Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

fact sheet

The Consumer Benefits of California's Vehicle Global Warming Law

For years, the auto industry has resisted regulations – from catalytic converters to seatbelts. Automakers have long argued that regulation is too expensive and cumbersome, routinely overestimating the cost of compliance.[1]

The case is no different with California's Vehicle Global Warming Law, AB 1493 (Pavley). But, in no instance has this argument been farther from the truth. In fact, even with an increase in vehicle price, this regulation will result in large savings to California drivers both in the near-term and over the life of their vehicles.

California's Vehicle Regulations will Save California Drivers Money

The increased price of vehicles that comply with California's vehicle global warming regulation will be more than offset by reductions in vehicle operating costs. In fact, many of the likely new technologies used to meet the requirement will "pay for themselves" in less than five years, the length of an average auto loan. For example, tighter seals on air conditioners could reduce maintenance costs and some engine and transmission technologies will reduce fuel usage.

In the near-term, the California Air Resources Board (CARB) estimates that the vehicle global warming regulations will increase the price of the average car in California by just over $325. In the mid-term, CARB estimates that the average vehicle price will increase by just over $1,000.

The length of time it takes for a technology or package of technologies to recoup their costs is called *payback time*. Assuming average vehicle lifetimes and miles driven, the payback time for these technology improvements depends on the price of gasoline.[2] These increases in vehicle price are more than made up over the life of the vehicle, as shown in the table below.[3]

Payback Time for the Average Passenger Vehicle

		Fuel Price ($/gallon)		
	Technology Cost	**$1.74**	**$2.00**	**$2.25**
		Payback time (years)		
Near-term	$326	1.6	1.4	1.2
Mid-term	$1,048	4.3	3.6	3.1

At today's gasoline price of approximately $2.00/gallon[4], the average driver in California would recoup the price of a near-term technology improvement in less than one and a half years of driving. The increased price of mid-term technology improvement would be made up in just over three and a half years of driving.

If gasoline prices rise once again, these payback times only get shorter. At a price of $2.25/gallon, the payback time for the near-term technology falls to just over one year. The cost of mid-term technology improvements would be recouped in about three years.

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Over the lifetime of a vehicle, these savings add up. At a gasoline price of $2.00/gallon, near-term technology improvements will result in a net savings of over $1,700 to the average vehicle owner in California. Vehicles sold between 2009 and 2016 that meet California's greenhouse gas standards will save the operators of these vehicles $10.5 billion (in today's dollars) over the vehicles' lifetime.[5]

June 2005

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[1] Anderson, John F. and Todd Sherwood, 2002, Comparison of EPA and Other Estimates of Mobile Source Rule Costs to Actual Price Changes, Warrendale, PA: Society of Automotive Engineers, 2002-01-1980.

[2] Vehicle lifetimes and miles driven are based on estimates from EMFAC2002.

[3] These calculations only account for reductions in fuel consumption because no estimates have been made at this time on the effect of air conditioner modifications on maintenance costs.

[4] As of 8/16/2004, the average price per gallon of regular gasoline was $2.05, data from California Energy Commission. (http://www.energy.ca.gov/gasoline/index.html)

[5] All lifetime savings calculations assume a 16 year vehicle lifetime, a gas price of $2.00/gallon, and a 5% discount rate.