

July 7, 2004

AB 1493 Draft Proposal Comments
ARB
PO Box 2815
Sacramento, CA 95812
Attention: Chuck Shulock.

Dear Mr. Shulock,

On behalf of the Competitive Enterprise Institute (CEI), a non-profit public policy organization headquartered in Washington, D.C., I am pleased to submit this comment on the Air Resource Board's (ARB) proposals to implement AB 1493, a law requiring ARB to adopt regulations achieving "maximum feasible and cost-effective" reductions of greenhouse gas emissions from motor vehicles.

Backdoor Fuel Economy Regulation

The main greenhouse gas emitted by motor vehicles is carbon dioxide (CO₂), an inescapable byproduct of the combustion of gasoline and other carbonaceous fuels. Because commercially proven technologies to filter out or capture CO₂ emissions from gasoline-powered vehicles do not exist, the most feasible way to implement AB 1493 is via regulations increasing vehicle miles traveled per unit of fuel consumed—in other words, via fuel economy regulations.

However, as ARB is surely aware, the federal Energy Policy Conservation Act of 1975 preempts state action in the field of automobile fuel economy regulation. The relevant provision states:

When an average fuel economy standard prescribed under this chapter is in effect, a State or a political subdivision of a State may not adopt or enforce a law or regulation *related to* fuel economy standards or average fuel economy standards for automobiles covered by an average fuel economy standard under this chapter [emphasis added].
U.S.C. 49, Sec. 32919 (a)

Proponents of AB 1493 deny that California's adoption of greenhouse gas emission standards for cars would establish de facto fuel economy standards. However, ARB's proposals regarding "Engine, Drivetrain, and Other Vehicle Modification," on pages 40-48 of its report, are identical in substance, and very nearly in detail, to a set of fuel economy proposals offered by the National Research Council (NRC) in its July 2001 report, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*. Like the NRC, ARB touts camless valve actuation and other modifications in engine valve trains, variable compression ratios, gasoline direct injection, continuously variable transmission, 42-volt electrical systems, hybridization, aerodynamic drag and rolling resistance reduction, and vehicle weight reduction, among other design and engineering changes. A side-by-side comparison appears below.

An old joke has it that the *Iliad* was not written by Homer; rather, it was written by another Greek with the same name. A law that effectively and significantly requires automakers to increase fuel economy is a fuel economy mandate, however named. It seems likely that courts will find in favor of plaintiffs challenging AB 1493 as an illicit foray into the field of fuel economy regulation.

Costs without Benefits

The “maximum feasible” greenhouse gas reductions contemplated by AB 1493 are also supposed to be “cost-effective.” However, no regulation devised by ARB can be cost-effective, because no statewide program can effectively address the alleged problem of global warming from anthropogenic greenhouse gases.

Tom Wigley of the National Center for Atmospheric Research calculated that full implementation of the Kyoto Protocol by all industrialized countries, including the United States, would avert only 7/100ths of a degree C of global warming by 2050—too small an amount for scientists reliably to detect. Any greenhouse gas reductions from a single sector within a single state would have even less effect on atmospheric CO₂ concentrations and, hence, on global climate change. Therefore, an ARB-administered AB 1493 program can have no discernible benefit to people or the planet. Yet the program will have measurable costs: up to \$1,047 in additional expense for category 1 passenger car/light duty trucks and \$1,210 for category 2 light duty trucks, according to ARB [page iii]. A program with substantial consumer costs and no detectable benefits is not cost-effective.

Consumer Losses

A similar conclusion emerges if AB 1493 is viewed—as it should be viewed—as a sub-rosa fuel economy program. To help policymakers design “climate friendly” transportation systems, the Pew Center on Global Climate Change recently published a report, by David L. Greene of Oak Ridge National Laboratory and Andreas Schafer of MIT, entitled *Reducing Greenhouse Gas Emissions from U.S. Transportation*. The Pew report openly calls for fuel economy measures to reduce greenhouse gas emissions. However, the authors reveal that fuel economy mandates tend to impair consumer welfare.

Citing the NRC fuel economy report and other relevant literature, Greene and Schafer estimate that the “present value of fuel savings for a typical passenger car...increases to \$1,000 at 34 mpg and \$2,000 at 44 mpg” over a “14-year vehicle life cycle.” However, fuel economy improvements also increase the sticker price of new cars, so much so that the “net value to the consumer (fuel savings minus vehicle price increase) is relatively modest, increasing to a maximum of about \$200 at 33 mpg and decreasing to zero at 39 mpg.” But, that modest gain occurs only over the car’s full 14-year life cycle. Most people sell or trade in their cars before 14 years. The survey literature suggests that most consumers will not invest in higher fuel economy unless they expect a payback in 2.8 years. Thus, for most consumers “no net savings are available from increasing fuel economy.” Indeed, Figure B on page 15 of the Pew report indicates that, as fuel economy increases to 37 mpg, *the typical consumer loses \$500 in net value*.

Don’t Make a Bad Law Worse

When the California legislature passed and Governor Davis signed AB 1493, they saddled ARB with an impossible task. ARB can achieve “maximum feasible” greenhouse gas reductions only by poaching on the federally preempted field of fuel economy regulation. ARB cannot achieve “cost effective” greenhouse gas reductions no matter what set of regulatory tools it employs.

Before going any further to implement AB 1493, ARB should brief Governor Schwarzenegger and the California legislature on the practical and legal impossibility of carrying out its mandate.

Sincerely,

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**Fuel Economy by another Name
Comparison of ARB's and NRC's Proposals**

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ARB GHG Reduction Technologies, 2004	NRC Fuel Economy Technologies, 2001
Near Term 2009-2012	
Intake Cam Phasing	Intake Valve Throttling
Exhaust Cam Phasing	Variable valve timing
Duel Cam Phasing	Multi-valve, Overhead Camshaft
Coupled Cam Phasing	
Discrete Variable Valve Lift	Variable valve lift
Continuous Variable Valve Lift	
Turbocharging	Turbocharger or Mechanical Supercharger
Electrically Assisted Turbocharging	
Cylinder Deactivation	Cylinder Deactivation
Variable Charge Motion	
Variable Compression Ratio	Variable Compression Ratio
Gasoline Direct Injection	Direct Injection Gasoline Engine
5-Speed Automatic Transmission	5-Speed Automatic Transmission
6-Speed Automatic Transmission	6-Speed Automatic Transmission
6-Speed Automated Manual	Automatic Shift Manual Transmission
Continuously Variable Transmission	Continuously Variable Transmission
Engine Friction Reduction	Engine Friction Reduction
Advanced Multi-Viscosity Lubricants	Low Friction Lubricants
Electric Power Steering	Electric Power Steering
Electric-Hydraulic Power Steering	
Improved Alternator	
Electrification of Engine Accessory Subsystems	Engine Accessory Improvement
Aggressive Transmission Shift-Logic	Automatic Transmission Aggressive Shift Logic
Early Torque Converter Lock-up	
Variable Displacement AC Compressor	
Aerodynamic Drag Coefficient	Aero Drag Reduction
Improved Tire Rolling Resistance	Improving Rolling Resistance
Mid-Term 2013-2015	
Electromagnetic Camless Value Actuation	Electromagnetic Camless Value Actuation
Electrohydraulic Camless Value Actuation	Electrohydraulic Camless Value Actuation
Gasoline Direct Injection - Lean-Burn Stratified	Direct Injection Gasoline Engines Lean-Burn
Gasoline Homogeneous Compression Ignition	
Electric Water Pump	
42-Volt 10 kW Integrated Starter-Generator ISG (Start Stop)	42-Volt Electrical Systems ISG
42-Volt 10 kW ISG (Motor Assist)	
Diesel - HSDI	Direct Injection Diesel Engines
Weight Reduction	Vehicle Weight Reduction
Long-Term 2015-	
Mild Hybrid Vehicle	Mild Hybrid Vehicle
Moderate Hybrid Vehicle	Moderate Hybrid Vehicle
Advanced Hybrid Vehicle	Parallel Hybrid Vehicle
Diesel – Advanced Multi-Mode	

Sources: California Environmental Protection Agency Air Resources Board, *Staff Proposal Regarding the Maximum Feasible and Cost-Effective Reduction of Greenhouse Gas Emissions from Motor Vehicles*, pp. 40-48, especially Table 5.2-3, June 14, 2004; National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*, pp. 3-7 to 3-15, Tables 3-1, 3-2, July 31, 2001.