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Comments of ACEEE in Replacement Tire Efficiency Program docket

Additional submitted attachment is included below.

ACEEE Comments to the California Energy Commission on Replacement Tire Labeling and Standards

Docket(20-TIRE-01)

March 7, 2023

I am pleased to submit the American Council for an Energy-Efficient Economy’s (ACEEE) initial comments to the California Energy Commission (CEC) on replacement tire labeling and standards, responding to the presentation by CEC staff at the Feb. 14, 2023 staff workshop on replacement tire labeling and standards. ACEEE is a non-profit energy efficiency research and education organization that has worked to advance energy efficiency technologies, programs and policies since 1980. Product efficiency standards have been an important part of our work since the 1980s, including work at the U.S. federal and state levels as well as internationally. We have participated in many prior Title 20 dockets.

We are supportive of the CEC moving forward with a program of replacement tire labeling, consumer education, and mandatory standards. As staff noted in their presentation at the Feb. 14, 2023 staff workshop, original equipment tires are “[g]enerally designed to be highly energy efficient (low rolling resistance, or LRR) tires [to] help automakers meet strict federal Corporate Average Fuel Economy (CAFE) standards.” We thank the CEC for doing tire testing to help quantify the differences. According to the data Smithers compiled for the CEC, the average rolling resistance of tested tires is as follows:

Original equipment tires (for new cars)	7.65 RRC (N/kN)
High efficiency replacement tires	8.16
All replacement tires	9.23

Thus, the average replacement tire has about a 20% higher rolling resistance than the average original equipment tire. According to the National Academies, rolling resistance directly affects fuel economy – a 10% reduction in rolling resistance can improve fuel economy by 1-3%.¹ This implies that a 20% reduction in rolling resistance will improve fuel economy by about 4%. Thus, improving the rolling resistance of replacement tires will reduce energy use and fuel bills. As shown in the CEC staff presentation at the staff workshop, a set of policies for replacement tires can result in substantial reductions in greenhouse gas emissions as well as NOx and PM2.5 emissions while also saving California drivers more than \$2 billion a year after the program is fully implemented.





Our review of international experience with replacement tire policies finds that all three of the program interventions CEC staff propose – labeling, education and minimum standards -- are needed to best make substantial improvements in tire rolling resistance. For example, Europe has had replacement tire labeling for many years. In 2018, the European Commission conducted a review of the tire labeling and standard program, concluding that the program is “not sufficiently achieving its aim of increasing the environmental efficiency of road transport by promoting fuel-efficient and safe tyres with low noise levels; this is due to: the low visibility, and low public awareness, of tyre labelling; compliance problems and inadequate enforcement of the rules by Member States; and outdated performance classes and inaccurate and incomplete information.”² They recommended improvements in the label, consumer

¹ <https://nap.nationalacademies.org/read/26092/chapter/9#224> . See section 7.3.2. The 3% includes some engine downsizing.

² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018SC0188> .





education, and enforcement. A 2019 study compared European tire data between 2012 and 2017, finding modest improvements in replacement tire rolling resistance between 2012 and 2017 as illustrated in the figure below. In our view, the small amount of improvement shows the need for strong minimum standards, much stronger than the current European standard which now requires level “E” performance (rolling resistance of 11 or better (this standard had not gone into effect as of 2017)).

Market in 2012

C1	2012 2013	RR 							
		A	B	C	E	F	G		
WETG 	A	0.1%	0.3%	1.7%	2.3%	0.8%	0.1%	5.3%	WETG 
	B	0.0%	0.7%	4.6%	9.8%	4.4%	0.6%	20.3%	
	C	0.0%	0.4%	8.8%	22.9%	12.9%	2.0%	47.0%	
	E	0.0%	0.1%	3.0%	10.4%	6.2%	1.0%	20.7%	
	F	0.0%	0.2%	0.7%	2.1%	3.5%	0.2%	6.7%	
		0.2%	1.7%	18.9%	47.5%	27.8%	4.0%	100%	
		RR 							

(values>5% are highlighted)

Market in 2017

C1	2017	RR 							
		A	B	C	E	F	G		
WETG 	A	0.1%	0.6%	3.4%	2.4%	0.6%	0.0%	7.1%	WETG 
	B	0.1%	1.2%	8.0%	10.3%	2.8%	0.3%	22.6%	
	C	0.1%	0.6%	11.0%	26.7%	9.6%	1.0%	48.9%	
	E	0.0%	0.2%	2.9%	8.7%	4.0%	0.6%	16.3%	
	F	0.0%	0.2%	0.7%	2.1%	2.0%	0.1%	5.1%	
		0.2%	2.6%	26.0%	50.3%	18.9%	2.0%	100%	
		RR 							

(values>5% are highlighted)

Examination of European tire label data in 2012 and 2017. “RR” is rolling resistance and “WETG” is wet grip.

Source: <https://www.etrma.org/wp-content/uploads/2019/09/etrma-lizeo-report-2018-v9-web.pdf> .

As for the specifics of a tire labeling and standards program, these will be discussed more extensively in the proposed CEC replacement tire labeling and standards docket. As initial comments we note:

- The proposed 5-star rating system seems very reasonable to us and in fact is very similar to a star-rating system we developed for appliances in the 1990s based on consumer focus group

and survey research. Research by ACEEE and others has found that a categorical label (e.g. A-G or 1-5 stars) is easier for consumers to understand and has more impact on consumer purchases and product performance than a continuous label.³

- The proposed efficiency standards also generally seem reasonable with the 2026 proposed standard similar to the current replacement tire average as found by Smithers and the proposed 2028 standard similar to the original equipment average found by Smithers and already met by over a dozen tires tested by Smithers. This said, we would like to see more data to support the proposed 7.0 RRC final standard and the Jan. 1, 2028 effective date for this standard.
- CEC staff found little relation between tire rolling resistance and treadwear grade, a measure of tire life (slide 27 of the staff presentation at the Feb. 14, 2023 workshop). Thus, available data seems to indicate that rolling resistance can be improved without adversely affecting tire wear and lifetime.
- The Smithers data show a slight inverse relationship between tire rolling resistance and wet grip but also some tires that perform well on both indices (slide 25). More information on this issue would be useful.
- An emerging issue is tires for electric vehicles (EVs). Given higher motor efficiency, tires are a larger factor in EV efficiency and range than for vehicles with internal combustion engines. EV tires should have different properties as well.⁴ This issue should be explored in future stages of this rulemaking.

Finally, we note that while the National Highway Traffic Safety Administration is supposed to be working on a national tire labeling and standards program, that effort has stalled and little has happened since 2016. The CEC docket could help to get the national effort moving again. Likewise, the Canadian government is very interested in replacement tire labeling and standards, but has been waiting for the U.S. to take action as the U.S. and Canadian markets are highly linked.

In conclusion, we appreciate the progress the CEC has made on this issue in the past year and look forward to working with you in the coming year to develop the specifics of a California tire labeling and standards a program. If you have any questions about these comments, please let us know.

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³ <https://www.aceee.org/research-report/a021> .

⁴ <https://www.consumerreports.org/tires/do-electric-vehicles-need-special-tires-a4689725362/>. See also p. 58 of the draft framework: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=248639&DocumentContentId=83135> .