states that a "replacement tire" does not include a tire or group of tires for which the volume is produced or imported is less than 15,000 annually, requiring the statement under subsection 3305(f)(1)(A) is necessary to ensure that entities claiming that a basic model that they produce or import properly qualifies as a limited production tire.

Section: 3305(f)(2)(A)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(A) is to require that the statement of information filed for a claimed limited production basic model tire to include the name of the tire manufacturer or brand name owner.
Necessity: Subsection 3305(f)(2)(A) is necessary to identify the replacement tire basic model tire manufacture or brand name owner that is claiming the limited production status for a basic model. This information is used to track regulated entities and compliance.

Section: 3305(f)(2)(B)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(B) is to require the brand name as marked on the tire sidewall, to be included in the statement of information for a claimed limited production basic model tire.

Necessity: Subsection 3305(f)(2)(B) is necessary to track and monitor unique products from one entity.

Section: 3305(f)(2)(C)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(C) is to require the model name as marked on the tire sidewall, to be included in the statement of information submitted for a claimed limited production basic model tire.
Necessity: Subsection 3305(f)(2)(C) is necessary to track and monitor products and prevent duplication of basic models.

Section: 3305(f)(2)(D)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(D) is to require the first nine digits of the DOT identification number as marked on the tire sidewall, to be included in the statement of information submitted for a claimed limited production basic model tire.
Necessity: Subsection 3305(f)(2)(D) is necessary to monitor and track unique products, including the production location, tire size, and manufacturer code.

Section: 3305(f)(2)(E)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(E) is to require the tire size designation to be included in the statement of information submitted for a claimed limited production basic model tire.
Necessity: Subsection 3305(f)(2)(E) is necessary to identify the tire size designations for each basic model, to identify the tire sizes applicable to the claim of limited production.

Section: 3305(f)(2)(F)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(F) is to require the manufacturer or brand name owner to report if the number of tires to be produced or imported has been less than 15,0000 during every calendar year prior to the year that the manufacturer or brand name owner is claiming limited production tire status. Producing 15,000 tires or more, and therefore reporting “No” under this subsection, is disqualifying as a limited production tire.
Necessity: Subsection 3305(f)(2)(F) is necessary to establish whether a basic model tire will meet the criteria for a limited production tire under Public Resources Code section 25770(d)(1). Information about the production and importation history of a tire is necessary for eligibility as a limited production tire, as Public Resources Code section 25770(d)(1) states that a replacement tire does not include a tire or group of tire for which the volume of tires produced or imported is less than 15,000 annually.

Section: 3305(f)(2)(G)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(G) is to require the manufacturer or brand name owner to report if the number of tires to be produced or imported will be less than 15,0000 during the year claimed. Producing 15,000 tires or more, and therefore reporting “No” under this subsection, is disqualifying as a limited production tire.

Necessity: Subsection 3305(f)(2)(G) is necessary to establish whether a basic model tire will meet the criteria for a limited production tire under Public Resources Code section 25770(d)(1), for the year the manufacturer or brand name owner will claim the limited production tire status. Because section 3305(b)(4) requires information about limited production tires under section 3305(f) be submitted annually on or before April 15, this information is necessary to ensure that production or importation of a tire claimed as a limited production tire will remain below 15,000 tires during the calendar year.

Section: 3305(f)(2)(H)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(H) is to require the manufacturer or brand name owner to provide the manufacture year for the limited production tire being claimed.
Necessity: Subsection 3305(f)(2)(H) is necessary to determine whether a basic model tire will meet the criteria for a limited production tire as established by Public Resources Code section 25770(d)(1).

Section: 3305(f)(2)(I)
Specific Purpose: The specific purpose of subsection 3305(f)(2)(I) is to require the manufacturer or brand name owner to provide the manufacturing plant code, if this information is necessary to distinguish the basic model from another basic model, or it is being reported as a separate limited production tire based on its plant of manufacture.
Necessity: Subsection 3305(f)(2)(I) is necessary to determine whether a basic model tire will meet the criteria for a limited production tire as established by Public Resources Code section 25770(d)(1), which includes a tire or group of tires manufactured at the same plant. The plant code is printed on the tire sidewall as the first two characters of the DOT number, which is required by 49 Code of Federal Regulations part 574.5(b)(1) (2023).

Section: 3305(g)
Specific Purpose: The specific purpose of subsection 3305(g) is to require tire manufacturers or brand name owners to submit a statement of modification of tires or tires that have ceased being sold or offered for sale in California.
Necessity: Subsection 3305(g) is necessary to establish that it is the responsibility of a tire manufacturer or brand name owner to inform the CEC when modifications have been made to the tire, or when it will no longer be sold in the state. This requirement also applies to limited production tires.

Section: 3305(g)(1)
Specific Purpose: The specific purpose of subsection 3305(g)(1) is to require tire manufacturers or brand name owners to submit a new statement when a basic model tire listed in the database of approved tires when a material change has been made to a basic model.
Necessity: Subsection 3305(g)(1) is necessary to require tire manufacturers or brand name owners to update the tire database when a tire been materially changed.

Section: 3305(g)(2)
Specific Purpose: The specific purpose of subsection 3305(g)(2) is to require tire manufacturers or brand name owners of basic model tires that are qualified as limited production tires to file an updated statement if the tire is produced or imported in quantities equal to or greater than 15,000 annually in a claimed year.
Necessity: Subsection 3305(g)(2) is necessary to provide tire manufacturers or brand name owners with a means to update the CEC database when there is a change to an annual submission that affects the limited production status of that basic tire.

Section: 3305(g)(2)(A)
Specific Purpose: The specific purpose of subsection 3305(g)(2)(A) is to establish that the CEC staff may move a tire listing from the database of approved tires to the database of archived tires when a basic model tire no longer meets the definition of a limited production tire in any given year. Only the affected listing will be removed from the database of approved tires and the status of a limited production tire that was reported separately based on manufacture year or plant or both, will remain.
Necessity: Subsection 3305(g)(2)(A) is necessary because it provides a means for the CEC staff to determine that a previously limited production basic model tire no longer meets the criteria of Public Resources Code section 25770(d)(1) and must be removed from the database of approved tires.

Section: 3305(g)(3)
Specific Purpose: The specific purpose of subsection 3305(g)(3) is to require tire manufacturers and brand name owners to inform the CEC when a limited production basic model tire is no longer sold or offered for sale in California.
Necessity: Subsection 3305(g)(3) is necessary because it provides the procedure for removing tire listing from the tire database when they are no longer available for sale. Removing tire listings for tires no longer available for sale from the database is necessary because Public Resources Code section 25771(a) directs the CEC to develop and adopt a database of the energy efficiency of a representative sample of replacement tires sold in the state.

Section: 3305(h)
Specific Purpose: The specific purpose of subsection 3305(h) is to establish a procedure for tire manufacturers and brand name owners to submit statements for basic tire models previously deemed noncompliant with the regulation.
Necessity: Subsection 3305(h) is necessary to provide a procedure for tire manufacturers or brand name owners to file a statement with proof of compliance, to affirm that a basic model previous denied or removed from the database of approved tires, now complies with the regulation.

Section: 3305(h)(1)
Specific Purpose: The specific purpose of subsection 3305(h)(1) is to require that tire manufacturers or brand name owner shall submit a statement that the basic model or a substantially similar basic model has not been previously denied or removed from the tire database, such as when a listing expires from the database of approved tires.

Necessity: Subsection 3305(h)(1) is necessary because it prohibits tire manufacturers or brand name owners from resubmitting statements in duplication, for basic model tires that were previously determined to not comply with the regulation.

Section: 3305(h)(2)
Specific Purpose: The specific purpose of subsection 3305(h)(2) is to require tire manufacturers or brand name owners submitting a statement for a basic model tire that was previously denied or removed from the tire database to provide a copy of the test report or other information to demonstrate compliance.
Necessity: Subsection 3305(h)(2) is necessary because it provides a means for tire manufacturers or brand name owners to show that a basic tire model is compliant with the regulation.

SECTION 3306. ENERGY PERFORMANCE STANDARD

Section: 3306(a)
Specific Purpose: The specific purpose of subsection 3306(a) is to establish the scope of tire energy performance standards and deadlines for replacement tires sold in the state. The purpose is to prohibit the sale of less efficient replacement tires. This subsection does not apply to tires that are eligible for another tire category or an exemption in subsections (b), (c), (d), (e), (f), (g), (h), and (i) of section 3306.
Necessity: Subsection 3306(a) is necessary as Public Resources Code section 25773(a)(1) requires the CEC's program to adopt replacement tire energy performance standards that are technically feasible and cost-effective and do not adversely affect tire safety, average tire life, or state efforts to manage scrap tires. Therefore, establishing minimum energy performance standards is necessary for the CEC to implement statutory mandates.

Section: 3306(a)(1)
Specific Purpose: The specific purpose of subsection 3306(a)(1) is to state that no energy performance standard applies to tires manufactured before January 1, 2028.
Necessity: Subsection 3306(a)(1) is necessary to allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standards under subsections 3306(a)(2) and (3).

Section: 3306(a)(2)
Specific Purpose: The specific purpose of subsection 3306(a)(2) is to require tires manufactured on or after January 1, 2028, to achieve a rolling resistance coefficient not greater than 9.0 N/kN.
Necessity: Subsection 3306(a)(2) is necessary to set the implementation date of the first phase of tire energy performance standards. All replacement tires manufactured on or after January 1, 2028, must meet the 9.0 N/kN RRC level. This subsection is also necessary to allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standard under subsection 3306(a)(3).

Section: 3306(a)(3)
Specific Purpose: The specific purpose of subsection 3306(a)(3) is to require tires manufactured on or after January 1, 2031, to achieve a rolling resistance coefficient not greater than 7.1 N/kN.
Necessity: Subsection 3306(a)(3) is necessary to set the implementation date of the second phase of tire energy performance standards. All replacement tires manufactured on or after January 1, 2031, must meet the 7.1 N/kN RRC level.

Section: 3306(b)
Specific Purpose: The specific purpose of subsection 3306(b) is to establish tire performance standards and deadlines for replacement tires eligible as ultra long-life and ultra high-performance tires.
Necessity: Subsection 3306(b) is necessary because the energy performance standards are implemented in two phases with increasing efficiency. Ultra long-life and ultra high-performance tire categories have an energy performance standard that is different from the base replacement tire standard in subsection 3306(a). Ultra long-life and ultra high-performance tires have characteristics that are specific to consumer selection. Because the regulation must not adversely affect tire safety, average tire life, or efforts to manage scrap tires, due to the specifications of these tires, a different energy performance standard is necessary to support the continued production of these tires.

Section: 3306(b)(1)
Specific Purpose: The specific purpose of subsection 3306(b)(1) is to state that no energy performance standard applies to ultra long-life and long-life tires manufactured before January 1, 2028.
Necessity: Subsection 3306(b)(1) is necessary to establish the date that the energy performance standard is implemented and allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standards under subsections 3306(b)(2) and (3).

Section: 3306(b)(2)
Specific Purpose: The specific purpose of subsection 3306(b)(2) is to require tires eligible as ultra long-life and ultra high-performance tires, manufactured on or after January 1, 2028, to achieve a rolling resistance coefficient not greater than 9.8 N/kN.
Necessity: Subsection 3306(b)(2) is necessary to set the first phase implementation date for ultra long-life and ultra high-performance replacement tires. All ultra long-life and ultra high-performance tires manufactured on or after January 1, 2028, must meet the 9.8 N/kN RRC level. This subsection is also necessary to allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standard under subsection 3306(b)(3).

Section: 3306(b)(3)
Specific Purpose: The specific purpose of subsection 3306(b)(3) is to require tires eligible as ultra long-life and ultra high-performance tires, manufactured on or after January 1, 2031, to achieve a rolling resistance coefficient not greater than 8.5 N/kN.

Necessity: Subsection 3306(b)(3) is necessary to set the second phase implementation date for ultra long-life and ultra high-performance replacement tires. All ultra long-life and ultra high-performance tires manufactured on or after January 1, 2031, must meet the 8.5 N/kN RRC level. Public Resources Code section 25773 requires that the replacement tire efficiency program not adversely affect state efforts to manage scrap tires; ultra long-life and ultra high-performance tires to meet a less stringent performance standard because these tires have unique wear and performance attributes not applicable to other replacement tires.

Section: 3306(c)
Specific Purpose: The specific purpose of subsection 3306(c) is to establish tire performance standards and deadlines for replacement tires eligible as long-life tires.
Necessity: Subsection 3306(c) is necessary because the energy performance standards are implemented in two phases with increasing efficiency. The long-life tire category has an energy performance standard that is different from the base replacement tire standard in subsection 3306(a). Not only are long-life tires a specific tire characteristic that consumers rely upon; the regulation must not adversely affect tire safety, average tire life, or efforts to manage scrap tires. Allowing a different energy performance standard is necessary to support the continued production of these tires.

Section: 3306(c)(1)
Specific Purpose: The specific purpose of subsection 3306(c)(1) is to state that no energy performance standard applies to tires designated as long-life manufactured before January 1, 2028.
Necessity: Subsection 3306(c)(1) is necessary to establish the date that the energy performance standard is implemented and allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standards under subsections 3306(c)(2) and (3).

Section: 3306(c)(2)
Specific Purpose: The specific purpose of subsection 3306(c)(2) is to require tires eligible as long-life, manufactured on or after January 1, 2028, to achieve a rolling resistance coefficient not greater than 9.4 N/kN.
Necessity: Subsection 3306(c)(2) is necessary to require long-life replacement tires to comply with the first phase-in implementation date. All long-life tires manufactured on or after January 1, 2028, must meet the 9.4 N/kN RRC level. This subsection is also necessary to allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standard under subsection 3306(c)(3)

Section: 3306(c)(3)
Specific Purpose: The specific purpose of subsection 3306(b)(3) is to require tires eligible as long-life tires, manufactured on or after January 1, 2031, to achieve a rolling resistance coefficient not greater than 7.8 N/kN.
Necessity: Subsection 3306(c)(3) is necessary to set the second phase implementation date for long-life tires. Long-life tires have unique wear and attributes not applicable to other replacement tires. All long-life tires manufactured on or after January 1, 2031, must meet the 7.8 N/kN RRC level.

Section: 3306(d)
Specific Purpose: The specific purpose of subsection 3306(d) is to establish the tire energy performance standards and deadlines for which tires eligible as low load index tires must comply.
Necessity: Subsection 3306(d) is necessary because the energy performance standards are implemented in two phases with increasing efficiency. The low load index tire category has an energy performance standard that is different from the base replacement tire standard in subsection 3306(a). Because low load index tires are typically equipped on smaller, more fuel-efficient vehicles and they tend to be smaller tires than tires with a higher load index, their characteristics are differentiated from base replacement tires and therefore necessitate a different energy performance standard.

Section: 3306(d)(1)
Specific Purpose: The specific purpose of subsection 3306(d)(1) is to state that no energy performance standard applies to tires designated as low load index manufactured before January 1, 2028.
Necessity: Subsection 3306(d)(1) is necessary to establish the date that the energy performance standard is implemented and allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standards under subsections 3306(d)(2) and (3).

Section: 3306(d)(2)
Specific Purpose: The specific purpose of subsection 3306(d)(2) is to require tires eligible as low load index, manufactured on or after January 1, 2028, to achieve a rolling resistance coefficient not greater than 9.5 N/kN.
Necessity: Subsection 3306(d)(2) is necessary to require low load index replacement tires to comply with the first phase implementation of energy performance standards. This subsection is also necessary to allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standard under subsection 3306(d)(3).

Section: 3306(d)(3)
Specific Purpose: The specific purpose of subsection 3306(d)(3) is to require tires eligible as low load index tires, manufactured on or after January 1, 2031, to achieve a rolling resistance coefficient not greater than 7.6 N/kN.
Necessity: Subsection 3306(d)(3) is necessary because low load index tires are often used on older vehicles. Setting a more lenient minimum performance standard for low load index tires avoids the possibility that these tires will be removed from the market. All low load tires manufactured on or after January 1, 2031, must meet the 7.6 N/kN RRC level.

Section: 3306(e)
Specific Purpose: The specific purpose of subsection 3306(e) is to establish the tire energy performance standards and deadlines for which tires eligible as light truck replacement tires must comply.
Necessity: Subsection 3306(e) is necessary because the energy performance standards are implemented in two phases that increase in efficiency. This subsection is also necessary to provide an energy performance standard specific to light truck

replacement tires due to feedback from manufacturers regarding the unique performance and utility requirements of light trucks that differentiate these tires from base replacement tires.

Section: 3306(e)(1)
Specific Purpose: The specific purpose of subsection 3306(e)(1) is to state that no energy performance standard applies to tires designated as light truck replacement tires manufactured before January 1, 2028.
Necessity: Subsection 3306(e)(1) is necessary to establish the date that the energy performance standard is implemented and allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standards under subsections 3306(e)(2) and (3).

Section: 3306(e)(2)
Specific Purpose: The specific purpose of subsection 3306(e)(2) is to require tires eligible as light truck replacement tires, manufactured on or after January 1, 2028, to achieve a rolling resistance coefficient not greater than 9.0 N/kN.
Necessity: Subsection 3306(e)(2) is necessary to require light truck replacement tires to comply with the first phase implementation date of the energy performance standard. This subsection is also necessary to allow time for manufacturers, brand name owners, and retailers to prepare for the more stringent standard under subsection 3306(e)(3)

Section: 3306(e)(3)
Specific Purpose: The specific purpose of subsection 3306(e)(3) is to require tires eligible as low load index tires, manufactured on or after January 1, 2031, to achieve a rolling resistance coefficient not greater than 7.8 N/kN.
Necessity: Subsection 3306(e)(3) is necessary because light truck replacement tires have unique load and size attributes not applicable to the baser replacement tire. Light truck tires shall comply with a different performance standard than the base replacement tires performance standard.

Section: 3306(f)
Specific Purpose: The specific purpose of subsection 3306(f) is to clarify that tires may qualify for more than one tire category for energy performance standards and the most lenient performance standard will apply.
Necessity: Because a replacement tire could fall into more than one category of tires under subsections (a), (b), (c), (d), and (e) of section 3306, subsection 3306(f) is necessary to establish the specific energy performance standard that will apply. Specifically, the category with the numerically higher EU correlated energy performance standard will be applied, which will allow the most lenient energy performance standard to be applied to the tire.

Section: 3306(g)
Specific Purpose: The specific purpose of subsection 3306(g) is to establish an exemption for tires sold directly to the owner or operator of authorized emergency vehicles. Tire retailers are not prohibited from selling directly to an owner or operator of

an authorized emergency vehicle. any tire that does not meet the energy standards in subsections 3306(a) through (g).
Necessity: Subsection 3306(h) is necessary for the CEC to implement the exemption under Public Resources Code section 25773(c). Specifically, this subsection is necessary to establish that retailers are not prohibited from selling tires that do not comply with an energy efficiency standard when they are sold directly to an owner or operator of an authorized emergency vehicle, as defined by Vehicle Code Section 165.

Section: 3306(h)
Specific Purpose: The specific purpose of subsection 3306(h) is to establish an exemption for last resort tires from the energy performance standards, to allow the sale of a tire when no basic model is available in sufficient quantities, for a specific vehicle model operated in California that complies with the subsections 3306(a), (b), (c), (d), (e), (f), and (g), (a), (b), and (c) of section 3308, or both. A tire manufacturer or brand name owner may request an exemption from the performance standards. This exemption allows the last resort tire to be listed in the database of approved tires.
Necessity: Subsection 3306(h) is necessary to prevent the regulations from causing removal from the California market, every basic model tire that is compatible with a specific vehicle model, leaving drivers of that vehicle model with no available tires. The Executive Director may exempt a replacement basic model tire from the energy performance standards upon petition by a tire manufacturer.

Section: 3306(h)(1)
Specific Purpose: The specific purpose of subsection 3306(h)(1) is to establish the process for requesting an exemption for a last resort tire. A tire manufacturer or brand name owner must submit an exemption request letter to the Executive Directory by sending the letter both, electronically to the tire program email address: TIRES@energy.ca.gov, and by hard copy via mail to the Executive Director's address listed on the CEC's website. The exemption request letter shall include a declaration executed under penalty of perjury of the laws of the State of California.
Necessity: Subsection 3306(h)(1) is necessary to establish the process for requesting the exemption for a last resort tire.

Section: 3306(h)(1)(A)
Specific Purpose: The specific purpose of subsection 3306(h)(1)(A) is to require a tire manufacturer or brand name owner requesting the last resort tire exemption to provide in their request letter, the model name and tire size designation of the tire.
Necessity: Subsection 3306(h)(1)(A) is necessary because the Executive Director needs identifying information about the tire for which an exemption is being requested, to determine whether to grant the exemption.

Section: 3306(h)(1)(B)
Specific Purpose: The specific purpose of subsection 3306(h)(1)(B) is to require a tire manufacturer or brand name owner requesting the last resort tire exemption to provide any facts or evidence to support the conclusion that there is no alternative basic model that meets the standards of this section, or subsections (a) and (b) of section 3308 or

both, that is available for sale in sufficient volumes for a specific vehicle operated in California.
Necessity: Subsection 3306(h)(1)(B) is necessary to provide the Executive Director with the information needed to make a determination about the merits of the requested exemption.

Section: 3306(h)(1)(C)
Specific Purpose: The specific purpose of subsection 3306(h)(1)(C) is to require a tire manufacturer or brand name owner requesting the last resort tire exemption to provide any new information that has become available or the changed circumstances that have occurred, if a request for exemption was previously denied.
Necessity: Subsection 3306(h)(1)(C) is necessary to provide the Executive Director with the information needed to make a determination about the merits of the requested exemption. This subsection is also necessary because without this subsection, a requestor could repeatedly submit exemption requests using the same information provided in previously denied requests.

Section: 3306(h)(1)(D)
Specific Purpose: The specific purpose of subsection 3306(h)(1)(D) is to require the tire manufacturer or brand name owner requesting the last resort tire exemption to provide the information required of a complete tire statement, pursuant to section 3305(e).
Necessity: Subsection 3306(h)(1)(D) is necessary to provide the Executive Director with the information needed to compare and make a determination about the merits of the requested exemption. Specifically, this subsection is necessary because without this subsection, the Executive Director would not have information about the tire's characteristics in order to determine whether an alternative basic model is available in sufficient quantities.

Section: 3306(h)(1)(E)
Specific Purpose: The specific purpose of subsection 3306(h)(1)(E) is to require a tire manufacturer or brand name owner requesting the last resort tire exemption to provide the full legal name, address of the principal place of business, telephone number, and email addresses of both the person executing the declaration and any entity requesting an exemption, and the title of the person.
Necessity: Subsection 3306(h)(1)(E) is necessary to provide the Executive Director with the contact information needed for the Executive Director to request additional information necessary for a complete exemption letter under subsection 3306(h)(2). This information is necessary for the Executive Director to make a determination about the merits of the requested exemption and to respond to that request.

Section: 3306(h)(1)(F)
Specific Purpose: The specific purpose of subsection 3306(h)(1)(F) is to require that the person executing the declaration is authorized to do so and to submit the request on behalf of all entities included in the request.
Necessity: Subsection 3306(h)(1)(F) is necessary to give the Executive Director assurance that the declaration is authorized by the requesting entity.

Section: 3306(h)(2)
Specific Purpose: The specific purpose of subsection 3306(h)(2) is to establish that the Executive Director shall review all requests for last resort tire exemptions.
Necessity: Subsection 3306(h)(2) is necessary to establish the process for which the Executive Director will make determinations upon exemption requests.

Section: 3306(h)(2)(A)
Specific Purpose: The specific purpose of subsection 3306(h)(2)(A) is to establish that the Executive Director shall review all last resort tire exemption requests for completeness and may, within 14 days after receipt, notify the requester if the request letter is not complete, identifying the information that is missing.
Necessity: Subsection 3306(h)(2)(A) is necessary to provide a timeline expectation for the evaluation of exemption request that is incomplete. This subsection is also necessary so that the Executive Director makes determinations that are based on request letters that are complete and comply with subsection 3306(h)(1).

Section: 3306(h)(2)(B)
Specific Purpose: The specific purpose of subsection 3306(h)(2)(B) is to establish that the Executive Director shall have 60 days to approve or deny an exemption request, following the determination that an exemption request letter is complete. To evaluate the request, the Executive Director shall review information from the request letter, the market inventory in California, and the tire manufacturer's ability to produce a compliant tire.
Necessity: Subsection 3306(h)(2)(B) is necessary to provide an expectation for how the review of an exemption requests will be evaluated. This subsection is also necessary to ensure that the Executive Director makes determinations upon complete exemption request letters in a timely manner.

Section: 3306(h)(2)(C)
Specific Purpose: The specific purpose of subsection 3306(h)(2)(C) is to establish that the Executive Director shall grant a request if it is determined that the requester has sufficiently demonstrated that no basic model complies with the requirements of subsections (a), (b), (c), (d), (e), (f), (g), and (h) of this section, or subsections (a), (b), and (c) of section 3308, or both, and is available in sufficient quantities for a specific vehicle model operated in California.
Necessity: Subsection 3306(h)(2)(C) is necessary to provide an illustrative, non-exhaustive list of factors that the Executive Director may consider when determining whether to grant the exemption request. This subsection is necessary because without this subsection, there would be no standards for the Executive Director's determination.

Section: 3306(h)(2)(D)
Specific Purpose: The specific purpose of subsection 3306(h)(2)(D) is to establish that the authority of the Executive Director shall not be limited in this subsection, pursuant to section 3309, compliance and verification.
Necessity: Subsection 3306(h)(2)(D) is necessary to acknowledge that the authority of the Executive Director is not limited to the actions of this subsection but also expands in the area of compliance and verification of tire data in section 3310.

Section: 3306(h)(3)
Specific Purpose: The specific purpose of subsection 3306(h)(3) is to establish that the Executive Director may revoke a granted exemption upon 60 days' notice to the contact person for the exemption request. The revocation will apply to the basic model tires manufactured after the date of revocation, when it is determined that a basic model is available in California that complies with the requirements of subsections (a), (b), (c), (d), (e), (f), (g), and (h) of this subsection, or subsections (a), (b), and (c) of section 3308, which deems the basis for the requested exemption, no longer applicable.
Necessity: Subsection 3306(h)(3) is necessary to provide the process for which a granted exemption for a last resort tire may be revoked by the Executive Director. This subsection is necessary because without the subsection, a basic model exempted as a last resort tire could continue to be exempted even though the exemption would no longer apply to the basic model.

Section: 3306(h)(4)
Specific Purpose: The specific purpose of subsection 3306(h)(4) is to establish the appeal process and timeline for the decision made by the Executive Director. An appeal to the Commission must be made within 30 days of the exemption decision, pursuant to section 3310(d).
Necessity: Subsection 3306(h)(4) is necessary to allow a tire manufacturer or brand name owner to appeal a decision made by the Executive Director.

Section: 3306(h)(5)
Specific Purpose: The specific purpose of subsection 3306(h)(5) is to establish the exemption duration and renewal process for a tire of last resort. The exemption granted for a last resort tire will last for seven years after the exemption is granted and will automatically expire without notice. A tire manufacturer may renew the seven-year period by requesting another exemption at any time before the exemption terminates.
Necessity: Subsection 3306(h)(5) is necessary to allow the renewal of last resort tire exemptions. The automatic expiration coincides with the expected natural expiration of an unsold tire, and since reporting is not required annually, manufacturers will only need to request another exemption if the tire is still in production beyond the 7-year retention. This subsection is necessary to place a reasonable time limit for the exempt grant and to prevent granting an exemption that would apply indefinitely.

SECTION 3307. ENERGY EFFICIENCY RATING FOR REPLACEMENT TIRES

Section: 3307(a)
Specific Purpose: The specific purpose of Section 3307 is to develop a rating system for the energy efficiency of replacement tires sold in the state, as required by Public Resources Code section 25771(b), to aid potential purchasers in the selection of new replacement tires. Tires are rated from zero to four leaves for fuel efficiency based on the declared EU correlated rolling resistance coefficient of the tire.
Necessity: Subsection 3307(a) is necessary to establish the required tire energy efficiency rating system pursuant to Public Resources Code section 25771(b). The rating system categorizes the efficiency of a replacement tire in the form of a leaf value, with the most efficient replacement tires receiving four "leaves", and the least efficient

tires receiving no leaf. This subsection is necessary to establish tire ratings to aid potential purchasers in the selection of new replacement tires, and the tire ratings are segmented in five ratings, zero to four leaves, similar to conventions in other jurisdictions. For example, Annex I of regulation 2020/740 of the European Parliament and of the Council of 25 May 2020 provides a fuel efficiency rating system segmented in five ratings for similar ranges of rolling resistance coefficients. Segmenting the rating system under the proposed regulations similar to the European rating system provides uniformity in rating systems. This subsection also implements a rating system necessary for the CEC to develop requirements for tire manufacturers to report the energy efficiency of replacement tires sold in the state under Public Resources Code section 25771(c).

SECTION 3308. RELATIVE WET GRIP BRAKING PERFORMANCE INDEX PERFORMANCE STANDARD

Section: 3308(a)
Specific Purpose: The specific purpose of section 3308(a) is to establish a relative wet grip braking performance index as a minimum performance standard for replacement tires sold in California. New replacement tires sold in California that are manufactured on or after January 1, 2028, shall meet the 1.0 relative wet grip braking performance index performance standard to be eligible for sale.
Necessity: Subsection 3308(a) is necessary because Public Resources Code section 25772(a)(1)(B) directs the CEC to develop and adopt minimum energy efficiency standards for replacement tires that do not adversely affect tire safety. Wet grip is a measurement of the ability of a tire to maintain grip in wet conditions and is the primary measurement of a tire's safety. The wet grip minimum performance standard was suggested by tire industry representatives to lower the potential that tires could be manufactured with reduced wet grip performance to meet the low-rolling-resistance standards. A wet grip index of 1.0 means the tire tested has the same level of performance as the reference tire used for testing.

Section: 3308(b)
Specific Purpose: The specific purpose of section 3308(b) is to provide an exemption for tires that are used for authorized emergency vehicles. Tire retailers are not prohibited from selling or offering for sale, any tire that does not meet the relative wet grip braking performance index of 1.0, when sold directly to an owner or operator of an authorized emergency vehicle.
Necessity: Subsection 3308(b) is necessary for the CEC to implement the exemption under Public Resources Code section 25773(c). Specifically, this subsection is necessary to establish that retailers may sell non-compliant tires when they are sold directly to an owner or operator of an authorized emergency vehicle, as defined by Vehicle Code Section 165.

Section: 3308(c)
Specific Purpose: The specific purpose of section 3308(c) is to provide an exemption for last resort tires, to allow the sale of a tire when no other basic model tire is available

in sufficient quantities, for a specific vehicle model operated in California, that complies with the relative wet grip braking performance index performance standard.
Necessity: Subsection 3308(c) is necessary to prevent the regulations from removing from the market every basic model tire that is compatible with a specific vehicle model and leaving drivers of that vehicle model with no available tires. The Executive Director may exempt an otherwise noncompliant replacement basic model tire upon petition by a tire manufacturer. This exemption allows the last resort tire to be listed in the database of approved tires without meeting the relative wet grip braking performance index performance standard of subsection 3308(a).

SECTION 3309. COMPLIANCE AND VERIFICATION

Section: 3309(a)
Specific Purpose: The specific purpose of subsection 3309(a) is to establish for compliance and verification, all the conditions that make replacement tires and limited production tires legal for sale in California.
Necessity: Subsection 3309(a) is necessary for the CEC to develop and adopt minimum energy efficiency standards for replacement tires pursuant to Public Resources Code section 25773(a)(1) and to establish that no tire manufacturer, brand name owner, or tire retailer can sell a replacement tire in California unless it meets the energy performance standard and the relative wet grip braking performance index performance standard. This subsection is also necessary because it implements the directive in Public Resources Code section 25771(c) that the CEC develop and adopt requirements for tire manufacturers to report the energy efficiency of replacement tires sold in the state.

Section: 3309(a)(1)
Specific Purpose: The specific purpose of subsection 3309(a)(1) is to establish that a basic model tire must be listed in the database of approved tires.
Necessity: Subsection 3309(a)(1) is necessary for the CEC to develop and adopt a database of the energy efficiency of a representative sample of replacement tires sold in the state, a rating system for the energy efficiency of replacement tires sold in the state, and requirements for tire manufacturers to report the energy efficiency of replacement tires sold in the state pursuant to Public Resources Code 25771(a), (b), and (c).

Section: 3309(a)(2)
Specific Purpose: The specific purpose of subsection 3309(a)(2) is to establish that any replacement tire for which a statement of information is submitted to the tire database under subsection 3305 must meet the minimum performance standards for energy efficiency and wet grip, unless the basic model has been designated as a last resort tire.
Necessity: Subsection 3309(a)(2) is necessary for the CEC to develop and adopt minimum energy efficiency standards for replacement tires pursuant to Public Resources Code section 25773(a)(1) by ensuring that replacement tires must meet the energy performance standard and the relative wet grip braking performance index performance standard, unless they meet an exemption.

Section: 3309(a)(3)
Specific Purpose: The specific purpose of subsection 3309(a)(3) is to establish that the tire manufacturer or brand name owner must submit an up-to-date statement for the replacement tire basic model to indicate that it meets the performance standards for energy efficiency and wet grip.
Necessity: Subsection 3309(a)(3) is necessary for the CEC to develop and adopt minimum energy efficiency standards for replacement tires and requirements for tire manufacturers to report the energy efficiency of replacement tires sold in the state pursuant to Public Resources Code sections 25771(c) and 25773(a)(1). Specifically, requiring up-to-date statements of information for basic models under section 3305 is necessary to ensure that manufacturers and brand name owners provide legal acknowledgement through the tire statement that the replacement tire basic model meets all required minimum performance standards.

Section: 3309(b)
Specific Purpose: The specific purpose of subsection 3309(b) is to establish that the Executive Director may request verification of tire data from the manufacturer or brand name owner.
Necessity: Subsection 3309(b) is necessary to survey and enforce compliance with the requirements of this regulation so that the CEC can develop and adopt minimum energy efficiency standards for replacement tires under Public Resources Code section 25773(a)(1).

Section: 3309(b)(1)
Specific Purpose: The specific purpose of subsection 3309(b)(1) is to establish that the CEC staff may at any time request a copy of the test report or any other information that is needed for verification of tire data submitted, pursuant to section 3305. The request shall be sent to the contact designated in section 3305(c)(2) and the manufacturer or brand name owner must provide the information to the Executive Director within 30 days of the receipt of the request, or at a mutually agreed upon date.
Necessity: Subsection 3309(b)(1) is necessary to specify that the Executive Director may request additional information to verify the validity of a tire statement. It is necessary that the submitter provide accurate contact information to respond to these requests in a timely manner.

Section: 3309(b)(2)
Specific Purpose: The specific purpose of subsection 3309(b)(2) is to establish that if the Executive Director does not receive the requested tire information within the specified or agreed upon time, a tire listing may be moved to the archive database, with notification to the designated contact in section 3305(c)(2).
Necessity: Subsection 3309(b)(2) is necessary because manufacturers and brand name owners must respond to a request for information within the designated timeframe. If a contact is non-responsive or fails to deliver the required documentation, the tire listing will be removed from the database of approved tires to the database of archived tires and are no longer legal for sale.

Section: 3309(b)(3)
Specific Purpose: The specific purpose of subsection 3309(b)(3) is to establish that when the Executive Director makes a determination that the tire data declared by the manufacturer or brand name owner is different from the actual characteristics of the tire, the Executive Director shall notify the designated contact person for the tire and modify the listing. The Executive Director may also challenge the qualifications of the compliance verification laboratory.
Necessity: Subsection 3309(b)(3) is necessary to clarify that the Executive Director may determine that the information declared by the submitter was not true or complete and continue with the necessary actions as appropriate. This subsection is necessary to ensure that the database of tires contains accurate information as part of the directive in Public Resources Code section 25771(a) that the CEC develop and adopt a database of the energy efficiency of a representative sample of replacement tires sold in the state.

Section: 3309(c)
Specific Purpose: The specific purpose of subsection 3309(c) is to establish that the Executive Director or designee may periodically conduct tire inspections to ensure conformance with the requirements of this Article.
Necessity: Subsection 3309(c) is necessary to describe the expectation for periodic inspection of tires available on the market to ensure that the database of tires contains accurate information.

Section: 3309(c)(1)
Specific Purpose: The specific purpose of subsection 3309(c)(1) is to establish that the CEC staff may periodically inspect tires sold or offered for sale in California, to ensure conformance with sections 3303, 3304, 3305, 3306, 3307, and 3308 of this Article. Inspection of a basic model shall consist of at least one tire and may include tire testing.
Necessity: Subsection 3309(c)(1) is necessary to set the expectation for periodic inspection of tires including the minimum number of tires to be inspected or tested.

Section: 3309(c)(2)
Specific Purpose: The specific purpose of subsection 3309(c)(2) is to specify that if the tire inspection indicates that the tire information reported and declared by the manufacturer or brand name owner conforms to all the requirements of this Article, the matter may be closed.
Necessity: Subsection 3309(c)(2) is necessary to indicate when a matter of inspection is considered closed. If the inspection results in the tire statement and declaration made by the manufacturer or brand name owner being correct and complete, no further action follows.

Section: 3309(c)(3)
Specific Purpose: The specific purpose of subsection 3309(c)(3) is to establish that if the inspection indicates that the tire characteristics are different than what was declared by the submitter, the Executive Director may proceed to a determination of the qualification of the compliance verification laboratory.

Necessity: Subsection 3309(c)(3) is to inform regulated parties that when a tire is subject to inspection and fails to comply with the regulation, additional steps may be taken to determine the appropriate action towards resolution. This subsection is necessary to ensure that the database of tires contains accurate information.

Section: 3309(d)
Specific Purpose: The specific purpose of subsection 3309(d) is to establish the ability of the CEC staff to test replacement tires.
Necessity: Subsection 3309(d) is necessary to provide the Executive Director with the ability to test tires to ascertain whether a specific replacement basic model tire complies with the regulation.

Section: 3309(d)(1)
Specific Purpose: The specific purpose of subsection 3309(d)(1) is to establish that the CEC staff may periodically test tires sold or offered for sale in California at test facilities meeting the criteria of section 3303 of this Article, to determine if tires are as reported correctly.
Necessity: Subsection 3309(d)(1) is necessary to describe the process for tire testing that may be done by the CEC. Testing shall be performed by an accredited laboratory for the rolling resistance coefficient to confirm compliance.

Section: 3309(d)(1)(A)
Specific Purpose: The specific purpose of subsection 3309(d)(1)(A) to establish that the CEC shall test three units of a basic model tire using the applicable test procedure specified in section 3303 of this Article and determine the mean plus two standard deviations of the rolling resistance coefficient for the three tires.
Necessity: Subsection 3309(d)(1)(A) is necessary to describe the essential components of testing and to establish that the variability from the energy performance standard will be the mean plus two standard deviations or the rolling resistance coefficient for the three tires that are tested.

Section: 3309(d)(1)(B)
Specific Purpose: The specific purpose of subsection 3309(d)(1)(B) is to establish that the CEC staff shall make a determination based on the results of tire testing.
Necessity: Subsection 3309(d)(1)(B) is necessary to establish what actions the Executive Director may take in response to test findings that a replacement basic model tire does or does not comply with the regulation.

Section: 3309(d)(1)(B)(i)
Specific Purpose: The specific purpose of subsection 3309(d)(1)(B)(i) is to establish that upon completion of the tire test, when the CEC determines that the tire is no different than reported and declared by manufacturer or brand name owner, then the matter may be closed.

Necessity: Subsection 3309(d)(1)(B)(i) is necessary to state that after testing is complete and the CEC staff determines that the tires are no different than reported to the tire database, the matter is closed and no further action will be needed.

Section: 3309(d)(1)(B)(ii)
Specific Purpose: The specific purpose of subsection 3309(d)(1)(B)(ii) to establish that upon completion of the test, when the tire results are different than reported and declared by manufacturer or brand name owner, the CEC staff may proceed according to subsections (e) or (f) of this section.
Necessity: Subsection 3309(d)(1)(B)(ii) is necessary to clarify that additional steps may be taken to determine the appropriate action towards the resolution of a tire test. This subsection is necessary to ensure that information in the database is accurate.

Section: 3309(e)
Specific Purpose: The specific purpose of subsection 3309(e) is to establish the determination of completeness, accuracy and compliance of statements, confirmations and database listings. The CEC staff may at any time challenge the completeness, accuracy, and compliance of any statement or confirmation submitted to the tire database and send notice of the defects to the designated contact person. Other actions authorized by law may be taken as necessary.
Necessity: Subsection 3309(e) is necessary to establish the authority of the CEC, determination of the correctness of any tire statement, and the actions that may be taken to correct or resolve the issue. This subsection is necessary to ensure that the database of tires contains accurate information as part of the directive in Public Resources Code section 25771(a) that the CEC develop and adopt a database of the energy efficiency of a representative sample of replacement tires sold in the state.

Section: 3309(e)(1)
Specific Purpose: The specific purpose of subsection 3309(e)(1) is to establish that the CEC staff may refuse to allow the basic model to be listed in the database of approved tires if it is determined that there is a defect in the results of tire testing and the tire statement.
Necessity: Subsection 3309(e)(1) is necessary to clarify that tire database submissions are subject to inspection and verification, and any defect in that determination may cause the basic model tire to not be listed in the database of approved tires.

Section: 3309(e)(2)
Specific Purpose: The specific purpose of subsection 3309(e)(2) is to establish that the CEC staff shall modify any tire information in the tire database to accurately reflect the determination of tire testing. Modifications can only be done If the results indicate that the tire meets the minimum performance standards for energy and wet grip.
Necessity: Subsection 3309(e)(2) is necessary to specify the actions taken by the CEC staff when a tire statement submitted to the tire database is found to be incorrect, but still compliant with the minimum performance standards. This subsection is necessary to ensure that information in the tire database is accurate.

Section: 3309(e)(3)
Specific Purpose: The specific purpose of subsection 330(e)(3) is to establish the actions of the Executive Director when the tire testing results of any replacement tire basic model tire is found to be not compliant with the energy performance standards, or wet grip performance standard, or both. The tire listing may be removed from the database of approved tires to the database of archived tires and notice sent to the designated contact person.
Necessity: Subsection 3309(e)(3) is necessary to specify the actions taken by the Executive Directory when a tire statement submitted to the tire database is found to be incorrect, and not compliant with any of the minimum performance standards. This subsection is necessary to ensure that information in the tire database is accurate. This subsection is also necessary for the CEC to develop and adopt minimum energy efficiency standards for replacement tires pursuant to Public Resources Code section 25773(a)(1) by allowing only tires listing in the database of approved tires to be sold or offered for sale.

Section: 3309(e)(4)
Specific Purpose: The specific purpose of subsection 3309(e)(4) is to establish a form of action for a tire statement that is not correct. The CEC may test units of the tire at the expense of the CEC, manufacturer, or brand name owner.
Necessity: Subsection 3309(e)(4) is necessary to clarify that the costs of inspection and testing under this Article shall be borne by the CEC, manufacturer, or brand name owner. This subsection is necessary because Public Resources Code section 25770(b) requires that the CEC develop a rating system for the energy efficiency of replacement tires sold in the state that will enable consumers to make more informed decisions when purchasing tires for their vehicles, and therefore these procedures are necessary to ensure that information reported to the database of approved tires is accurate.

Section: 3309(e)(5)
Specific Purpose: The specific purpose of subsection 3309(e)(5) is to establish a form of action for a tire statement that is not correct. The CEC may seek appropriate judicial action and undertake a proceeding against the manufacturer, the brand name owner, or both pursuant to Sections 11445.10, 11445.20, 11445.30, 11445.40, 11445.50. and 11445.60 of the California Government Code (or, at the manufacturer's or brand name owner's option, pursuant to Sections 11425.10, 11425.20, 11425.30, 11425.40, 11425.50, and 11425.60 of the California Government Code).
Necessity: Subsection 3309(e)(5) is necessary to establish procedures to ensure that tire manufacturers and brand name owners report accurate information to the CEC, including statements of information described at section 3305. Specifically, Public Resources Code section 25770(b) requires that the CEC develop a rating system for the energy efficiency of replacement tires sold in the state that will enable consumers to make more informed decisions when purchasing tires for their vehicles, and therefore these procedures are necessary to ensure that information reported to the database of approved tires is accurate.

Section: 3309(f)
Specific Purpose: The specific purpose of subsection 3309(f) is to establish the authority of the Executive Director to make a determination on the qualification of a compliance verification laboratory. The Executive Director may at any time challenge the qualifications of a compliance verification laboratory and if the laboratory fails to comply with the requirements of section 3303(a)(2), the laboratory may be disqualified from serving as a compliance verification laboratory. The laboratory may also be permanently disqualified from serving as a compliance verification laboratory if the laboratory willfully fails to comply or is unable to comply based on repeated violations.
Necessity: Subsection 3309(f) is necessary to assert the importance of the accreditation and standards of a compliance verification laboratory. Tire tests must only be performed by laboratories that meet the specifications to provide correct and accurate results that have been correlated to EU values. This subsection is necessary to implement the directives in Public Resources Code section 25771(a) for the CEC to develop and adopt test procedures and to ensure that compliance verification laboratory adheres to the specific procedures in section 3303(a)(2). In determining whether a laboratory will be disqualified as serving as a compliance verification laboratory, the Executive Director will consider factors outlined in this subsection. While the Executive Director will make this determination, the determination is subject to the appeals process under subsection 3310(d), which includes a de novo review of the Executive Director's determination as to whether the laboratory showed a willful intent to not comply with the procedures in section 3303(a)(2), or an inability to comply based upon repeated violations.

Section: 3309(g)
Specific Purpose: The specific purpose of subsection 3309(g) establishes the authority of the Executive Director to take appropriate action when a tire is being sold that is not listed in the database of approved tires. Appropriate legal action shall be taken to restrain and discourage such sales, including tire testing, appropriate judicial action, and notifications to the manufacturer, brand name owner, or tire retailer of the database requirement.
Necessity: Subsection 3309(g) is necessary to specify the actions taken by the Executive Director when a tire is being sold or offered for sale illegally. These actions may include but are not limited to any one or combination of tire testing, notification of the regulations, and appropriate judicial action.

Section: 3309(h)
Specific Purpose: The specific purpose of subsection 3309(h) is to establish that tire manufacturers, brand name owners, and retailers cannot knowingly make a statement, representation, or claim in any commercial advertisement about a tire that is inconsistent with information that is reported to the CEC tire database.
Necessity: Subsection 3309(h) is necessary to ensure that tire information provided to consumers is not misrepresented or different from what is reported to the tire database.

Section: 3309(i)
Specific Purpose: The specific purpose of subsection 3309(i) is to establish that nothing in this section shall prohibit the Executive Director, CEC, or both from taking any other action provided by law for violations of this Article.
Necessity: Subsection 3309(i) is necessary to allow the Executive Director or CEC to take the necessary actions against an entity that is in violation of this Article. This includes without limitation, referring the matter to the Attorney General for enforcement.

SECTION 3310. GENERAL ADMINISTRATION

Section: 3310(a)
Specific Purpose: The specific purpose of subsection 3310(a) is to allow the CEC staff the ability to specify and require the use of any form or format for the submission of required data, reports, or other information that is required.
Necessity: Subsection 3310(a) is necessary to specify that the CEC staff may require any form or format for the submission of data, reports, and other information required by regulations. This will help ensure that information and data submissions are uncorrupted, valid, in a consistent format, and usable for the administration and to ensure compliance with the regulation.

Section: 3310(b)
Specific Purpose: The specific purpose of subsection 3310(b) is to establish the requirement for electronic submittals to the CEC via the tire database.
Necessity: Subsection 3310(b) is necessary to ensure that the CEC receives accurate and usable information, in a secure and timely manner.

Section: 3310(b)(1)
Specific Purpose: The specific purpose of subsection 3310(b)(1) is to specify that tire statements and other required submittals shall be submitted electronically to the database of approved tires.
Necessity: Subsection 3310(b)(1) is necessary to specify the method of electronic submission for manufacturers and brand name owners reporting under the regulation. Submissions to the tire database, which is a centralized, digital repository, ensure that statements are complete based on the required form fields.

Section: 3310(b)(2)
Specific Purpose: The specific purpose of subsection 3310(b)(2) is to establish that any electronic submittal to the tire database constitutes a representation by the person making the submission.
Necessity: Subsection 3310(b)(2) is necessary to ensure that the person making the submission acknowledges the responsibilities as the submitter and contact person for the entity reporting to the database. This subsection is necessary to ensure that the database contains accurate information.

Section: 3310(b)(2)(A)
Specific Purpose: The specific purpose of subsection 3310(b)(2)(A) is to specify that the person submitting an electronic statement acknowledges that all application requirements of this Article have been met with the submission.
Necessity: Subsection 3310(b)(2)(A) is necessary to ensure that the person making submissions to the tire database acknowledges that all requirements of this article have been met.

Section: 3310(b)(2)(B)
Specific Purpose: The purpose of subsection 3310(b)(2)(B) is to specify that the person making the submission will electronically acknowledge receipt through the tire database for all electronic communications concerning the submission from the CEC staff.
Necessity: Subsection 3310(b)(2)(B) is necessary to provide confirmation that the person submitting statements to the database acknowledges communication from the CEC staff. Only one database profile is allowed for each reporting entity, and the submitter is the designated contact person.

Section: 3310(b)(2)(C)
Specific Purpose: The specific purpose of subsection 3310(b)(2)(C) is to specify that all electronic communications from the CEC staff through the tire database will be considered received by the person, upon electronic notification to the CEC staff that the communication has been sent.
Necessity: Subsection 3310(b)(2)(C) is necessary to ensure that the person receiving communication through the database from the CEC staff acknowledges that the message is considered received when it was sent by the CEC staff. Notification to the CEC staff that a message has been sent is equivalent to the message being received by the designated person. This is essential to administer the program and compliance actions.

Section: 3310(b)(2)(D)
Specific Purpose: The specific purpose of subsection 3310(b)(2)(D) is to specify that all electronic communications regarding a submission from the person to the CEC staff are deemed received upon becoming accessible to the CEC staff through a database submission or email.
Necessity: Subsection 3310(b)(2)(D) is necessary to ensure that submissions through the database to the Executive Director is deemed received only when the Executive Director has access to the information. This is critical for the administration of the program.

Section: 3310(b)(3)
Specific Purpose: The specific purpose of subsection 3310(b)(3) is to allow the CEC staff to refuse an electronic submission by any person and may remove affected tire models from the database of approved tires upon determining that an applicable requirement of this Article is not being met.
Necessity: Subsection 3310(b)(3) is necessary to provide the CEC staff with the ability to ensure that entities and affected tire models that do not comply with program

requirements are removed from the database of approved tires and deemed ineligible for sale. This subsection is necessary because without this subsection, the database could contain inaccurate information.

Section: 3310(c)
Specific Purpose: The specific purpose of subsection 3310(c) is to establish requirements for the retention of records by tire manufacturers and brand name owners provided under this Article.
Necessity: Subsection 3310(c) is necessary to ensure that tire manufacturers and brand name owners retain their own records for a reasonable period, which the Executive Director may request access to, in the event of a dispute.

Section: 3310(c)(1)
Specific Purpose: The specific purpose of subsection 3310(c)(1) is to require tire manufacturers and brand name owners to retain all data, forms, information and other records concerning tires submitted to the database.
Necessity: Subsection 3310(c)(1) is necessary to ensure that tire manufacturers and brand name owners retain records for a reasonable period for each tire, which the Executive Director may request access to, in the event of an investigation, dispute, or litigation.

Section: 3310(c)(1)(A)
Specific Purpose: The specific purpose of subsection 3310(c)(1)(A) is to require tire manufacturers and brand name owners to retain appropriate records for each tire, at least two years after notifying the Executive Director or CEC staff the basic model tire has ceased being sold or offered for sale in California.
Necessity: Subsection 3310(c)(1)(A) is necessary to establish that all records shall be maintained for a reasonable period after the tire data is removed from the database of approved tires because the tire is no longer available for sale in California. This retention period is necessary in the event that the tire is later offered for sale and because the tire manufacturer or brand name owner must comply with reporting requirements including subsection 3305(h)(2).

Section: 3310(c)(1)(B)
Specific Purpose: The specific purpose of subsection 3310(c)(1)(B) is to require manufacturers and brand name owners to provide the Executive Director any data, forms, information and other records concerning tire data submitted to the tire database, upon request.
Necessity: Subsection 3310(c)(1)(B) is necessary to ensure that the Executive Director has access to pertinent tire data for a reasonable period after the tire is no longer being sold. The Executive Director may request access in the event of a dispute, which may be essential to ensure compliance with the regulation.

Section: 3310(c)(2)
Specific Purpose: The specific purpose of subsection 3310(c)(2) is to specify that the CEC staff shall retain all program records for each tire for nine years after the record is initially submitted or reconfirmed.
Necessity: Subsection 3310(c)(2) is necessary to inform both the CEC staff and industry that records will be kept for a period of nine years. After 7 years in the database of approved tires, that tire data will expire and be moved to the database of archived tires for 2 additional years.

Section: 3310(d)
Specific Purpose: The specific purpose of subsection 3310(d) is to establish an appeal process for entities within 30 days of any decision or determination made by the CEC staff pursuant to this Article**.**
Necessity: Subsection 3310(d) is necessary to provide affected entities with a means to challenge a decision or determination by the CEC and to provide a process and timeline in which to appeal.

Section: 3310(d)(1)
Specific Purpose: The specific purpose of subsection 3310(d)(1) is to establish the guidelines for an appeal consistent with the CEC's general regulations in Title 20 CCR sections 1208 and 1208.1. The appeal must be in writing and signed by the appellant when submitted to the CEC. The appeal consists of a written argument stating the grounds for modifying or reversing the decision, identifying the statutes and regulations relevant to the appeal, and stating whether an oral hearing is requested. A copy of all relevant notices, responses, correspondence, documents, and decisions must be included in the appeal.
Necessity: Subsection 3310(d)(1) is necessary to provide clear requirements for an appeal to ensure that the CEC has sufficient information, background and documentation to make a reasonable and equitable decision or determination upon appeal.

Section: 3310(d)(2)
Specific Purpose: The specific purpose of subsection 3310(d)(2) is to specify that the Executive Director must provide a recommendation to the appellant and CEC, whether to affirm, modify, or reverse the decision, within 30 days after the date the appeal was filed. The recommendation includes a statement of law and evidence and a response to the appeal and all relevant notices, responses, correspondences, documents and decisions that were not previously provided by the appellant. The Executive Director may request a verbal hearing.
Necessity: Subsection 3310(d)(2) is necessary to provide appellants with sufficient information on the appeal process, including timing and information that will be included in the CEC's decision or determination. This subsection also sets requirements for the Executive Director to respond to the appellant.

Section: 3310(d)(2)(A)
Specific Purpose: The specific purpose of subsection 3310(d)(2)(A) is to establish that proceedings on the appeal shall be conducted using informal hearing procedures

consistent with Government Code sections 11425.10 and 11445.10, and the Title 20 regulations at sections 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, and 1216. The Chair of the CEC may also appoint a committee to manage the proceedings.
Necessity: Subsection 3310(d)(2)(A) is necessary to notify appellants of the hearing procedures following an appeal, pursuant to the CEC's general administrative procedures.

Section: 3310(d)(2)(B)
Specific Purpose: The specific purpose of subsection 3310(d)(2)(B) is to establish that the CEC must review the decision or determination made based on this section for substantial evidence.
Necessity: Subsection 3310(d)(2)(B) section is necessary to establish clear procedures for any appeal to the CEC.

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CONSIDERATION OF REASONABLE ALTERNATIVES, INCLUDING THOSE THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

No reasonable alternatives to the proposed regulation have been identified or proposed that would lessen any adverse impact on small business or that would be less burdensome and equally effective in achieving the purposes of the regulation in a manner that achieves the purposes of the statute being implemented.

The CEC staff considered two alternatives to the proposed regulations. Alternative 1 includes the original minimum performance standards for replacement tires from the Draft Framework published in February of 2023. Alternative 2 is an adjusted version of the regulation based on recommendations from the United States Tire Manufacturers Association (USTMA) and the Tire and Rubber Association of Canada (TRAC) in response to the Draft Framework by CEC staff.

Alternative 1 requires that tires comply with more aggressive minimum performance standards that would phase-in starting in 2026, whereas Alternative 2 is a relaxed regulation with a substantial change that would phase-in three years after adoption of the regulations. An assessment of the potential economic impact has been completed for the two alternatives based on their fuel cost and emissions savings and the impact on tire businesses in California. This assessment is provided in Attachment A.

Industry representatives generally argued that it would be difficult for the tire industry to comply with the stringent performance standards of Alternative 1, however, Alternative 2 does not comply with the requirements of Public Resources Code section 25772. Statute requires that replacement tires sold in California be as energy efficient, on average, as original equipment tires and based on testing commissioned by the CEC. Alternative 2 standards do not meet the energy efficiency requirements of the law.

As such, the CEC staff concludes that the proposed major regulation is less burdensome yet still effective in achieving the purpose of the regulation in a manner that meets the requirements of the statute.

SPECIFIC TECHNOLOGIES OR EQUIPMENT

The proposed regulation does not mandate specific technology or equipment.

STANDARDIZED REGULATORY IMPACT ANALYSIS (SRIA)

The Creation or Elimination of Jobs Within the State of California

The CEC staff does not expect the proposed regulation will create or eliminate jobs in the State of California as a first-order effect. Fuel cost savings, however, are expected to increase household discretionary spending and result in the second-order creation of jobs across all sectors.

The Creation of New Businesses or the Elimination of Existing Businesses Within the State of California

The CEC staff does not expect the creation of new businesses or the elimination of existing businesses as a result of the proposed regulation. Tire manufacturing does not take place in California, so any marginal increase in manufacturing costs over the baseline will not occur in California.

The Competitive Advantages or Disadvantages Businesses Currently Doing Business Within the State

The CEC staff does not expect that the proposed regulations would create any business advantages or disadvantages between California-based and out-of-state tire manufacturers or retailers. The proposed regulations apply equally to California-based businesses and those selling tires into the California market from out of state. Businesses will also be permitted to transport noncompliant tires through California to sell in other states or countries. While California consumers could seek noncompliant tires in an unregulated jurisdiction and import them to California, the CEC staff does not expect this to create a major disadvantage because the incremental cost of the regulations is cost-effective and the areas where this may occur are generally in sparsely populated California border regions. Illegal importation of noncompliant tires from other states would likely be limited and unprofitable.

The Increase or Decrease of Investment in the State

The CEC staff expects that it is unlikely that significant investments will occur in California due to the proposed regulations because manufacturing and the vast majority of research and development for the tire industry reside outside of California.

The Incentives for Innovation in Products, Materials, or Processes

California has the highest vehicle registration count in the nation. Therefore, providing products that meet regulations and consumer needs has been demonstrated to be important to manufacturers from many different product sectors, including the tire industry. Tire manufacturers maintain competitive advantage by investing in new tire model designs and new manufacturing processes, which enables efficient tire technology to be advanced and allows ongoing access to markets moving toward energy-efficient tires, like California. For example, EV sales in California have contributed to the development of tires with low noise levels, and these innovations are likely to continue because of the proposed regulations.

Benefits of the Regulations to the Health and Welfare of California Residents, Worker Safety, and the State's Environment

The CEC staff expects that the net fuel cost benefit from fuel efficient tires will increase household discretionary spending and result in the second-order creation of jobs and improved quality of life. The social benefits of abated carbon dioxide emissions include the health benefits associated with reduced air pollution.

DETERMINATION THAT THE PROPOSED REGULATION WILL HAVE NO SIGNIFICANT ADVERSE ECONOMIC IMPACT AFFECTING BUSINESS

The CEC staff has made an initial determination that the proposed regulation will not have a significant adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. Evidence supporting the CEC staff's initial determination that the proposed regulation will not have a significant adverse economic impact on businesses can be found attached to this Initial Statement of Reasons in *Attachment A: Standardized Regulatory Impact Assessment*.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

The CEC staff has determined that there are no existing comparable federal regulations or statutes.

FOR FURTHER INFORMATION

Inquiries concerning all aspects of the rulemaking process, including the substance of the proposed regulations or any other information upon which the proposed regulation is based, should be directed to the contact persons listed in the Notice of Proposed Action for this rulemaking.

LIST OF ABBREVIATIONS

AB – Assembly Bill
CEC – California Energy Commission
CO2 – Carbon Dioxide
CO2e – Carbon Dioxide Equivalent
DOT – Department of Transportation
ISO – International Organization for Standardization
kN – Kilonewton
M – Meter
MPH – Miles Per Hour
MPS – Minimum Performance Standard
N – Newtons
NHTSA – National Highway Traffic Safety Administration
OE – Original Equipment
QR – Quick Response
RRC – Rolling Resistance Coefficient
SRIA – Standardized Regulatory Impact Analysis

UNECE -- United Nations Economic Commission for Europe
UTQG – Uniform Tire Quality Grading System

CALIFORNIA ENERGY COMMISSION

California Energy Commission

Economic Impact Analysis of the Replacement Tire Efficiency Program

Prepared by Evergreen Economics and California Energy Commission Staff

EVERGREEN ECONOMICS

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California Energy Commission

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ABSTRACT

In 2022, the California Energy Commission (CEC) engaged Evergreen Economics (Evergreen) to perform an economic analysis as part of a Standardized Regulatory Impact Assessment (SRIA) for the proposed Replacement Tire Efficiency Program. Assembly Bill (AB) 844 (Nation, Chapter 645, Statutes of 2003) mandates the California Energy Commission to address the issue that replacement tires for passenger cars and light-duty trucks are, on average, less energy-efficient than original equipment tires that come equipped on new vehicles. Tire efficiency has a significant impact on the energy consumption of vehicles; it affects vehicle fuel costs and the associated greenhouse gas emissions. This regulation will establish minimum efficiency requirements for most replacement tires sold for use on light-duty vehicles in California starting in 2028.

This report evaluates the economic impact of these replacement tire efficiency standards on consumers, businesses, and government agencies within the state. The analysis focuses on the correlation between reduced rolling resistance of a tire and the resulting decrease in fuel consumption of a vehicle.

This report uses models built by Evergreen and refined by CEC staff. The regulations will produce about $4 billion in cumulative fuel cost savings to California drivers between 2028 and 2035 and $3 billion in net benefits over the same period, as defined as incremental fuel cost savings minus incremental costs. The proposed regulations will, in this estimation, reduce carbon dioxide equivalent emissions by 8.6 million metric tons between 2028 and 2035.

Keywords: Economic impacts, Standardized Regulatory Impact Assessment, tire efficiency regulations, rolling resistance, replacement tires, minimum performance standards, fuel economy, emissions abatement, light-duty vehicles, tire businesses, fuel cost savings, passenger car, SUV, light-duty truck, van, total social benefit

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EXECUTIVE SUMMARY

The California Energy Commission (CEC), with assistance from Evergreen Economics (Evergreen), has developed a Standardized Regulatory Impact Assessment (SRIA) for the Replacement Tire Efficiency Program. California Assembly Bill 844 (Nation, Chapter 645, Statutes of 2003) mandates that the CEC adopt a program to require replacement tires for passenger vehicles and light-duty trucks to be, on average, at least as efficient as the original equipment tires. Tire efficiency has a significant impact on the energy consumption of vehicles; it affects vehicle fuel costs and the associated greenhouse gas emissions. There are no comparable federal or local tire efficiency regulations.

The regulations will produce about $4 billion in cumulative fuel cost savings to California drivers between 2028 and 2035, and $3 billion in net benefits over the same period. That is, the incremental additional cost of more efficient replacement tires is vastly surpassed by the fuel cost savings to California drivers. For the average affected driver of a light-duty gasoline vehicle, the more efficient tires would pay for the incremental additional cost after fewer than 7 months of the tires' 4-year lifespan. The net benefits are estimated to increase household discretionary income. The proposed regulations will reduce carbon dioxide equivalent emissions by 8.6 million metric tons between 2028 and 2035. These estimates account for changes in California's vehicle fleet toward zero-emission vehicles.

Although the amount of savings vastly outweighs the costs and yields a net economic benefit for consumers, the CEC is required by statute to complete this SRIA and provide it to the California Department of Finance because the absolute economic impact of the proposed regulation exceeds $50 million in the first year the regulation takes effect. Specifically, in 2028, the first year the regulation takes effect, it is expected to produce approximately $41 million in fuel cost savings and $14 million in costs.

This SRIA includes a broad statewide economic impact model based in part on the estimated household fuel savings and incremental tire costs that would result from the proposed regulatory standards. Evergreen staff has analyzed the economic impacts of the proposed regulation. CEC staff has refined the model. This SRIA analysis uses Evergreen's analysis complemented by CEC staff's updates and refinements. All estimated values in this report are approximations.

CHAPTER 1:
Modeling Assumptions

Introduction

Evergreen and California Energy Commission (CEC) staff analyzed the potential economic impact of the proposed regulation on replacement tire efficiency in California. Directed by Assembly Bill 844 (Nation, Chapter 645, Statutes of 2003), CEC staff proposed a regulation of replacement tire efficiency that would impact most passenger vehicles and light-duty trucks in the state.

The proposed regulation will be enacted in two phases. Starting January 1, 2028, Phase 1 of the regulation requires that replacement tires sold in California meet a minimum performance standard for tire efficiency. Starting January 1, 2031, Phase 2 of the regulation sets a more stringent requirement for tire efficiency. This report estimates the economic impact of the regulation, spanning 2028 through 2035.

Key Assumptions and Inputs for Estimating Economic Impacts Associated With the Proposed Regulation

The approach of the Standardized Regulatory Impact Assessment (SRIA) to estimating fuel cost savings under the proposed regulation is based on the relationship between the rolling resistance of a tire and the fuel economy of a vehicle. *Rolling resistance* refers to the loss of energy primarily due to tire distortion as the tire rolls.[1] The rolling resistance force opposes the motion of a vehicle and therefore requires additional energy from the vehicle engine or motor to maintain speed, directly affecting fuel consumption. Increased efficiency benefits combustion vehicle range and electric vehicle (EV) range.

The efficiency of a tire is rated by the respective *rolling resistance coefficient* (RRC). RRC is used in setting the standard instead of the *rolling resistance force* (RRF) because it normalizes the differences between differing vehicle weights, avoiding the need to set unique standards for specific vehicle weight classes.[2] The RRC is the RRF divided by the weight placed on the tire and measured in newton per kilonewtons. Therefore, a tire designed for a vehicle twice as heavy as another tire can have twice the RRF and still have the same RRC. A tire with a high RRC will be less efficient than one with a low RRC and, therefore, requires more fuel to generate the mechanical energy needed to overcome the higher rolling resistance. Conversely,

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1 Sandberg, Ulf, ed. 2011. Swedish National Road and Transport Research Institute. Rolling Resistance — Basic Information and State-of-the-Art on Measurement Methods, https://www.diva-portal.org/smash/get/diva2:674026/FULLTEXT02.pdf

2 Brewer, H. Keith, Ph.D. January 29, 2010. Rolling Resistance Force vs. Rolling Resistance Coefficient. Rubber Manufacturers Association, https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/oira_meetings/2127_01222010-2.pdf

tires with a lower RRC result in lower fuel consumption and, consequently, a lower fuel cost for the driver. The RRC of a tire is inversely proportional to the fuel economy of a vehicle.

The fuel economy improvement of the fleet is calculated as a function of the change in rolling resistance between baseline and compliant replacement tires. This report defines the baseline fuel costs as the costs associated with the fuel consumed by light-duty vehicles in California without the proposed regulation.

Evergreen based its calculation of fuel cost savings on the National Highway Traffic Safety Administration's finding that a 10 percent decrease in rolling resistance produces a 1.3 percent increase in fuel economy.[3] Previous research has shown that a 10 percent decrease in rolling resistance produces a larger 2 percent increase in fuel economy.[4] Therefore Evergreen's assumption of a 10 percent decrease in rolling resistance resulting in a 1.3 percent fuel economy improvement is a conservative estimate of this relationship.

This report assumes that tires are replaced in sets of four. Further, it is assumed that the average life expectancy of a set of four tires is four years.

The cost of tires and incremental cost for improvements vary by the tire size as a larger tire requires more material to construct. For simplification, the analysis aggregates, or combines, various vehicle types into two main tire categories: lighter vehicle tires and heavier vehicle tires. This report assumes that passenger vehicles and sport utility vehicles (SUVs) receive these lighter passenger vehicle replacement tires, and that light-duty trucks and vans receive heavier truck replacement tires.

The weighting of tire categories is based on the proportions of passenger vehicle tires (85 percent) and light truck tires (15 percent) in the U.S. replacement tire market in 2024.[5] These findings were compared with the size of the U.S. replacement tire market in 2023 among light-duty vehicles: passenger vehicle replacement tires (82 percent) and light truck replacement tires (18 percent).[6] This market share of replacement tires sold in the United States was then compared with the forecasted vehicle miles traveled (VMT) per year in California by vehicle type (passenger car, SUV, light-duty truck, van) between 2028 and 2035 (Table 1).[7]

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3 National Highway Traffic Safety Administration, Department of Transportation. 2010. *Tire Efficiency Consumer Information Program*. https://www.nhtsa.gov/sites/nhtsa.gov/files/fmvss/TFECIP%2520Final%2520Rule.pdf

4 US Energy Information Administration. 2022. *Assumptions to the Annual Energy Outlook 2022: Transportation Demand Module*, (p. 4) https://www.eia.gov/outlooks/aeo/assumptions/pdf/transportation.pdf

5 US Tire Manufacturers Association, "USTMA's February 2025 Forecast Predicts Higher 2025 Tire Shipments for U.S. Tire Market," March 6, 2025; numbers derived from article; approximate. https://www.ustires.org/newsroom/ustma-february-2025-forecast

6 Statista. *Size of the United States' (US) replacement tire market from 2016 to 2023, by segment.* March 20, 2024. https://www.statista.com/statistics/581639/size-of-the-pneumatic-tire-market-in-the-us/

7 California Energy Commission staff. 2023. *Final 2022 Integrated Energy Policy Report Update.* California Energy Commission. Publication Number: CEC-100-2022- 001-CMF.

Table 1: Estimated Distribution of California Fleet by Vehicle Type, 2028–2035

Vehicle Category	Share of Fleet
Passenger car	38%
SUV	43%
Light-duty truck	16%
Van	3%

Source: Analysis of data from CEC 2022 Integrated Energy Policy Report Update.

Given the market share of replacement tires compared with the breakdown of vehicle types shown in Table 1, it is estimated that passenger cars and SUVs will make up 81 percent of the fleet miles during this eight-year period, while light-duty trucks and vans will make up 19 percent of the fleet miles.

Table 2 summarizes the assumptions regarding vehicle and tire categories. This simplification does not consider the following:

- SUVs with light-duty truck behavior (for example, towing, cargo, off-roading) will be equipped with light truck replacement tires.
- Low-load index tires, long-life tires, and ultra-long-life and ultra-high-performance tires are aggregated in with otherwise standard tires in the economic impact of the proposed regulation.

Table 2: Assumptions of Vehicle and Tire Categories

Tire Category	Vehicles Included	Share of CA Fleet
Lighter vehicles tires	Passenger car, SUV	81%
Heavier vehicle tires	Light-duty truck, vans	19%

Source: Assumptions based on the California Air Resources Board (CARB) Vehicle Miles Traveled (VMT) forecast from the 2022 Integrated Energy Policy Report Update: Additional Achievable Transportation Electrification dataset provided by CEC staff.

Rolling Resistance Coefficients

Phase 1 of the proposed regulation requires that replacement tires sold in California meet the minimum performance standard (MPS) of an RRC of 9 newtons/kilonewtons for passenger vehicle tires and light truck tires. Phase 2 requires that replacement tires sold in 2031 meet the MPS of 7.1 newtons/kilonewtons for passenger vehicle tires and 7.8 newtons/kilonewtons for light truck tires. The term *light truck tires* refers to a specific class of tires within the tire market designed to be more durable than standard passenger tires. Most trucks in California do not actually use these more rugged tires, and conversely some SUVs or vans may use them

despite not being trucks. The regulation includes adjustments for certain tire types such as ultra-long-life tires and exemptions for certain categories such as tires for emergency vehicles.

Table 3: Minimum Performance Standards of the Proposed Regulation

Tire Category	Phase 1: 2028 – 2030	Phase 2: 2031-2035
Passenger vehicle tires, treated as lighter vehicles tires for modeling purposes	9	7.1
Light truck tires, treated as heavier vehicle tires for modeling purposes*	9	7.8

*Light truck tires are a specific class of tires within the tire market designed to be more durable than standard passenger tires.

Source: CEC staff

Table 4 summarizes the tire efficiency improvement between the baseline and Phase 1 and between Phase 1 and Phase 2. These efficiency improvements represent the average improvement across a vehicle class and incorporate the stringency deviations of the proposed regulation for light trucks and other factors such as ultra-long-life tires.

Table 4: Assumed Tire Efficiency Improvements by Phase of Regulation

Vehicle Type	Tire Category	Phase 1 MPS (2028-2030)	Baseline for Phase 1 Efficiency Improvement	Phase 2 MPS (2031-2035)	Baseline to Phase 2 Efficiency Improvement
Passenger Car	Lighter vehicle	9	2.4%	7.1	16.6%
SUV	Lighter vehicle	9	1.1%	7.1	10.6%
Light-Duty Truck	Heavier vehicle	9	2.1%	7.1 (7.8)*	14.0%
Van	Lighter vehicle	9	3.3%	7.1	16.2%

* Light truck tires are a specific class of tires within the tire market designed to be more durable than standard passenger tires.

Source: Analysis by CEC staff and Evergreen of data from CEC staff

These values are not directly comparable with the RRC MPS values presented in the *Draft Framework of California's Replacement Tire Efficiency Program* by CEC staff published in February 2023 because the RRC figures in this report have been transformed and correlated to the EU testing system.

Table 5 shows the estimated change in fuel efficiency of Phase 1 and Phase 2 by vehicle type, based on the relationship that a 10 percent decrease in the RRC of a tire results in a 1.3 percent increase in fuel economy.

Table 5: **Estimated Increase in Fuel Efficiency by Vehicle Type**

Vehicle Type	Tire Category	Phase 1 Fuel Efficiency Improvement	Phase 2 Fuel Efficiency Improvement
Passenger car	Lighter vehicle tires	0.3%	2.2%
SUV	Lighter vehicle tires	0.1%	1.4%
Light-duty truck	Heavier vehicle tires	0.3%	1.8%
Van	Lighter vehicle tires	0.4%	2.1%

Source: Analysis by CEC staff and Evergreen of data from CEC staff.

The improvement in efficiency results in lower fuel consumption and associated fuel costs. As an illustrative example, Table 6 shows the estimated savings for consumers who install a set of four higher efficiency tires on a gasoline vehicle.

Table 6: Gasoline Cost Savings for Four Tires Over the Life of the Tires

Tire Category	Phase 1	Phase 2
Lighter vehicle tires	$85	$179
Heavier vehicle tires	$129	$246

Source: CEC staff.

Incremental Costs

This report defines incremental costs as the additional premium on the price of a replacement tire that adheres to the MPS of the regulation. Assumed incremental costs are shown in Table 7.

Table 7: Incremental Costs of a Single Tire Relative to Baseline

Tire Category	Phase 1	Phase 2
Lighter vehicle tires	$1.50	$6.50
Heavier vehicle tires	$1.50	$9.75

Source: CEC staff

The CEC has estimated that the incremental cost for a lighter vehicle and heavy vehicle replacement tire compliant with the Phase 1 MPS will be $1.50. Starting in 2031, the CEC has estimated the consumer will pay an additional $6.50 for a light vehicle replacement tire and $9.75 for a heavy vehicle replacement tire, compliant with the Phase 2 MPS. For a set of four tires, the CEC estimates that the consumer will pay an additional $6.00 during Phase 1 and $26 for light vehicles and $39 for heavy vehicles during Phase 2. Given the shares of each vehicle type in Table 1, the calculated weighted average incremental cost is $28.47 per set of four replacement tires during Phase 2 of the regulation.[8]

The authors emphasize that some fleet vehicles will already have tires that comply with the MPS of the proposed regulation, meaning that those tires have no incremental cost. The incremental costs will apply to only those vehicles that are not yet compliant. Table 8 shows the share of each vehicle type that is not compliant with the two phases of the regulation.

Table 8: Share of Vehicle Types to Incur Incremental Costs of Replacement Tires

Vehicle Type	Phase 1 (2028)	Phase 2 (2031)
Passenger Car	31%	91%
SUV	17%	87%
Light-Duty Truck	30%	82%
Van	20%	100%

Source: CEC staff and Evergreen analysis of data from CEC staff

Compliance

Based on the CEC's estimate that the incremental cost of a Phase 1 tire is $1.50, it is assumed that there will be 100 percent compliance for Phase 1 of the regulation. The analysis does not foresee that an increase of $6.00 will deter consumers from purchasing a set of replacement tires. Given the assumed average incremental cost of $28.47 during Phase 2 of the regulation, it is assumed that there will be a 90 percent compliance rate in accordance with CEC staff assumptions.

Fuel Prices

These fuel prices are in 2024 dollars and are not adjusted for inflation between 2028 and 2035, as shown in Table 9. It is reasonable to not adjust fuel costs for inflation because the incremental cost of tires is not adjusted for inflation beyond 2024 either. Together, these can be taken as real costs over time. Moreover, it is reasonable to use constant real fuel costs

8 Weighted average of incremental cost per set of replacement tires for Phase 2:

$0.38 * \$26 + .43 * \$26 + 0.16 * \$39 + 0.03 * \$39 = \$28.470$

because the future price of fuels is not predictable and may be higher or lower than what is assumed here.

Table 9: Assumptions for Fuel Cost Per Unit

Fuel Type	Cost Per Unit	Source
Gasoline	$4.60 per gallon	California All Grades All Formulations Retail Gasoline Price, February 2023.[9]
Electricity	$0.34 per kWh	California average residential electricity price, July 2024.[10]
Diesel	$4.60 per gallon	Assumed the same as gasoline price for modeling simplicity.
Hydrogen	$10 per kg	CEC Assumption.

Source: CEC staff

Vehicle Miles Traveled

To calculate costs and benefits of the proposed regulation, the analysis used vehicle miles traveled (VMT) forecast data from the *2022 Integrated Energy Policy Report Update*: Additional Achievable Transportation Electrification. These data are segmented by vehicle type (passenger cars, SUVs, light-duty trucks, and vans) and fuel type (diesel, electric, gasoline, hydrogen, and plug-in hybrid). Vehicle and fuel type composition of the fleet changes over time in accordance with the California Air Resources Board's (CARB's) Advanced Clean Cars Program to meet California's greenhouse gas emissions goals.

This VMT forecast incorporates forward-looking changes in fleet size, composition, and miles traveled.

Economic and Demographic Projections

Population projections provided by the California Department of Finance are used in the projections for the *Integrated Energy Policy Report (IEPR)*, which were subject to vetting through the Energy Commission's IEPR process and adopted in December 2023.

9 Energy Information Administration. "All Grades Retail Gasoline Prices." Data for Dec 2023, release date August 19, 2024. https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM_EPM0_PTE_SCA_DPG&f=M

10 Energy Information Administration. "Electric Power Monthly." Data for May 2024, release date July 24, 2024. https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a

Carbon Dioxide Equivalent Emissions

To calculate the reduction in emissions, emissions factors from the 2019 California Air Resources Board Senate Bill 498 report were used.[11] These factors are shown in Table 10. Emissions of greenhouse gases are typically expressed in a common metric so the respective impacts can be directly compared since some gases are more potent (that is, have a higher global warming potential) than others. The standard practice is to express greenhouse gases in carbon dioxide equivalents (CO2e).[12] This report defines CO2e emissions as the seven greenhouse gases monitored by CARB, including carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, perfluorocarbons, and nitrogen trifluoride.[13] The combustion-engine vehicle emissions estimated in this report are tailpipe emissions; the report did not account for the upstream emissions of diesel and gasoline fuel production.

Table 10: 2035 Emissions Factors

Fuel	Emissions (Metric Tons CO2e)
1 gallon of diesel	0.013718
1 gallon of gasoline	0.011406
1 kilowatt-hour of electricity	0.000379
1 kilogram of hydrogen[14]	0.010598

Source: California Air Resources Board. 2019. SB 498 Report Appendix C: Quantification Methodologies, Table C-1.

Fuel Cost Savings

To estimate the annual fuel cost savings generated by the proposed tire efficiency regulation, the analysis compared the yearly fuel costs of the vehicle fleet in California with and without the proposed regulation. Given that the minimum performance standards of the regulation will be enacted in two phases and that the assumed average life of a set of tires is four years, the

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11 California Air Resources Board. 2019. *SB 498 Report Appendix C: Quantification Methodologies ,* Table C-1. https://ww2.arb.ca.gov/sites/default/files/2019-12/SB%20498%20Appendix%20C%20-%20quantification%20120919.pdf

12 U.S. Environmental Protection Agency. "Carbon Dioxide Equivalent." System of Registries, Terminology Services, https://sor.epa.gov/sor_internet/registry/termreg/searchandretrieve/termsandacronyms/search.do?search=&term=carbon%20dioxide%20equivalent&matchCriteria=Contains&checkedAcronym=true&checkedTerm=true&hasDefinitions=false.

13 California Air Resources Board. California Greenhouse Gas Emissions Inventory Program. "GHGs Descriptions & Sources in California," https://ww2.arb.ca.gov/ghg-descriptions-sources.

14 Assumes "gray" hydrogen produced from methane with unabated emissions.

report based the analysis on the premise that 25 percent of the fleet will receive replacement tires per year, with the RRC determined by the regulatory phase of that year.

Twenty-five percent of the fleet will purchase the first round of tires subject to Phase 1 regulations in 2028.[15] In the following year, as another 25 percent of the fleet gets replacement tires, half the fleet will be subject to the Phase 1 regulations. The year 2031 marks the first year that a quarter of the fleet will be subject to Phase 2 efficiency standards, and baseline tires (unregulated) will have been phased out of the fleet by the end of the year. By the end of 2034, all tires will be subject to Phase 2 efficiency standards (Table11).

Table 11: Stock Turnover of Replacement Tires, 2028–2035

Year	2028	2029	2030	2031	2032	2033	2034	2035
Baseline	75%	50%	25%	0%	0%	0%	0%	0%
Stock affected by Phase 1	25%	50%	75%	75%	50%	25%	0%	0%
Stock affected by Phase 2	0%	0%	0%	25%	50%	75%	100%	100%

Source: Evergreen analysis of proposed regulation timeline.

The analysis calculated the fuel consumption for each year, vehicle type, and fuel type under the proposed regulation and without the regulation. The difference between the fuel consumption of these two groups is the estimated fuel savings.

Every year, a proportion of the fleet drives on compliant replacement tires. As shown in Table11, this proportion grows by 25 percent as more compliant replacement tires are installed.

Among this proportion of vehicles, there are also vehicle tires that are already compliant with the regulation. For example, when Phase 1 goes into effect in 2028, one-fourth of the fleet will receive replacement tires. As shown in Appendix A, the miles-per-gallon (MPG) of gasoline passenger vehicles with Phase 1 tires will increase from 24.40 MPG to 24.48 MPG. Therefore, 25 percent of gasoline passenger vehicles will have an improved MPG of 24.48, and 75 percent will have the baseline fuel economy of 24.40. The following year, it will be a fifty-fifty split.

Given the assumed 90 percent compliance with the regulation during Phase 2 in 2031, the analysis estimates that the share of the fleet that will receive compliant replacement tires would be 22.5 percent (0.25 x .90 = 0.225) each year instead of 25 percent.

15 A proportion of this group of buyers have purchased compliant tires in the past and, therefore, will not experience an incrementally higher cost of tires because of this proposed regulation.

For each year, the analysis calculates the fuel consumption of the miles driven by the baseline (with the baseline fuel economy and tires) and the fuel consumption of a fleet that includes tires altered by the regulations. The formula for one year of baseline fuel consumption of each vehicle type is:

$$Fuel\ Consumption_{baseline} = \frac{VMT}{Baseline\ Fuel\ Economy}$$

However, the calculation for the fuel consumption of the fleet altered by regulations is more complex and can consist of a mix of vehicles with baseline tires, Phase 1 efficiency tires, and Phase 2 efficiency tires. The more efficient tires are not expected to alter vehicle miles traveled; therefore, the only effect is to enhance fuel economy. The fuel consumption of a given year is therefore the weighted average of vehicle fuel economy with baseline, Phase 1, and Phase 2 tires as follows:

$$Fuel\ Consumption_{regulation} = \frac{VMT}{\begin{aligned} &Proportion_{baseline} \times Fuel\ Economy_{baseline} + Proportion_{phase\ 1} \times Fuel\ Economy_{phase\ 1} \\ &+ Proportion_{phase\ 2} \times Fuel\ Economy_{phase\ 2} \end{aligned}}$$

The proportions of each are shown in Table 11 for a given year, and the fuel economy of the baseline and each phase is shown in Appendix A. Once the fuel consumption is calculated for the baseline and regulated market cases, the fuel savings can be obtained by subtracting the lower consumption in the regulated case from the baseline case.

$$Fuel\ Savings = Fuel\ Consumption_{baseline} - Fuel\ Consumption_{regulation}$$

To enhance the clarity of this discussion, consider the fuel consumption of gasoline passenger vehicles in the year 2032. The baseline fuel consumption would be the VMT of 2032 for that vehicle type (approximately 75 billion miles) divided by 24.4 MPG from Appendix A, resulting in 3.07 billion gallons of gasoline use. The fuel consumption with regulation is calculated using the same 75 billion miles, but this time is divided by a fleet of 50 percent 24.48 MPG with Phase 1-compliant tires and 50 percent 24.92 MPG with Phase 2-compliant tires (a new average of 24.70 MPG). The 50 percent figures are found for 2032 in Table11, and the Phase

1 and Phase 2 fuel economies can be found in Appendix A. This results in a fuel consumption of 3.04 billion gallons for a savings of 37 million gallons of gasoline in 2032.

Table 12 summarizes model inputs used to calculate the benefits and costs of the proposed regulation.

Table 12: Model Input Summary

Input	Description	Source
Vehicle Miles Traveled (VMT)	The vehicle miles traveled per vehicle type and fuel type, between 2028 and 2035	2022 Integrated Energy Policy Report Update (IEPR Update)[16]
Baseline Fuel Efficiency	The average fuel efficiency per vehicle and fuel type, measured in miles per gallon (MPG), miles per kilowatt-hour (MPKWh), or miles per kilogram of hydrogen (MPKGs)	EPA National Vehicle and Fuel Emissions Laboratory[17]
Fuel Cost Per Unit	The assumed static cost of one unit of fuel	CEC staff
Proposed Regulation Minimum Performance Standards	The rolling resistance coefficient values, measured in newtons/kilonewtons	CEC staff
Proposed Regulation Efficiency Improvements	The assumed increases in tire efficiencies by vehicle type over current tires	CEC staff
Average Tire Life	4 years	CEC staff
Average Yearly Vehicle Mileage	10,413 miles	Evergreen Calculation based on 2021 IEPR CEC Light-Duty Vehicle Population in California[18]

Source: CEC staff and Evergreen

16 California Energy Commission. *2022 Integrated Energy Policy Report Update.*

17 U.S. Department of Energy and the Environmental Protection Agency. "Fuel Economy Data." Accessed August 5, 2024, https://www.fueleconomy.gov/feg/byfuel/byfueltypeNF.shtml.

18 California Energy Commission. "Zero Emission Vehicle and Infrastructure Statistics: Light-Duty Vehicle Population in California." https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/light.

CHAPTER 2:
Estimated Costs

This report estimates that the proposed regulations will affect typical businesses, small businesses, jobs or occupations, individuals, and government agencies within the state. The proposed regulations contain reporting requirements.

Total Statewide Impact Summary

This report evaluates the economic impact in terms of incremental costs of the compliant replacement tires, and fuel cost and emissions savings.

Incremental Costs

Some tires that are already sold comply with the regulations in Phase 1 and Phase 2. As such, incremental costs apply only to a proportion of noncompliant tires that must be redesigned to meet the proposed standards or taken out of the California market. The analysis assumes that compliance rates will be 100 percent in Phase 1 and 90 percent in Phase 2. Furthermore, the analysis assumes that a quarter of vehicles will receive replacement tires each year.

The analysis calculated the proportion of tires that will increase in cost due to the regulation in Phase 1 and Phase 2 and multiplied it by the incremental cost to develop statewide costs. Total incremental cost was calculated using the following formula.

$$\begin{aligned} &Total\ Incremental\ Cost \\ &\quad = (Quantity\ of\ Vehicles * 0.25 * Compliance\ Rate \\ &\quad * Proportion\ of\ Noncompliant\ Tires) * Incremental\ Cost \end{aligned}$$

The quantity of vehicles is approximated using the statewide VMT and the average annual mileage shown in Table 12. The proportions of noncompliant tires that will increase in cost due to the regulation in Phase 1 and Phase 2 are listed in Table 8. The following is an example of how to calculate the incremental costs of enhanced efficiency tires to consumers for gasoline passenger vehicles in 2032. The VMT of those vehicles is about 75 billion miles. Using an average of 10,413 miles per vehicle, that means an estimated 7.2 million passenger gasoline vehicles are in California that year. Because the lifespan of a tire is assumed to be four years, one-quarter of those vehicles will need replacement tires, or 1.8 million sets of four tires.

The year 2032 is within Phase 2 of the proposed regulations, and the average incremental cost to a set of new tires is $28.47. Therefore, the incremental cost of tires in that year would seem to be:

$28.47 x 1,800,000 = $51.25 million

However, two more factors are considered: the percentage of the marketplace that was already at that efficiency level before the regulation and the compliance rate. Table 8 shows that about 9 percent of passenger tires already exceed the Phase 2 requirements in the absence of the regulation and therefore would not bear an incremental cost compared to baseline. Further, the compliance rate of 90% means that among those who would be affected, 10% will not pay an incremental cost nor experience the incremental benefit. Therefore, the total cost in 2032 for gasoline passenger vehicles is:

$51.25 x 90% compliance rate x 91% tires affected = $41.97 million

That process is repeated for all vehicle types and fuels and added together to calculate the total statewide costs for a given year.

Table 13 shows the annual and cumulative incremental costs to consumers from the proposed regulation. The analysis estimates that the cumulative incremental cost to consumers through 2035 is $949 million.

Table 13: Annual and Cumulative Incremental Cost of Replacement Tires

Year	Phase	Annual Cost ($ million)	Cumulative Cost ($ million)
2028	1	$11.43	$11.43
2029	1	$11.52	$22.96
2030	1	$11.61	$34.57
2031	2	$179.59	$214.16
2032	2	$181.18	$395.34
2033	2	$182.94	$578.28
2034	2	$184.63	$762.91
2035	2	$186.31	$949.21

Source: Analysis by CEC staff and Evergreen of data from the CEC staff

As shown in Chapter 3, the annual implementation cost of the regulation to all businesses is $2,713,128. This report considers the incremental cost of compliant tires and the implementation cost to businesses as the first-order cost of the regulation. Therefore, the total incremental first-order economic cost in the first year of the regulation (2028) compared to the baseline is $14.14 million.

Incremental Benefits

The benefits of the proposed regulation stem from the reduction of fuel needed to overcome the lower rolling resistance of the higher-efficiency replacement tires. This report interprets benefits as the difference in fuel costs for California drivers between the baseline and regulation fuel economy of the fleet, and the social benefit of lowered CO_2e emissions. CEC staff considers fuel cost savings as first-order benefits and CO_2e emissions as second-order benefits. Table 14 presents the estimated annual fuel savings per year with the proposed regulation. This report estimates the cumulative fuel cost savings with the proposed regulation is nearly $4 billion in 2035. The method for these calculations is discussed at the end of Chapter 1.

Table 14: Annual and Cumulative Fuel Cost Savings With the Proposed Regulation

Year	Annual Fuel Cost Savings ($ million)	Cumulative Fuel Cost Savings ($ million)
2028	$40.82	$40.82
2029	$80.90	$121.72
2030	$119.87	$241.59
2031	$380.01	$621.61
2032	$593.90	$1,215.51
2033	$800.90	$2,016.41
2034	$999.05	$3,015.46
2035	$979.32	$3,994.78

Source: Analysis by CEC staff and Evergreen of data from CEC staff

The first-order economic benefit in the first year of the regulation (2028) compared to the baseline is $41 million.

Fiscal Impact

According to CEC staff, there are no additional expenditures in the current fiscal year that are reimbursable by the state because the proposed regulations will not take effect until January 1, 2028. The CEC will incur internal staffing costs of $286,500 in Year 1 of the regulation. These costs are based on 1.5 personnel-year (PY) and a fully loaded salary for a mid-range air pollution specialist. This estimate does not include the existing CEC compliance and enforcement staff.

Information technology tasks to develop and test the database will require about 25 days of work followed by continuing minor time spent monitoring the database during full regulatory implementation. The bulk of the 1.5 PY year one costs will arise from enforcement activities such as market surveillance and verification of submitted data. Years two and three of the regulation will yield fully loaded salary costs of $191,000 (1 PY) in each year for ongoing monitoring and enforcement activities. Moreover, external contracting for a confirmatory tire testing contract will increase costs by roughly $100,000 in each of the first three years of the regulation. This contract would allow CEC staff to commission the testing of 25 random or suspicious tire models per year.

Total fiscal impacts for the first three years of the implemented regulation will be:

$$\$286,500 + \$191,000, + \$191,000 + \$100,000 + \$100,000 + \$100,000 = \$968,500$$

The CEC will absorb these additional costs within its existing budgets and resources.

This report also calculated the benefits, costs, and net effects to state and local government vehicle fleets. Applying the combined state and local governments' share (1.72 percent) of the total California vehicle fleet, Table 15 shows the benefits, costs, and net effects. These amounts do not incorporate the $968,500 in CEC staffing costs noted above because those costs will be absorbed within the existing CEC budget.

Table 15: Benefits, Costs, and Net Effects for State and Local Governments

Year	Annual Benefits (Thousands)	Annual Costs (Thousands)	Annual Net Effect (Thousands)	Cumulative Net Effect (Thousands)
2028	$702	$197	$505	$505
2029	$1,391	$198	$1,193	$1,699
2030	$2,062	$200	$1,862	$3,561
2031	$6,536	$3,089	$3,447	$7,008
2032	$10,215	$3,116	$7,099	$14,107
2033	$13,775	$3,147	$10,629	$24,736
2034	$17,184	$3,176	$14,008	$38,744
2035	$16,844	$3,204	$13,640	$52,384

Source: CEC staff analysis of data from the California Employment Development Department (CEDD)

Total Number of Businesses Affected

This report estimates the number of tire businesses in California that would be affected by the proposed regulation. The following sections detail these impacts. Table 16 shows the breakdown of California tire businesses by type. The total number of businesses affected by the regulation is 4,874. Car dealerships may be affected by the regulation as many sell replacement tires in addition to vehicles. The authors emphasize that Table 16, and this entire report, concern only implementation costs incurred within California.

Table 16: Quantity of Businesses Affected by the Proposed Regulation

Type of Business	Quantity	Share of Total	Percent Small Business
Tire Retailers	2,232	45.8%	45%
Car Dealerships	2,169	44.5%	34%
Warehouses (Big Box Stores)	462	9.5%	0%
Tire Manufacturer Offices	11	0.2%	0%
Total	**4,874**	**100%**	

Source: Analysis by Evergreen of data from CEDD

Small Businesses Affected by the Proposed Regulation

For this analysis, a *small business* is defined as a tire business (retail shop, car dealership and big box store) with fewer than 50 employees. It is estimated that 1,004 (45 percent) of the 2,232 tire retailers are small businesses.

Auto dealerships often sell tires and may be affected by the regulations. It is estimated that 737 (34 percent) of the car dealerships in California are small businesses.

In total, the authors estimate that there are 1,741 small businesses that would be affected by the proposed regulation, and that small businesses make up 36 percent of the affected businesses. It is assumed that no warehouse/big-box establishments that sell tires are small businesses. All manufacturer administrative offices in California are operated by large manufacturing corporations. No tire manufacturing factories operate in California.

Specific Economic Impact to Businesses and Individuals

The first-order economic costs of the proposed regulations are the incremental cost of compliant tires compared to the baseline. These are incremental costs accrued by drivers and implementation costs accrued by businesses. Table 17 shows the initial annual cost and ongoing annual cost of the regulations for small businesses and typical businesses.

Table 17: Cost Per Individual Business

Sector	Initial Cost	Ongoing Cost
Small Business	$445	$445
Typical Business	$620	$620

Source: Analysis by Evergreen and CEC staff

The compliance costs for regulated businesses were calculated. Each year, it assumes 10 hours of training for two employees per retail tire business, plus $100 for miscellaneous costs, and $50,000 in administrative expenses to tire manufacturing offices in California. Hourly wages are derived for various types of businesses in the tire industry using data from the California Employment Development Department, Quarterly Census of Employment and Wages.[19] Results are shown in Table 18.

19 California Employment Development Department. "Quarterly Census of Employment and Wages." Accessed August 9, 2024, https://labormarketinfo.edd.ca.gov/data/Quarterly_Census_of_Employment_and_Wages.html.

Table 18: Aggregate Business Compliance Costs per Sector

Type of Business	Annual Implementation Costs for Businesses
Tire Retailers	$804,078
Car Dealerships	$1,214,098
Warehouses (Big Box Stores)	$144,953
Tire Manufacturer Offices	$550,000
Total	**$2,713,129**

Source: Analysis by Evergreen and CEC staff

Small Businesses

The small businesses forecast to be affected by the regulation are tire retailers and auto dealerships. The annual implementation cost for small businesses is calculated by dividing the total implementation costs by the percentage of regulated businesses assumed to be small businesses. Table 19 shows the results.

Table 19: Total Annual Implementation Cost for Small Business

Tire retailers (45% of $804,078)	$ 361,835
Car dealerships (34% of $1,214,098)	$ 412,793
Total annual cost to all small businesses	$ 774,628

Source: Analysis by Evergreen and CEC staff

The share of small businesses within each type of business allows for the calculation of the expected initial and implementation cost per small business. Because the regulations do not include significant start-up costs for in-state regulated entities, the initial cost and ongoing costs are the same. Table 20 shows the results.

Table 20: Annual Implementation Cost per Small Business

Total annual implementation cost for all affected small businesses	$ 774,628
Number of tire businesses in California	1,741
Cost per business (cost / number of businesses)	$445

Source: Analysis by Evergreen and CEC staff

Typical Businesses

The analysis also estimates the cost to implement the regulation for typical businesses. Because the regulations do not include significant start-up costs for in-state regulated entities, the initial cost and ongoing costs are the same. Results are shown in Table 21.

Table 21: Average Annual Impact per Typical Business

Annual implementation cost to all typical affected businesses	$1,943,501
Number of typical affected businesses in CA	3,133
Cost per business (cost / number of businesses)	$ 620

Source: Analysis by Evergreen and CEC staff

All Businesses

The analysis estimates the cost to implement the regulation for all businesses. Because the regulations do not include significant start-up costs for in-state regulated entities, the initial cost and ongoing costs are the same. Table 22 shows the results.

Table 22: Average Annual Impact per Business

Annual implementation cost to all affected businesses	$2,713,128
Number of affected businesses in CA	4,874
Cost per business (cost / number of businesses)	$557

Source: Analysis by CEC staff

Individuals

This analysis estimates the cost of the regulation to an individual. For this calculation, the initial costs are taken to be the costs during Phase 1 of the regulation (2028–2030), and the ongoing costs are taken to be the costs in Phase 2 (2031–2035).

In Phase 1, the initial cost to an individual in the first year is $6, or $1.50 per year during the average four-year lifespan of the set of replacement tires. In Phase 2, the initial cost to an individual in 2031 and thereafter is $28.47 (weighted average based on shares of vehicle types on road), or about $7 per year during the average four-year lifespan of the set of replacement tires.

Other Economic Costs That May Occur

No tires are manufactured in California. Costs incurred by tire manufacturers to design and manufacture compliant tires that are passed on to consumers are included as the primary cost of the regulation. Since the SRIA concerns only economic costs within California and no tires are manufactured in California, costs that would be incurred by manufacturers but not passed on to California consumers through the cost of tires are excluded from this analysis.

Number of Businesses Created or Eliminated

It is not expected that any new businesses will be created or eliminated because of the proposed regulation. It is not anticipated that any expansion of businesses currently doing

business in California will occur. Tire demand is relatively inelastic, meaning that a moderate increase in the cost of tires under the regulation compared to the baseline is unlikely to affect overall demand for tires. Tire manufacturing does not take place in California, so any marginal increase in manufacturing costs over the baseline will not occur in California.

Geographic Extent of the Impacts

The proposed regulations would have a statewide effect as the proposal would regulate tire sales throughout California.

Number of Jobs Created or Eliminated

It is not expected that jobs will be directly created or eliminated by the proposed regulation. The volume of tires demanded by the market is relatively inelastic compared to the estimated incremental costs created by the program. Therefore, it is not anticipated that a change to the volume of tires sold through the current tire distribution system will occur.

Fuel cost savings, however, are expected to increase household discretionary spending and result in the second-order creation of jobs across all sectors. The number of jobs created by discretionary household spending is estimated in the next chapter.

Ability of California Businesses to Compete With Other States

The proposed regulations will not affect the competitiveness of California businesses because the regulated entities are tire manufacturers. No tires are manufactured in California. The regulations would additionally not deter a tire manufacturer from placing a hypothetical future tire manufacturing plant in California because all tires sold in California must meet the standards whether they were manufactured in-state or not. In other words, a manufacturing facility in California would have access to the exact same markets as it would otherwise have without the regulations in place.

There are possible dynamics that could occur in California's border regions where California consumers could seek noncompliant tires in an unregulated jurisdiction and import them to California without great inconvenience. However, this importation is not expected to create a major disadvantage because the incremental cost of the regulations is cost-effective due to fuel savings, and the areas where this may occur are generally sparsely populated. The importation of noncompliant tires from other states would likely be limited.

Increase or Decrease of Investment in California

Manufacturing and most research and development for the tire industry reside outside California. It is unlikely that significant investments will increase or decrease in California because of the regulations.

Incentive for Innovation in Products, Materials, or Processes

California has the highest vehicle registration count in the nation. Therefore, providing products that meet regulations and consumer needs has been demonstrated to be important

to manufacturers from many different product sectors, including the tire industry. Tire manufacturers maintain competitive advantage by investing in new tire model designs and new manufacturing processes, which enables efficient tire technology to be advanced and allows ongoing access to markets moving toward energy-efficient tires, like California. For example, EV sales in California have contributed to the development of tires with low noise levels, and these innovations are likely to continue because of the proposed regulations.

Cost of Reporting Requirements

An expense of $50,000 per year is assumed for each of the 11 tire manufacturing businesses doing business in California. As the actual tire manufacturing does not occur in California, this expense accounts for the administrative labor to comply with the proposed regulation. This labor includes tasks such as processing documentation, auditing, and internal and external communications with stakeholders. One hundred percent of these costs to tire manufacturers would be associated with the reporting requirement of the proposed regulation.

Impact on Housing Costs

The regulation will not directly impact housing costs, as the proposed regulations set standards for replacement tire efficiency, which is not a direct input to housing development.

Comparable Federal Regulations

There are no comparable federal tire efficiency regulations.

CHAPTER 3:
Estimated Benefits

Economic Benefits of the Proposed Regulation

The following benefits are calculated from the proposed regulation. The proposed regulations are expected to produce net benefits by reducing fuel consumption and carbon dioxide equivalent emissions and increasing household discretionary spending by reducing household fuel expenditures.

The savings from the expected regulations are primarily the expected fuel savings from adopting more efficient tires. This report considers fuel cost savings a first-order benefit and economic benefits from reduced pollution and changes in discretionary income to be second-order benefits.

The costs of the regulations consist of the first-order costs of more efficient replacement tires compared to tires sold without the regulation, as well as implementation costs to business.

Total Net First-Order Benefit of Fuel Cost Savings

Table 23 shows the statewide net first-order benefit which factors in the fuel cost savings and the associated incremental costs of tire replacement during the first eight years of the regulation. It is estimated that the cumulative net first-order benefit in fuel savings after the incremental costs of the higher efficiency tires after eight years will be $3 billion.

Table 23: Statewide Net First-Order Benefit

Year	Annual Net Benefits ($ Million)	Cumulative Net Benefits ($ Million)
2028	$29.38	$29.38
2029	$69.38	$98.76
2030	$108.26	$207.02
2031	$200.42	$407.44
2032	$412.72	$820.17
2033	$617.96	$1,438.13
2034	$814.42	$2,252.55
2035	$793.02	$3,045.57

Source: Analysis by CEC staff and Evergreen of data from CEC staff

Carbon Dioxide Equivalent Reduction Benefits

The expected reduction in CO_2e emissions resulting from the proposed regulation was estimated as part of the analysis. Using 2021 California emissions data, the annual percentage reductions for passenger vehicles and for the total economy was calculated.[20] Table 24 illustrates these impacts, showing a 2 percent reduction in passenger vehicle emissions and a 0.53 percent reduction in statewide emissions in 2035 relative to 2021.

Table 24: Annual Shares of Abated Carbon Dioxide Equivalent Emissions

Year	Annual Total Abated Emissions (Metric tons)	Percentage Reduction From Passenger Vehicles (Relative to 2021)	Percentage Reduction From Total Economy (Relative to 2021)
2028	96,509	0.09%	0.03%
2029	188,905	0.18%	0.05%
2030	275,745	0.26%	0.07%
2031	858,782	0.82%	0.23%
2032	1,315,255	1.26%	0.34%
2033	1,733,433	1.67%	0.45%
2034	2,106,511	2.02%	0.55%
2035	2,004,642	1.93%	0.53%

Source: CEC staff and Evergreen analysis of data from the California Air Resources Board

From the emissions factors in Table 10, the analysis calculated CO_2e emissions generated by the fuel consumed between 2028 and 2035. The calculation of the social cost of carbon emissions includes conservative and aggressive estimates of the social cost of CO_2e emissions, shown in Table 25. This is considered a second-order benefit and is not included in Table 23.

20 California Air Resources Board. 2021 "GHG Inventory Data Archive," https://ww2.arb.ca.gov/ghg-inventory-archive.

Table 25: Second-Order Benefit of Abated Carbon Dioxide Equivalent Emissions

Year	CO2e Savings (Metric Tons)	Social Benefit of CO2e Savings at $35 per Metric Ton ($ Million)	Social Benefit of CO2e Savings at $185 per Metric Ton ($ Million)
2028	96,509	$3.38	$17.85
2029	188,905	$6.61	$34.95
2030	275,745	$9.65	$51.01
2031	858,782	$30.06	$158.87
2032	1,315,255	$46.03	$243.32
2033	1,733,433	$60.67	$320.69
2034	2,106,511	$73.73	$389.70
2035	2,004,642	$70.16	$370.86
Total	**8,579,783**	**$300.29**	**$1,587.26**

Source: Analysis by CEC staff and Evergreen of data from CEC staff

Total Social Benefit of the Proposed Regulation

Assessment of the economic impact of the proposed regulation concludes with an estimate of the total social benefit. Total social benefit includes first-order and second-order costs and benefits and is defined as:

$$\begin{aligned} &total\ social\ benefit \\ &\quad = net\ benefits\ to\ consumers - costs\ to\ business \\ &\quad + social\ benefit\ of\ abated\ emissions \end{aligned}$$

The analysis estimated the total social benefit of the regulation under two social costs of carbon (SCC) scenarios, with a carbon price of $35 per metric ton[21] and $185 per metric ton.[22] Table 26 shows the annual and cumulative total social benefit under the two SCC scenarios by summing the net benefit to consumers, the net benefit to businesses, and the net social benefit of abated emissions. The regulation has a positive total social impact in both scenarios, with a cumulative total social benefit of $3.3 billion and $4.6 billion, respectively.

21 California Air Resources Board. May 2024 update. "California Cap-and-Trade Program Summary of California-Quebec Joint Auction Settlement Prices and Results." https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/auction-information

22 Rennert, K., Errickson, F., Prest, B. C., et al. 2022. "Comprehensive Evidence Implies a Higher Social Cost of CO2." *Nature, 610* (687–692), https://doi.org/10.1038/s41586-022-05224-9.

Table 26: Annual and Cumulative Total Social Benefit

Year	Total Social Benefit ($ Million with a $35 SCC)	Total Social Benefit ($ Million with a $185 SCC)
2028	$30.05	$44.53
2029	$73.28	$101.61
2030	$115.20	$156.56
2031	$227.77	$356.59
2032	$456.04	$653.33
2033	$675.92	$935.94
2034	$885.43	$1,201.41
2035	$860.47	$1,161.16
Cumulative	**$3,324.15**	**$4,611.12**

Source: Analysis by CEC staff and Evergreen

Economic Impact From Change in Residential Discretionary Income

Using motor-vehicle registration data from the Federal Highway Administration, the authors estimated that 82 percent of the California fleet of light-duty vehicles are residential vehicles.[23] The proposed regulation will result in individuals and households that own these vehicles spending more on replacement tires, but this increase in costs to consumers will be more than made up for in reduced spending on transportation fuel due to increased tire efficiency. The net impacts — savings to households — increase each year as more of the state's residential vehicle fleet is affected by the regulation. These savings grow rapidly beginning in 2032 in the second year of Phase 2.

The project team used Impact Analysis for Planning (IMPLAN) modeling software to estimate the economic impacts that the proposed regulation will have on California households as they transition to more efficient replacement tires. IMPLAN is an input-output model used to estimate the economic effects on businesses and households of proposed policies and projects. The IMPLAN model relies on user-specified inputs (for example, a change in household discretionary income) to generate estimates of economic impacts to a region (in this case, California), including changes in economic output, employment, and wages. For this analysis, the team used IMPLAN Version 24 modeling software.

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23 Federal Highway Administration. 2022. "Highway Statistics 2022: Table MV-1." U.S. Department of Transportation, https://www.fhwa.dot.gov/policyinformation/statistics/2022/mv1.cfm.

The net savings to households is characterized as "discretionary income" to the household.[24] Households are assumed to save some of this discretionary income but will spend most of it to purchase goods and services in California.[25]

Table 26 shows the economic impact on household spending resulting from the expected change in discretionary income during the first eight years of the proposed regulation. These impacts (jobs, wages, and economic output) represent second-order (or indirect) effects of the proposed regulation that are not immediately evident but become apparent over time. The economic impacts shown in Table 26 are not cumulative over the eight-year period. They represent the economic response estimate that will occur each year because of increased discretionary income by households.

Table 27: Economic Impacts from Increased Discretionary Income to California Households

Year	Discretionary Income	Jobs Created	Change in Wages	Economic Output
2028	$23,210,000	113	$8,609,313	$17,132,356
2029	$54,810,000	261	$19,795,578	$39,333,092
2030	$85,530,000	395	$29,986,414	$59,672,344
2031	$158,330,000	711	$53,966,669	$107,392,556
2032	$326,005,000	1,424	$108,044,570	$215,006,462
2033	$488,190,000	2,073	$157,276,545	$312,977,076
2034	$643,390,000	2,656	$201,514,234	$401,009,165
2035	$626,490,000	2,514	$190,766,410	$379,621,217

Source: Evergreen analysis of data from the U.S. Census Bureau, Federal Highway Administration, and CEC 2022 Integrated Energy Policy Report Update

24 *Discretionary income* is the income remaining to an individual or household after taxes, Social Security, other deductions, and mandatory expenses.

25 Based on spending data from California IMPLAN model and household income data from the American Community Survey, one-year estimates for 2022, the authors estimate that California households and individuals will spend 79 percent of discretionary income on goods and services in California. The remainder (21 percent) is either saved or spent on good and services from outside California.

Statutory Requirements of Benefits

According to CEC staff, the benefits are the result of specific statutory requirements. Public Resources Code Section 25772 requires that the CEC develop 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." Further, Public Resources Code (PRC) Section 257739(a)(1)(A) requires the CEC include in the program energy efficiency standards that are "technically feasible and cost effective."

Qualitative Benefits to Health, Safety, and Welfare of California Residents, Worker Safety, and the State's Environment

CEC staff expects that the net fuel cost benefit from fuel-efficient tires will increase household discretionary spending and result in the second-order creation of jobs and improved quality of life. The social benefits of abated carbon dioxide emissions include the health benefits associated with reduced air pollution.

Increased energy efficiency in tires is not expected to adversely affect safety or the welfare of California residents, nor are these regulations expected to affect worker safety or the California environment.

CHAPTER 4:
Alternatives to the Regulation

The statewide economic effects of two alternatives to the proposed regulation are presented below.

Alternatives Considered

The project team considered two alternatives to the proposed regulations. Alternative 1 includes the original minimum performance standards for replacement tires from the Draft Framework published in February 2023. Alternative 2 is an adjusted version of the regulation based on comments from the United States Tire Manufacturers Association (USTMA) and the Tire and Rubber Association of Canada (TRAC) in response to the Draft Framework by CEC staff.

Alternative 1 requires that tires comply with more aggressive minimum performance standards starting in 2026, whereas Alternative 2 is a relaxed regulation with a substantial change in tire efficiency not occurring until 2031. In terms of the economics, that means both the costs and benefits will increase in Alternative 1 and decrease in Alternative 2. This report assesses the potential economic impact of these two alternatives based on the respective fuel cost and emissions savings. Table 28 summarizes the alternatives in comparison to the proposal.

Table 28: Proposed RRC Standards and Alternatives

Year	Phase 1 Start Year	Phase 1 Standard (RRC)	Phase 2 Start Year	Phase 2 Standard (RRC)
Proposed regulation	2028	9	2031	7.1 (7.8 for light truck tires)
Alternative 1	2026	8.3	2028	6.3
Alternative 2	2028	9.7	2031	8.7

Source: CEC staff

Total Statewide Costs and Benefits

This report estimates the total statewide benefits and costs of the proposed regulation, Alternative 1, and Alternative 2, as shown in Table 32. For simplicity, only first-order economic benefits and costs are shown. The first-order economic benefit is fuel cost savings. The first-order economic cost is the incremental cost of tires under each proposal compared to the baseline.

The costs and benefits for the proposed standards and alternatives look at economic effects from when each alternative regulation comes into force until 2035. Because proposals have different implementation timelines, costs and benefits begin in different years. For example, the earliest implementation dates occur in Alternative 1 in 2026, resulting in costs and benefits across a 10-year period (2026–2035). While Alternative 2 uses the same implementation dates as the proposed standard, the Phase 1 RRC levels for this alternative are at a level at which nearly all tires would currently comply, so the costs and benefits accrue over the five-year Phase 2 timeline (2031–2035).

The cost and benefit analysis for Alternatives 1 and 2 mirror the method and assumptions described in Chapters 1–3 and are evaluated against the same baseline. More stringent standards mean fewer existing tires already meet the requirements and less stringent standards mean more existing tires meet the requirements, and so the volume of tires affected changes between alternatives. Also, the alternative stringencies affect the specific fuel economies achieved in each alternative.

For example, under the proposed regulation the Phase 2 fuel economy of a gasoline passenger vehicle is listed as 24.92 MPG in Appendix A, but because Phase 2 requirements in Alternative 1 are more stringent the fuel economy is improved to 25.16. This change produces additional benefits under Alternative 1. Similarly, the lower stringency of Alternative 2 would lead to a worse Phase 2 fuel economy for gasoline passenger vehicles of 24.54 than under the proposed regulation. Table 29 describes the relative percentage of fuel economy improvement to California's vehicle fleet.

Table 29: Comparison of Fuel Economy Improvements for Alternative Regulations

Phase	Proposed Regulation	Alternative 1	Alternative 2
Phase 1	0.2%	1.3%	0%
Phase 2	1.8%	3.1%	0.4%

Source: CEC staff and Evergreen analysis of data from CEC staff

The other major economic difference between the proposed regulation and alternatives is the incremental tire price. The analysis uses a cost curve to assign higher tire prices to higher levels of efficiency and lower tire prices to lower levels of efficiency compared to the proposal. To calculate the incremental costs of the two alternatives, the analysis imputed these costs as a function of change in tire efficiency based on the data from CEC staff and as described in Appendix B.[26] Table 30 shows the values used to calculate the incremental costs of Alternative 1 and Alternative 2.

26 See Figure 1 in Appendix C for the model and formula used to generate these values.

Table 30: Comparison of Incremental Costs for Alternative Regulations

Phase	Proposed Regulation	Alternative 1	Alternative 2
Phase 1	$6.00	$15.00	$0.00
Phase 2	$28.47	$95.00	$7.00

Source: CEC staff and Evergreen analysis of data from CEC staff

The final difference of assumptions is that the analysis applied a compliance rate of 90 percent to Phase 1 of Alternative 1 due to the similar stringency to Phase 2 of the proposed regulation. A compliance rate of 100 percent is assumed for Phase 2 of Alternative 2 given the similarities to Phase 1 of the proposed regulation.

Table 31 shows the annual and cumulative first-order costs, benefits, and net costs of the proposed regulations and each alternative.

Table 31: Comparison of Incremental Costs for Alternative Regulations

Year	Fuel Savings ($Million) Proposed	Fuel Savings ($Million) Alt 1	Fuel Savings ($Million) Alt 2	Incremental Costs ($Million) Proposed	Incremental Costs ($Million) Alt 1	Incremental Costs ($Million) Alt 2
2026	$0	$199.15	$0	$0	$58.22	$0
2027	$0	$398.54	$0	$0	$58.61	$0
2028	$40.82	$878.99	$0	$11.43	$645.00	$0
2029	$80.90	$1,353.46	$0	$11.52	$651.10	$0
2030	$119.87	$1,620.41	$0	$11.61	$656.86	$0
2031	$380.01	$1,877.32	$67.29	$179.59	$662.60	$23.83
2032	$593.90	$1,852.13	$132.65	$181.18	$668.59	$24.03
2033	$800.90	$1,824.44	$195.96	$182.94	$675.20	$24.27
2034	$999.05	$1,791.70	$256.79	$184.63	$681.54	$24.51
2035	$979.32	$1,755.14	$251.88	$186.31	$687.81	$24.74
Total	$3,994.78	$13,551.27	$904.56	$949.21	$5,445.52	$121.39

Source: CEC staff and Evergreen analysis of data from CEC staff

The first-order cost-effectiveness ratios are included in Table 32, as the total first-order benefits are divided by the total first-order costs for each proposal. Although Alternative 2

appears to be highly cost-effective, the performance standards in Alternative 2 do not meet the statutory requirement that replacement tires be at least as energy-efficient as original equipment tires, on average.

Table 32: Statewide First-Order Benefits and Costs, 2026–2035

Proposal	Fuel Savings Benefit ($ Million)	Incremental Tire Costs ($Million)	Incremental Implementation Cost ($Million)	Cost-Effectiveness Ratio
Regulation	$3,994.78	$949.21	$21.71	4.2
Alternative 1	$13,551.27	$5,445.52	$27.13	2.5
Alternative 2	$904.56	$121.39	$13.57	6.7

Source: Analysis by CEC staff and Evergreen

Total Social Benefit of the Proposed and Two Alternatives

Table 33 summarizes the total social benefit of the proposed regulation compared with the two alternative regulations. The social order benefit is distinct from the first-order economic cost shown above in Table 31 and is considered a second-order benefit. The estimated total social benefit of Alternative 1 is more than double the total social benefit of the proposed regulation.

Table 33: Comparison of Total Social Benefit

Social Benefit	Proposed Regulation: 2028–2035 ($Million)	Alternative 1: 2026–2035 ($Million)	Alternative 2: 2028–2035 ($Million)
Total social benefit ($35/metric ton CO2e)	$3,826.36	$9,135.12	$836.72
Total social benefit ($185/metric ton CO2e)	$5,262.63	$13,663.01	$1,124.30

Source: Analysis by CEC staff and Evergreen

Alternative 1

Alternative 1 is the set of proposed standards considered by the CEC at the beginning of 2023 and discussed in detail in its Draft Framework report.[27] Given the substantial change in mandated tire efficiency for replacement tires between the baseline and Phase 1 and between Phase 1 and Phase 2, the analysis assumed 90 percent compliance for all years. The analysis calculated the Phase 1 tire efficiency improvement for Alternative 1 based on the proposed regulation tire efficiency improvement of 2.4 percent for passenger cars from an assumed baseline RRC of 9.2 newtons/kilonewtons.

Table 34: Original Proposed Efficiency MPS

	Phase 1: 2026–2027	**Phase 2: 2028–2035**
Minimum RRC level for all replacement tires	8.3	6.3
Tire efficiency improvement	9.8%	24%
Fuel efficiency improvement	1.3%	3.1%

Source: CEC staff and Evergreen analysis of data from CEC staff

Alternative 1 Costs

Statewide Incremental Costs of Alternative 1

Given the more stringent minimum performance standards and the shortened timeline allowing tire manufacturers and retailers to adapt to the original proposed regulation, the analysis assumes an average $15 incremental cost for a set of replacement tires for Phase 1 and $95 for Phase 2 of the alternative regulation. These costs are derived from the cost curve described in Appendix B.

To calculate the incremental costs incurred by consumers purchasing replacement tires, the analysis estimates the quantity of vehicles that would not already be compliant with the Alternative 1 regulation. Table 35 shows the shares of vehicles not compliant in the two phases of this alternative to regulation.

27 These RRC values are correlated with the European Union's (EU) tire efficiency testing protocol and should not be compared with the values in the CEC Draft Framework report from February 2023.

Table 35: Share of Vehicles Affected by Alternative 1 Regulation

Vehicle Type	Phase 1	Phase 2
Passenger Car	67%	99%
SUV	46%	97%
Light-Duty Truck	57%	92%
Van	60%	100%

Source: CEC staff and Evergreen analysis of data from CEC staff

When the analysis takes a weighted average of these noncompliance rates based on the proportion of each vehicle type in the fleet (Table 1), it estimates that 30 percent of the fleet would not already be in compliance with Phase 1 of Alternative 1, and that 89 percent of the fleet would not already be in compliance with Phase 2. These proportions were used in calculating the annual incremental costs for Alternative 1 (Table 36).

Table 36: Statewide Incremental Costs of Alternative 1 Regulation

Year	Annual Incremental Costs ($Million)	Cumulative Incremental Costs ($Million)
2026	$58.22	$58.22
2027	$58.61	$116.82
2028	$645.00	$761.83
2029	$651.10	$1,412.93
2030	$656.86	$2,069.79
2031	$662.60	$2,732.39
2032	$668.59	$3,400.98
2033	$675.20	$4,076.18
2034	$681.54	$4,757.72
2035	$687.81	$5,445.52

Source: CEC staff and Evergreen analysis

Implementation Costs to Tire Businesses With Alternative 1

The analysis estimated that the annual implementation costs for businesses under Alternative 1 would be the same as those under the proposed regulation. Table 37 shows the cumulative implementation costs to the various tire businesses in California over the 10-year period.

Table 37: Cumulative Implementation Costs of Alternative 1, 2026–2035

Business Type	Implementation Costs
Tire Retailers	$8,040,780
Car Dealerships	$12,140,978
Warehouses (Big Box Stores)	$1,449,525
Tire Manufacturer Offices	$5,500,000
Total	$27,131,283

Source: Analysis by Evergreen of data from CEDD

Alternative 1 Benefits

Fuel Cost Savings of Alternative 1

Table 38 shows the savings in fuel costs from the Alternative 1 regulation, assuming a 90 percent compliance rate for Phase 1 and a 90 percent compliance rate for Phase 2.

Table 38: Fuel Cost Savings of Alternative 1 Regulation

Year	Annual Fuel Cost Savings ($Million)	Cumulative Fuel Cost Savings ($Million)
2026	$199.15	$199.15
2027	$398.54	$597.69
2028	$878.99	$1,476.68
2029	$1,353.46	$2,830.14
2030	$1,620.41	$4,450.55
2031	$1,877.32	$6,327.87
2032	$1,852.13	$8,180.00
2033	$1,824.44	$10,004.44
2034	$1,791.70	$11,796.14
2035	$1,755.14	$13,551.27

Source: CEC staff and Evergreen analysis of data from CEC staff

Social Benefit From Abated Carbon Dioxide Equivalent Emissions

Table 39 shows the estimated annual social benefit from the reduction of CO_2e emissions from Alternative 1. This is considered a second-order benefit.

Table 39: Social Benefit From Abated Carbon Dioxide Equivalent Emissions of Alternative 1

Year	CO2e Savings (Metric Tons)	Social Benefit of CO2e Savings at $35 per Metric Ton ($Million)	Social Benefit of CO2e Savings at $185 per Metric Ton ($Million)
2026	480,178	$16.81	$88.83
2027	953,250	$33.36	$176.35
2028	2,081,728	$72.86	$385.12
2029	3,167,569	$110.86	$586.00
2030	3,738,455	$130.85	$691.61
2031	4,258,237	$149.04	$787.77
2032	4,120,009	$144.20	$762.20
2033	3,969,365	$138.93	$734.33
2034	3,800,480	$133.02	$703.09
2035	3,616,636	$126.58	$669.08
Total	**30,185,905**	**$1,056.51**	**$5,584.39**

Source: Analysis by CEC staff and Evergreen of data from CARB and UC Berkeley

Economic Impacts from Additional Discretionary Income to California Households: Alternative 1

Table 40 shows the estimated impact on discretionary income, jobs, and wages for residential consumers with the Alternative 1 regulation. This is considered a second-order benefit.

Table 40: Alternative 1 Economic Impact of California Households

Year	Discretionary Income	Jobs Created	Change in Wages	Economic Output
2026	$111,342,600	576	$44,861,315	$89,365,230
2027	$268,544,700	1,350	$105,192,207	$209,546,371
2028	$184,844,200	904	$70,392,948	$140,225,090
2029	$554,864,400	2,637	$205,431,259	$409,225,890
2030	$761,204,500	3,518	$273,991,667	$545,800,500
2031	$959,636,700	4,311	$335,814,309	$668,953,256
2032	$934,996,600	4,084	$318,096,376	$633,658,546
2033	$907,899,600	3,855	$300,291,373	$598,190,389
2034	$877,026,400	3,621	$282,016,189	$561,785,615
2035	$843,190,700	3,384	$263,598,857	$525,097,677

Source: Evergreen analysis of data from the US Census Bureau, Federal Highway Administration, and CEC 2022 Integrated Energy Policy Report Update

Total Social Benefit of Alternative 1

With the benefits and associated costs outlined above, Table 41 shows the total social benefit of the Alternative 1 regulation with two social costs of CO_2e, $35/metric ton, and $185/metric ton, respectively. These are considered second-order benefits.

Table 41: Total Social Benefit of Alternative 1

Year	Social Benefit: CO2e Savings at $35 per Metric Ton ($Million)	Social Benefit: CO2e Savings at $185 per Metric Ton ($Million)
2026	$155.03	$227.06
2027	$370.82	$513.57
2028	$304.13	$616.39
2029	$810.51	$1,285.64
2030	$1,091.58	$1,652.45
2031	$1,361.05	$1,999.79
2032	$1,325.02	$1,943.03
2033	$1,285.45	$1,880.86
2034	$1,240.46	$1810.53
2035	$1,191.20	$1,733.69
Total	**$9,135.12**	**$13,663.01**

Source: Analysis by CEC staff and Evergreen of data from CEC staff, CARB, and UC Berkeley

Statewide Net First-Order Benefit to Consumers

Table 42 presents the statewide benefit of Alternative 1 as the annual and cumulative fuel costs savings with the associated costs of the tire replacement to the consumer. These are first-order benefits.

Table 42: Statewide Net Benefit of Alternative 1 Regulation

Year	Annual Net Benefit ($Million)	Cumulative Net Benefit ($Million)
2026	$140.94	$140.94
2027	$339.93	$480.87
2028	$233.98	$714.85
2029	$702.36	$1,417.21
2030	$963.55	$2,380.76
2031	$1,214.73	$3,595.48
2032	$1,183.54	$4,779.02
2033	$1,149.24	$5,928.26
2034	$1,110.16	$7,038.42
2035	$1,067.33	$8,105.75

Source: CEC staff and Evergreen analysis of data from CEC staff

Alternative 2

There are two important aspects of this alternative. First, the Alternative 2 Phase 1 RRC is not stringent enough to improve fuel efficiency of the fleet (Table 43). Second, the Alternative 2 Phase 2 MPS does not meet the criteria set by Assembly Bill 844, which requires that replacement tires be as energy-efficient as original equipment tires, which requires a rolling resistance coefficient of at most 7.1.[28]

28 Alternative 2 did not specify a start date for Phase 2. Evergreen has used the assumption by CEC staff that the phases of the regulation requirements for tire efficiency are the same as the proposed regulation.

Table 43: Alternative 2 Minimum Performance Standards

Efficiency	Phase 1: 2028 – 2030	Phase 2: 2031 – 2035
Minimum RRC level for all replacement tires	9.7	8.7
Tire efficiency improvement	0%	3.2%
Fuel efficiency improvement	0%	0.4%

Source: CEC staff and Evergreen analysis of data from CEC staff

As the Phase 1 requirement for replacement tires does not enforce a significant change in tire efficiency, the analysis assumes 100 percent compliance in Phases 1 and 2.

Alternative 2 Costs

Incremental Costs to Consumers With Alternative 2

To calculate the incremental costs incurred by consumers purchasing replacement tires, the analysis estimated the quantity of vehicles that would not already be compliant with the Alternative 2 regulation (Table 44). This estimate is based on the shares of replacement tires noncompliant with the proposed regulation in Table 43. This estimate assumes no incremental cost during Phase 1 and an incremental average cost of $7 per set of replacement tires during Phase 2.

Table 44: Share of Vehicles Affected by Alternative 2 Regulation

Vehicle Type	Phase 1	Phase 2
Passenger Car	0%	58%
SUV	0%	30%
Light-Duty Truck	0%	44%
Van	0%	20%

Source: CEC staff and Evergreen analysis of data from CEC staff

The weighted average of the noncompliance rates and proportion of each vehicle type in the fleet (Table 1) expects that 27 percent of the fleet are not already be in compliance with Phase 2 of Alternative 2. These vehicles would incur the incremental cost when purchasing replacement tires in compliance with the regulation. Table 45 shows the annual and cumulative incremental costs associated with Alternative 2. These costs are considered first-order costs.

Table 45: Incremental Costs of Alternative 2 Regulation

Year	Annual Incremental Costs ($Million)	Cumulative Incremental Costs ($Million)
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$23.83	$23.83
2032	$24.03	$47.86
2033	$24.27	$72.13
2034	$24.51	$96.64
2035	$24.74	$121.39

Source: CEC staff and Evergreen analysis of data from CEC staff

Implementation Costs to Tire Businesses With Alternative 2

The implementation costs below reflect the absence of significant regulation on replacement tires during Phase 1 of Alternative 2. Table 46 shows the cumulative implementation costs to the various tire businesses in California over an eight-year period. These costs are considered first-order costs.

Table 46: Cumulative Implementation Costs of Alternative 2, 2028–2035

Business Type	Cumulative Implementation Costs
Tire Retailers	$6,432,624
Car Dealerships	$9,712,784
Warehouses (Big Box Stores)	$1,159,624
Tire Manufacturer Offices	$4,400,000
Total	$21,705,032

Source: Analysis by Evergreen of data from CEDD

Alternative 2 Benefits

Estimated Fuel Cost Savings With Alternative 2

Table 47 shows the estimated statewide fuel cost savings as a result of Alternative 2. Since Phase 1 of Alternative 2 does not require an increase in tire efficiency, there are no expected fuel cost savings in the first phase of the regulation. This is considered a first-order benefit.

Table 47: Fuel Cost Savings of Alternative 2 Regulation

Year	Annual Fuel Cost Savings ($Million)	Cumulative Fuel Cost Savings ($Million)
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$67.29	$67.29
2032	$132.65	$199.94
2033	$195.96	$395.90
2034	$256.79	$652.69
2035	$251.88	$904.56

Source: Analysis by CEC staff and Evergreen of data from CEC staff

Social Benefit From Abated Carbon Dioxide Equivalent Emissions

Table 48 shows the estimated annual social benefit from the reduction of CO_2e from Alternative 2. This is considered a second-order benefit.

Table 48: Social Benefit From Abated Carbon Dioxide Equivalent Emissions From Alternative 2

Year	CO2e Savings (metric tons)	Social Benefit of CO2e Savings at $35 per Metric Ton ($Million)	Social Benefit of CO2e Savings at $185 per Metric Ton ($Million)
2028	0	$0	$0
2029	0	$0	$0
2030	0	$0	$0
2031	151,545	$5.30	$28.04
2032	292,574	$10.24	$54.13
2033	422,127	$14.77	$78.09
2034	538,511	$18.85	$99.62
2035	512,486	$17.94	$94.81
Total	**1,917,243**	**$67.10**	**$354.69**

Source: Analysis by CEC staff and Evergreen of data from CEC staff, CARB, and UC Berkeley

Economic Impacts From Additional Discretionary Spending by California Households: Alternative 2

Table 49 shows the estimated impact on discretionary income, jobs, and wages for residential consumers with the Alternative 2 regulation. This is considered a second-order benefit.

Table 49: Alternative 2 Economic Impact of California Households

Year	Discretionary Income	Jobs Created	Change in Wages	Economic Output
2028	$0	0	$0	$0
2029	$0	0	$0	$0
2030	$0	0	$0	$0
2031	$34,333,400	154	$11,702,495	$23,287,723
2032	$85,809,8000	375	$28,435,157	$56,585,375
2033	$135,635,100	576	$43,696,552	$86,955,237
2034	$183,501,200	758	$57,473,855	$114,371,785
2035	$179,440,600	720	$54,639,721	$108,731,917

Source: Evergreen analysis of data from the U.S. Census Bureau, Federal Highway Administration, and CEC 2022 Integrated Energy Policy Report Update

Total Social Benefit of Alternative 2

Table 50 shows the total social benefit of the Alternative 2 regulation. This is considered a second-order benefit.

Table 50: Total Social Benefit of Alternative 2

Year	Social Benefit: CO2e Savings at $35 per Metric Ton ($Million)	Social Benefit: CO2e Savings at $185 per Metric Ton ($Million)
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$46.05	$68.79
2032	$116.14	$160.03
2033	$183.75	$247.07
2034	$248.42	$329.19
2035	$242.35	$319.23
Total	$836.72	$1,124.30

Source: Analysis by CEC staff and Evergreen of data from CEC staff, CARB, and UC Berkeley

Statewide Net Benefit to Consumers

Table 51 presents the statewide benefit of Alternative 2 as the annual and cumulative fuel costs savings with the associated costs of the tire replacement to the consumer.

Table 51: Statewide Net First-Order Benefit of Alternative 2 Regulation

Year	Annual Net Benefit ($Million)	Cumulative Net Benefit ($Million)
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$43.46	$43.46
2032	$108.51	$152.08
2033	$171.69	$323.77
2034	$232.28	$556.05
2035	$227.13	$783.18

Source: CEC staff and Evergreen analysis of data from CEC staff

Rationale for Choosing the Proposed Major Regulation

Following the release of an initial regulatory concept in the February 2, 2023, draft staff report, the CEC held a workshop to solicit public input February 18, 2023. The workshop information can be found on the Energy Commission website[29] on Docket 20-TIRE-01. Staff heard extensive comments from industry representatives. Following the workshop, staff set up numerous meetings with industry trade associations, tire manufacturers, tire retailers, and others to address comments and concerns. Stakeholder comments generally argued that it would be difficult for the tire industry to comply with Alternative 1 due to the long lead time necessary to develop and begin manufacturing new tire product lines. CEC staff finds some substance to this argument and is not proposing Alternative 1.

Alternative 2 does not comply with the requirements of Public Resources Code Section 25772. The statute requires that the Replacement Tire Efficiency Program be designed to ensure that replacement tires sold in California are as energy-efficient, on average, as original equipment tires. Based on testing conducted at Smithers Laboratory and commissioned by the CEC, original equipment tires sold in California today have an average rolling resistance of about

29 California Energy Commission. "Replacement Tire Efficiency Pre-Rulemaking Staff Workshop," https://www.energy.ca.gov/event/workshop/2023-02/replacement-tire-efficiency-pre-rulemaking-staff-workshop.

7.1. Since Alternative 2 does not set an MPS of at most 7.1 RRC, Alternative 2 does not achieve the goal set out in the law.

As such, the CEC concludes that the proposed major regulation is less burdensome and equally effective in achieving the purpose of the regulation in a manner that also meets the purposes of the statute.

Consideration of Performance Standards

According to CEC staff, the proposed regulations set tire efficiency standards and do not mandate the use of specific technologies or equipment, nor prescribe specific actions or procedures. The proposed standards are performance standards. As shown in this chapter, several stringencies of performance standards were evaluated for cost-effectiveness and effectiveness of achieving the purposes of tire program legislation.

CHAPTER 5:
Summary of Impacts

CEC staff proposes new regulations to increase the efficiency of passenger car and light-duty truck replacement tires.

This report estimates that the proposed regulation will produce $29 million in net cost savings for drivers in the first year the regulations are introduced, and about $3 billion in net benefits by 2035. Furthermore, this report estimates that the proposed regulations will produce substantial pollution reduction benefits. These savings and abated emissions are expected to contribute to discretionary household spending that will create second-order jobs and increase the social benefits associated with better air quality.

Based on this analysis, CEC staff judges that impacts from the proposed regulations on businesses and individuals are outweighed by the fuel cost benefits associated with more efficient tires. The costs-benefits analysis results in substantial statewide savings in energy and greenhouse gas emissions.

Glossary

Acronym	Term	Description
AB	Assembly Bill	A proposed law, introduced in the State Assembly during a session for consideration by the Legislature.
CARB	California Air Resources Board	State agency responsible for air quality and climate change mitigation.
CEC	California Energy Commission	State agency responsible for energy policy and planning.
CEDD	California Employment Development Department	State agency responsible for employment services and labor market information.
CO_2	Carbon dioxide	A common greenhouse gas produced by burning hydrocarbon fuels and by natural processes, such as respiration.
CO_2e	Carbon dioxide equivalent	A measure used to compare emissions from various greenhouse gases based upon the related global warming potential.
DOT	United States Department of Transportation	Federal agency responsible for transportation and safety.
EPA	United States Environmental Protection Agency	Federal agency responsible for environmental policy and enforcement.
EU	European Union	An international organization comprising 27 European countries.
EV	Electric vehicle	A vehicle that uses an electric propulsion system. Examples include battery-electric vehicles and fuel cell electric vehicles.
FCEV	Fuel cell electric vehicle	A type of electric vehicle that derives power from an onboard fuel cell.

Acronym	Term	Description
GHG	Greenhouse gas	Any gas that absorbs infrared radiation in the atmosphere. Examples of greenhouse gases include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).
IEPR	Integrated Energy Policy Report	A comprehensive biennial report by the CEC providing long term energy assessments and policy guidance.
ISO	International Organization of Standardization	A nongovernmental, worldwide federation of national standards bodies.
Kg	Kilogram	A basic unit of mass for the metric system, equivalent to 2.205 pounds.
LT	Light truck	A tire that carries a LT designation and is intended for light-duty trucks, SUVs, and vans.
t	Metric ton	A unit of weight equal to 1,000 kilograms.
MPG	Miles per gallon	A measure of vehicle fuel efficiency.
MPS	Minimum performance standard	The baseline requirements for fuel efficiency that a replacement tire must meet.
N	Newton	A unit of force that will accelerate 1 kilogram of mass 1 meter per second squared.
NHTSA	National Highway Traffic Safety Administration	A federal agency under the U.S. Department of Transportation responsible for transportation safety, as well as fuel economy.
NOx	Oxides of nitrogen	A mixture of gases that are composed of nitrogen and oxygen and considered an air pollutant.

Acronym	Term	Description
OE	Original equipment	An item of motor vehicle equipment, including tires, which were installed in or on a motor vehicle or available as an option for the particular vehicle from the original manufacturer at the time of the delivery to the first purchaser.
RTEP	Replacement Tire Efficiency Program	The name of the California Energy Commission's tire program under Assembly Bill 844.
RRC	Rolling resistance coefficient	A measure of rolling resistance that is the ratio of the force of rolling friction to the total weight of the object.
RRF	Rolling resistance force	A measure of resistance in pounds or kilograms that provides a direct way to compare tires of the same size, as well as offers an accurate means of comparing differently sized tires to one another.
SB	Senate Bill	A proposed law, introduced in the State Senate during a session for consideration by the Legislature.
Smithers	Contracted tire testing laboratory	A testing facility used for testing tires.
SOx	Oxides of sulfur	A group of compounds made up of oxygen and sulfur, such as SO, SO_2, etc., many of which are air pollutants.
SRIA	Standardized Regulatory Impact Analysis	A legally mandated economic and policy assessment required for major regulations with potential economic impacts exceeding $50 million. The SRIA evaluates the economic and fiscal impacts of a proposed regulation to understand the costs, benefits, and effectiveness of the regulatory actions.

Acronym	Term	Description
SUV	Sports utility vehicle	A vehicle similar to a station wagon or estate car, often on a light-duty truck chassis and suitable for off-road use.
TRAC	Tire and Rubber Association of Canada	National trade association for tire manufacturers and rubber product producers in Canada.
USTMA	United States Tire Manufacturers Association	National trade association for tire manufacturers in the U.S.
VMT	Vehicle miles traveled	A measure of distance traveled by a vehicle or group of vehicles over time, such as a year.

APPENDIX A:
Fuel Efficiency

Table A-1 shows the estimated change in fuel economy of each vehicle type during Phase 1 and Phase 2 of the proposed regulation. The Phase 1 and Phase 2 fuel economy rates were calculated from the estimated fuel efficiency improvements in Table 5.

Table A-1: Fuel Efficiency by Vehicle Type and Phase of Regulation

Vehicle Type	Fuel Type	Unit	Baseline Fuel Economy	Phase 1 Fuel Economy	Phase 2 Fuel Economy
Passenger car	diesel	MPG	34.00	34.11	34.73
	electric	MPKWh	2.90	2.91	2.96
	gasoline	MPG	24.40	24.48	24.92
	hydrogen	MPKG	64.00	64.20	65.38
	plug-in hybrid	MPG	45.00	45.14	45.97
SUV	diesel	MPG	23.50	23.53	23.82
	electric	MPKWh	2.80	2.80	2.82
	gasoline	MPG	17.80	17.83	18.05
	hydrogen	MPKG	64.00	64.09	64.88
	plug-in hybrid	MPG	40.00	40.06	40.55
Light-duty truck	diesel	MPG	23.50	23.56	23.92
	electric	MPKWh	2.00	2.01	2.04
	gasoline	MPG	17.80	17.85	18.12
	hydrogen	MPKG	64.00	64.17	65.16
	plug-in hybrid	MPG	22.00	22.06	22.40
Van	diesel	MPG	23.50	23.60	23.99
	electric	MPKWh	2.00	2.01	2.04
	gasoline	MPG	13.60	13.66	13.89
	plug-in hybrid	MPG	30.00	30.13	30.63

Source: Evergreen estimates based on data from the EPA National Vehicle and Fuel Emissions Laboratory and DOE Alternative Fuels Data Center

APPENDIX B:
Incremental Cost for Alternative Regulations

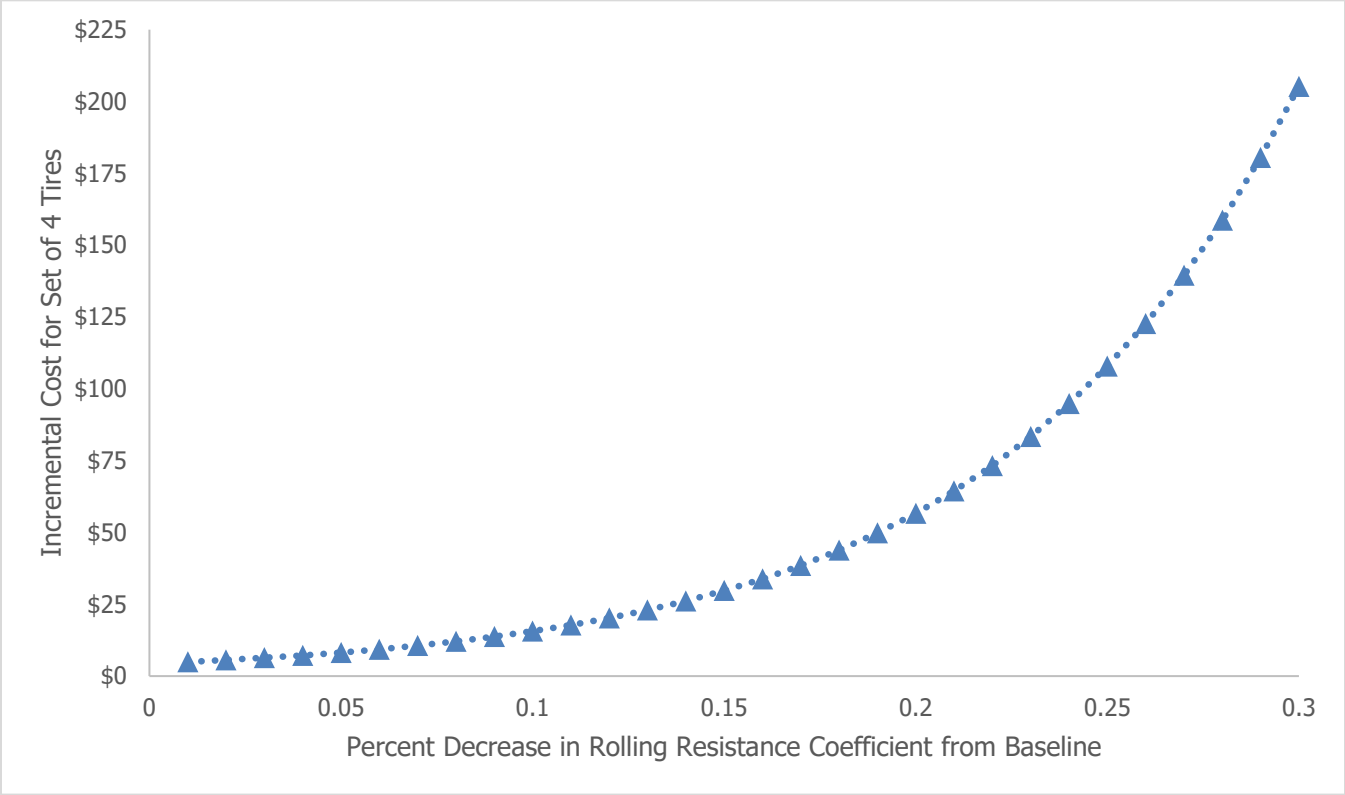
The following model was used to estimate the incremental costs for the alternative regulations relative to baseline costs. Instead of assuming a linear relationship between rolling resistance improvements and price, this model uses an exponential function. This more accurately reflects the marginal return of each dollar invested in more efficient tires, as well as the marginal costs associated with further efficiency improvements. The model is designed using the cost per improvement figures of the proposed regulation as well as information from the CEC 2023 draft staff report *Draft Framework of California's Replacement Tire Efficiency Program.*[30] The model that estimates the marginal costs of compliant tires is as follows:

$$Y = 4.3122 \times e^{12.876\,x}$$

Where Y is the incremental cost of a set of four tires and x is the percent decrease in rolling resistance from baseline. Figure 1 illustrates the increase in incremental cost as a function of the decline in the rolling resistance coefficient of a tire.

30 Blackburn, Bill, Jontae Clapp, Andrew Hom, Ralph Lee, et al. February 2023. *Draft Framework of California's Replacement Tire Efficiency Program.* California Energy Commission. Publication Number: CEC-600-2023-026-SD, https://efiling.energy.ca.gov/GetDocument.aspx?tn=248639.

Figure B-1: Incremental Cost Model



Source: CEC staff and Evergreen analysis of data from CEC staff.

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