

BRIEFING: State Clean Car (“Pavley”) Compliance Costs

Issue: The California Air Resources Board (CARB) and automakers disagree on the cost of compliance with California’s new Clean Car standards (AB 1493, often know as Pavley standards). CARB estimates that the additional cost of compliance for a new car in model year 2016 will be approximately \$1,000. The net benefit to consumers, accounting for reduced fuel consumption, will be slightly positive. Automakers contend that the price will be in the vicinity of \$3,000 and that the net benefit to consumers will be negative.

CCS’s conclusion: CARB’s estimates are more rigorously produced and are likely to be closer to actual values.

Evaluation

CARB’s cost estimates are based on existing and emerging technologies that can improve fuel economy in passenger vehicles. CARB included a number of conservative elements in its methodology:

- Standards were based on the heaviest manufacturer fleet
- Multiple feasible technology packages were ensured for each vehicle class
- Emissions reductions from hybridization were excluded
- Fuel price was assumed to be \$1.74 per gallon¹

CARB’s analysis estimates that the additional cost of compliance in a new vehicle in model year 2016 will be approximately \$1,000. To determine the net impact on consumers, CARB calculated the increase in monthly loan payments versus the savings from reduced fuel consumption. Consumers would achieve a net savings of approximately \$3.50 to \$7.00 / month.

An analysis by Sierra Research commissioned by the Alliance of Automobile Manufacturers estimates that the average cost of compliance with AB 1493 would be around \$3,000 per vehicle. Savings on fuel would offset less than half of that cost for consumers.

The Sierra Research finding is largely a result of their assumption that greater fuel economy would encourage consumers to drive significantly more (the “rebound effect”). The CARB analysis also takes this effect into account, but estimates its impact to be smaller.

Sierra also expects more expensive technologies and options to be used where CARB anticipates simpler, less costly technologies. More than \$2,000 of the cost increase estimated by Sierra results from the use of expensive lightweight aluminum body structures typically found in sport luxury cars. Such structures are not feasible for use in typical passenger vehicles. In addition, AB 1493 prohibits the use of such weight reduction approaches.²

Finally, the Sierra Research analysis appears internally inconsistent. If consumers do not see net savings from the purchase of a Pavley car, then there is no extra money for them to spend on

¹ California Environmental Protection Agency Air Resources Board. ARB Staff Responses to Comments Raising Significant Environmental Issues Regarding the Proposed Regulations to Control Greenhouse Gas Emissions from Motor Vehicles. August 4, 2005. <http://www.arb.ca.gov/regact/grnhsgas/att3.pdf>, page 1

² California Environmental Protection Agency Air Resources Board. Regulations to Control Greenhouse Gas Emissions from Motor Vehicles: Final Statement of Reasons. August 4, 2005. <http://www.arb.ca.gov/regact/grnhsgas/fsor.pdf>, page 169

additional driving.³ The CARB analysis acknowledges the rebound effect from its savings, but does not expect (nor does any study of the rebound effect show) that consumers would use up all their savings in additional driving.

There is substantial empirical basis to expect that both CARB and the industry have overestimated compliance costs. A review by the Natural Resources Defense Council (NRDC) found that the auto industry has typically overestimated the compliance costs of pollution standards for passenger vehicles by a multiple between 2 and 10. Factors that contribute to overestimation include unanticipated innovation and overly conservative estimates. Regulators have also overestimated compliance costs in the past, by as much as a factor of 2.⁴

Conclusion

Although it is possible that the CARB estimates of compliance cost are too high, CCS finds that the CARB analysis is more thorough and overall more credible. In the analysis of the costs of compliance with a State Clean Car standard, CCS thus shows the CARB cost of compliance.

Sources

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³ See Meszler Engineering Services, "Response to Sierra Massachusetts Pavley Comments, November 22, 2005. At <http://www.mass.gov/dep/air/laws/meszler.pdf>.

⁴ National Resources Defense Council. Comments on the Proposed Adoption of Regulations by the California Air Resources Board (CARB) to Control Greenhouse Gas Emissions from Motor Vehicles. September 23, 2004. <http://www.nrdc.org/globalWarming/crh0904.pdf>. page 6.