

The Cost of AB 32: An Assessment of CARB's Economic Analysis of the Proposed Scoping Plan

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Presentation to:
The Los Angeles Chamber of Commerce
December 4, 2008

Summary of CARB's economic analysis of the Scoping Plan

“The economic analysis of this plan indicates that implementation of the recommended strategies to address global warming will create jobs and save individual households money.

...

Our modeling shows that implementation of the Recommendations in the Plan will benefit California's economy ... by:

- Increasing production activity by \$33 billion
- Increasing overall Gross State Product by \$7 billion
- Increasing overall personal income by \$16 billion
- Increasing per capita income by \$200
- Increasing jobs by more than \$100,000”

~ California Air Resources Board, Climate Change Proposed Scoping Plan, October 2008, pp. ES-8 and G-ii.

What should an economic analysis accomplish?

- Inform policymakers about the implications of key policy design decisions, and about how to minimize the cost of achieving California's emissions target — that is, how to design a cost-effective portfolio of policies

- Inform policymakers and the public about the economic impacts of the chosen policies

CARB's analysis has not accomplished either objective

- It does not evaluate how its Scoping Plan's economic impact compares with that of alternative approaches to achieving AB 32's goals
 - So CARB's analysis cannot serve as a basis for determining whether the Scoping Plan is cost-effective
- It cannot be considered a reliable or economically sound assessment of the Scoping Plan's economic impact
 - It inappropriately offsets real and indisputable costs associated with the Scoping Plan by giving the Plan credit for many cost-saving energy efficiency measures that would occur even if the Plan were not implemented
 - It does not address the enormous economic uncertainties and risks associated with the Plan's implementation
 - It fails to address important variation in economic impacts across households and businesses
 - It fails to address competitiveness concerns

But don't take my word for it: Peer review comments on CARB's analysis

"I have come to the inescapable conclusion that the economic analysis is terribly deficient in critical ways and should not be used by the state government or the public for the purpose of assessing the likely costs of CARB's plans."

~ Professor Robert Stavins, Harvard University

"I am troubled by [CARB's] economic modeling ... AB 32 is presented as a riskless 'free lunch' for Californians. ... I would like to believe this claim but ... there are too many uncertainties and open microeconomic questions for me to believe this."

~ Professor Matthew Kahn, UCLA

"The Economic Analysis ... gives the appearance of justifying the chosen package of regulatory measures rather than evaluating it or looking at policy options. ... [The] results ... contradict a wide body of economic modeling."

~ Janet Peace and Liwayway Adkins, Pew Center on Global Climate Change

"I fear that at this stage of the process, CARB will find itself in a position of being compelled to publicly defend its economic analysis from critiques such as my own, rather than significantly amend it in response to expert commentary."

~ Professor Robert Stavins, Harvard University

Why should we care about the conclusions that CARB reaches in its economic analysis?

- There is a tremendous amount at stake as decisions are made on the policies that will be implemented under AB 32
 - These decisions could easily alter the *annual* cost of AB 32's implementation by billions of dollars
- The economic risks posed by AB 32's implementation are enormous, making it important to consider safeguards against unanticipated costs
- AB 32's implementation will unquestionably adversely impact some California residents and businesses, and it's critical to consider how to mitigate those impacts

But it is difficult to honestly discuss and analyze these issues when the lead regulatory agency charged with implementing AB 32 is claiming that the Scoping Plan's implementation will be a costless win-win opportunity for California

AGENDA

- Problems with CARB's estimates of cost savings from AB 32's implementation
- Key omissions
 - Recognition of uncertainty
 - Recognition of differences in impacts across households and businesses
 - Assessment of competitiveness concerns
- Recommendations for future analyses

Decomposing CARB's Economic Analysis

- CARB finds that the Scoping Plan's implementation will increase energy prices
 - 11% increase in electricity prices
 - 8% increase in natural gas prices

- And that some of the policies implemented under AB 32 (e.g., the Renewable Portfolio Standard and the cap-and-trade program) will collectively impose costs on the order of a few billion dollars per year ...

Decomposing CARB's Economic Analysis (Continued)

- ... But CARB concludes that a variety of energy efficiency measures will yield substantial cost savings that will more than offset these economic impacts
 - CARB estimates that the Pavley standards will yield net cost savings of more than \$11 billion per year
 - CARB estimates that other transportation and building energy efficiency measures will yield an additional \$6 billion in net cost savings per year
- So, CARB's ultimate conclusions fundamentally rest on:
 - The assumption that the cost savings from various energy efficiency measures will outweigh the significant costs of other measures in the Plan, as well as the Plan's impacts on energy prices
 - And the assumption that these energy efficiency improvements will only be realized if the Scoping Plan is implemented

Problems with CARB's conclusions about the cost savings from energy efficiency measures

- Estimates of the economic impacts of energy efficiency measures often do not capture their full economic cost, and CARB's analysis is no exception

- To the extent that they do yield cost savings, many of the energy efficiency improvements that CARB attributes to the Scoping Plan would happen even without the Plan's implementation
 - Due to existing state and federal law
 - e.g., U.S. Energy Independence and Security Act of 2007
 - Due to voluntary adoption by firms and households in response to high energy prices

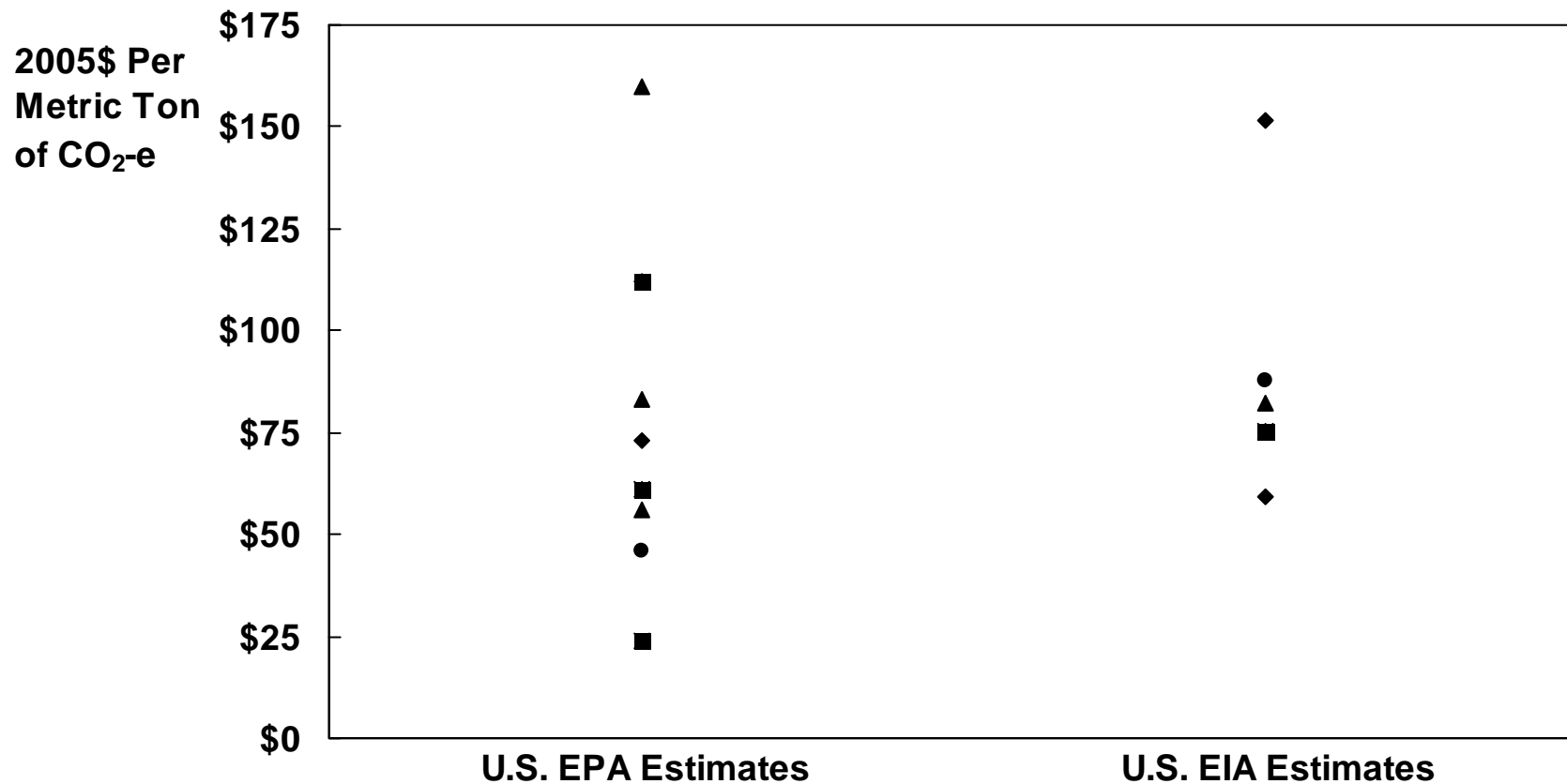
- Therefore, the savings from these energy efficiency improvements *should not be considered* in evaluating the *incremental impact* of the Scoping Plan's implementation

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Most economic analyses of climate policy highlight the tremendous uncertainty that exists regarding the cost of significantly reducing emissions

Range of Estimates of the Marginal Cost of Emission Reductions (the Allowance Price) in 2030 under the Lieberman-Warner Bill (S. 2191)



Sources: U.S. Environmental Protection Agency and U.S. Energy Information Administration analyses of the Lieberman-Warner Bill (S.2191); and Analysis Group calculations.

CARB's analysis fails to address the tremendous uncertainty regarding the cost of implementing AB 32

- The words “uncertain” and “uncertainty” *do not appear once* in CARB's extensive discussion of AB 32's economic impacts
- Yet there is tremendous uncertainty regarding the economic impact of AB 32
- For example, if CARB redid its analysis based on today's gasoline prices:
 - The annual cost savings from the Pavley standards would be reduced by more than \$5 billion
 - The annual cost of the Low Carbon Fuel Standard would increase by more than \$4 billion
- In addition, there is also tremendous uncertainty *about which emission reduction measures will turn out to be the most cost-effective*

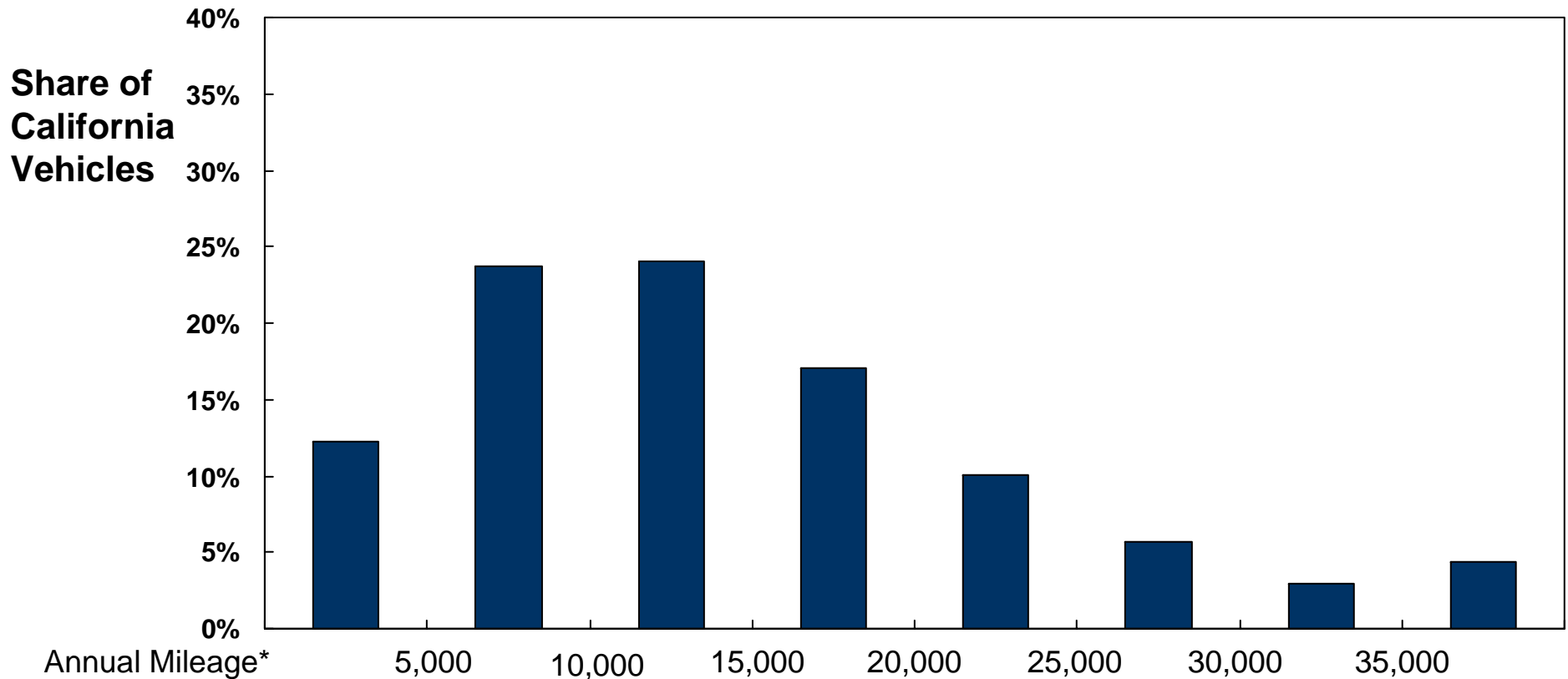
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CARB's analysis fails to acknowledge significant variation in AB 32's economic impacts across households and businesses

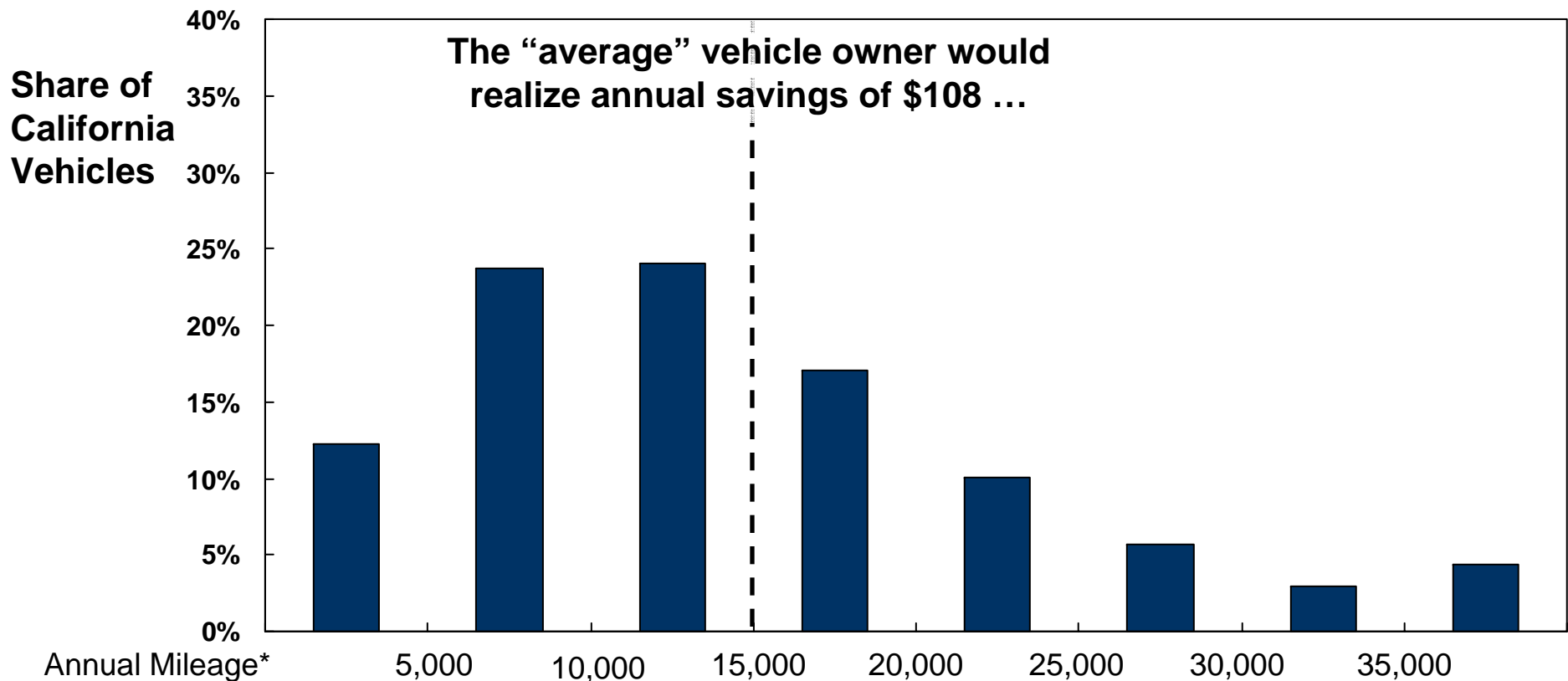
- All households and businesses will face higher energy prices as a result of AB 32's implementation
- But the savings from the Scoping Plan's various energy efficiency measures will be unevenly distributed across households and businesses
 - Households and businesses differ with respect to whether they have already adopted many of the targeted energy efficiency measures
 - Households and businesses benefit to varying degrees from energy efficiency measures depending on, among other factors, differences in the climate across California, and differences in the intensity with which households and businesses use the equipment that will be targeted by energy efficiency measures
- So even if California *as a whole* experiences net cost savings as a result of AB 32's implementation, many households and businesses will not
- CARB's analysis fails to address this important fact

The intensity with which Californians use their vehicles varies dramatically ...



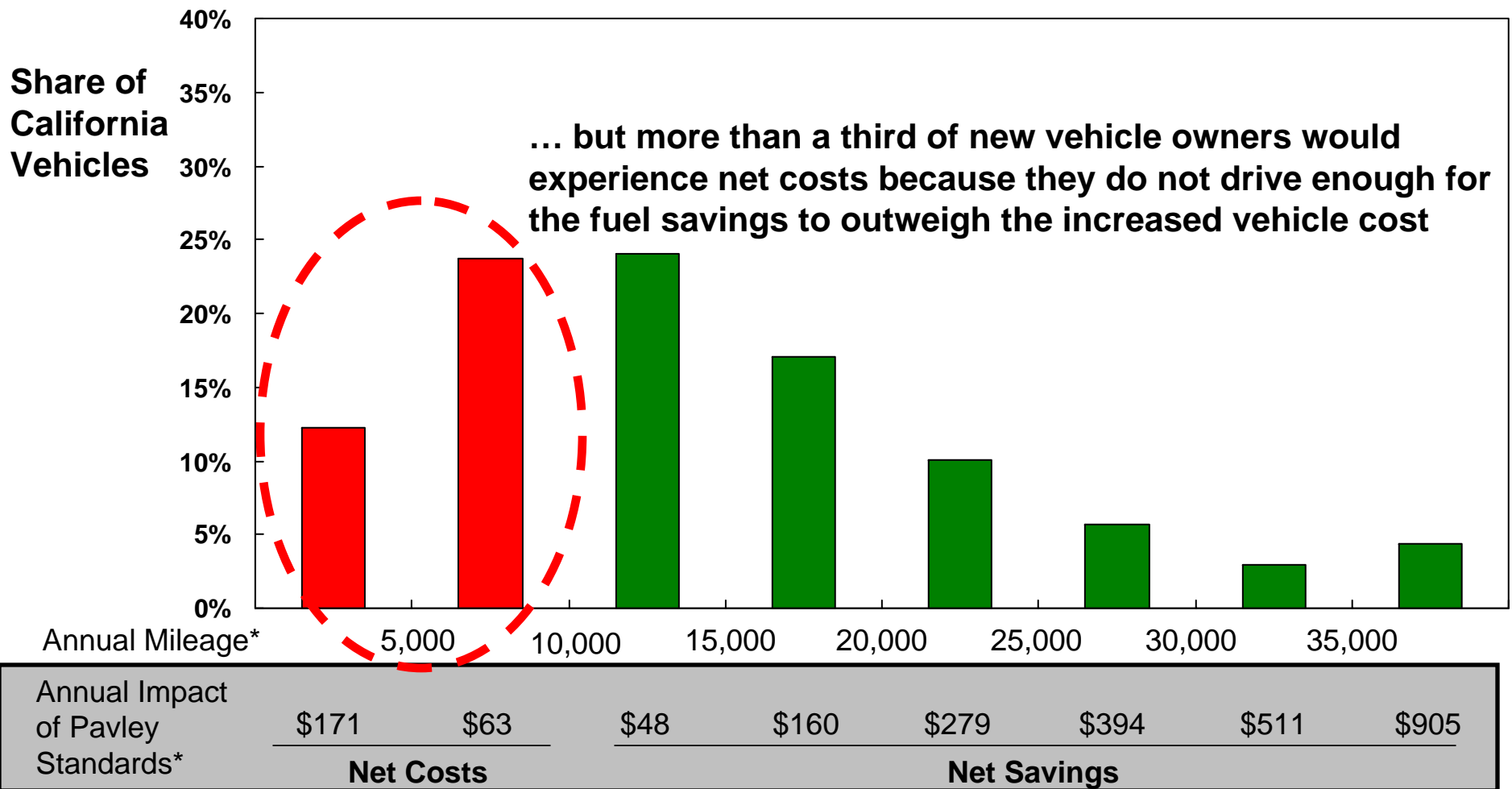
*Distribution of annual vehicle mileage is an approximation based on applying national data to California.

Yet CARB's only evaluates the Pavley standards' impacts on the average vehicle owner



*Based on CARB's analysis of annual savings for passenger car and light truck owners, adjusted for current gasoline prices of \$2.16. Distribution of annual vehicle mileage is an approximation based on applying national data to California.

In fact, the Pavley standards' impacts will vary dramatically across households



*Based on CARB's analysis of annual savings for passenger car and light truck owners, adjusted for current gasoline prices of \$2.16. Distribution of annual vehicle mileage is an approximation based on applying national data to California.

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CARB's analysis fails to evaluate competitiveness impacts on energy-intensive industries

- CARB recognizes that AB 32's implementation will significantly increase electricity and natural gas prices
- This will increase the operating costs faced by energy-intensive industries in California, disadvantaging them relative to out-of-state competitors
- Because energy accounts for such a significant share of their costs, these industries are the least likely to benefit from any offsetting cost-saving energy efficiency improvements resulting from AB 32's implementation
 - If such opportunities existed, energy-intensive industries are the most likely to have already adopted them
- So, it is essential to carefully consider the effect that AB 32's implementation may have on the competitiveness of these industries

CARB's analysis fails to evaluate competitiveness impacts on energy-intensive industries (Continued)

- The only analysis of impacts on businesses that CARB performed examined impacts on:
 - Coin-operated laundries
 - Civic and social associations
 - Rooming and boarding houses
 - Trailer parks
 - Barber shops
 - Libraries ...

~ CARB's Proposed Scoping Plan Economic Analysis Appendix G-V: Impacts on Businesses

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Future analyses should focus on informing policy design

- There are serious problems with CARB's analysis of the Scoping Plan's economic impact
- But the debate about whether to implement AB 32 is over
- And other analyses suggest that well-designed policies can achieve significant emission reductions at relatively low cost, and that well-designed policies can provide safeguards against economic risks
- So CARB should shift its attention away from defending its position that the Scoping Plan's implementation will save Californians money
- And toward:
 - Analyzing how the cost of meeting AB 32's target can be minimized
 - Evaluating the economic risks associated with implementing AB 32, and analyzing how best to mitigate those risks
 - Evaluating the distributional and competitiveness impacts of AB 32's implementation, and analyzing how best to mitigate those impacts