

Illinois Climate Change Advisory Group

Subgroup: Transportation

Policy Name: #18 GHG Emissions Standards for Cars (CA Vehicle Emissions Standards)

Policy Type: Regulatory standard

Estimated 2020 Reductions Compared to BAU: 8.48 to 9.42 MMtons CO₂

5/11/07

Affected sectors, subsectors or entities

Sector: On-road motor vehicles
Subsector: Passenger vehicles and light duty trucks
Entities: Vehicle manufacturers, dealers.

Description

The federal Clean Air Act allows states to adopt (“opt-into”) the California vehicle emissions standards, which apply to passenger vehicles only and are more stringent than the federal standards. If a state does not adopt California’s standards, vehicle manufacturers and others are subject to the federal emissions standards established by the USEPA. Eleven states have adopted the California standards: California, Connecticut, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington.

The California vehicle emissions standards consists of (1) the Low Emissions Vehicle II (LEV II) standards for non-methane organic gases (NMOGs, similar to volatile organic compounds or VOCs), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), and hazardous air pollutants; and (2) the “Pavley” standards for greenhouse gas (GHG) emissions.

The LEV II standards took effect with model year 2004 (calendar year 2003) and will be completely phased-in with model year 2010. LEV II requires auto manufacturers to meet statewide fleet average emissions, and all vehicles must meet one of three different technology/emission classifications. The California Pavley GHG standards are scheduled to take effect model year 2009 with complete phase-in by model year 2016.

States that adopt the California vehicle emissions standards must wait at least two model years before requiring the sale of “California cars.” If the California standards were adopted in Illinois before January 1, 2008, the first model year that could be affected is most likely 2011, which would probably be calendar year 2010.

The Pavley standards are not officially part of the California program yet because of legal challenges. In addition, USEPA has yet to approve the Pavley standards. However, after the Supreme Court recently ruled that USEPA is authorized by the Clean Air Act to regulate GHGs from motor vehicles, USEPA re-started its review of California’s waiver request that was originally submitted in December 2005. Some of the California opt-in states have already approved the Pavley standards in anticipation of their approval, while others have not.

The California vehicle emission standards also include the Zero Emission Vehicle (ZEV) standards, which require auto manufacturers to sell a certain percentage of zero and extra-low

emission vehicles. Unlike LEV-II, USEPA has ruled that states do not have to adopt the ZEV standards as part of the California program.

Rough estimate of reductions from BAU in 2020

A range is provided. The high end assumes a 1.5% annual growth rate in gasoline consumption by light duty vehicles, based on recent trends in fuel use data provided by the Illinois Dept. of Revenue. Reduction estimates are based on reduction rates published by the California Air Resources Board. Specifically, if the Pavley standards are not adopted, GHG emissions from light duty gasoline vehicles in Illinois would increase approximately 19% by 2020 and 35% by 2030 compared to 2010 levels.

NO-PAVLEY CASE

Year	Annual Est'd Gasoline Fuel Use	Annual GHG Emissions MM tons/yr
2010	5,607,392,000 gallons	49,477,000
2020....	6,507,608,000	57,385,000
2030....	7,552,344,000	66,598,000

PAVLEY CASE

Year	Annual Est'd Gasoline Fuel Use	Annual GHG Emissions, tons/yr
2010	5,607,392,000 gallons	49,477,000
2020	5,439,603,000	47,967,000
2030	5,481,710,000	48,339,000

Year	Reductions in Gasoline Fuel Use due to Pavley Stds	GHG Reductions (tons/yr) from No-Pavley Case due to Pavley Stds
2010	0 gallons	0
2020	1,068,005,000	9,418,000
2030	2,070,634,000	18,259,000

If one assumes a lower annual growth rate of 0.9 % (from WRI's emissions projections derived from the EIA's projections for transportation growth through 2020), the 2020 and 2030 estimated reductions are about 8.48 and 16.43 MMtons for 2020 and 2030, respectively.

Written Comments

Ford Motor Company

- The ways to decrease CO2 from autos are to drive less or use less fuel. Therefore **greenhouse gas (GHG) standards are functionally equivalent to fuel economy standards**. To the extent that GHG standards are considered, they must replace (not overlap with) the Corporate Average Fuel Economy Program (CAFE) and they must be administered at the Federal level. Automakers need a consistent national policy, and this nation-wide policy cannot be written by a single state or a group of states.
- Auto manufacturers believe that CA Standards preempt the federal CAFE program. The recent Supreme Court Decision referenced in Policy Paper #18 does not address the issue of Federal preemption regarding fuel economy standards and therefore CA (nor any of the other states adopting CA standards) currently has the legal ability to enact regulations related to fuel economy. This issue will ultimately be decided in law suits filed by all automobile manufacturers in California, Rhode Island and Vermont challenging the GHG regulations. A resolution to this issue could take years. **Choosing this policy as one of the main ways to achieve IL's GHG reduction goals is risky as implementation could be significantly delayed or never receive approval.**
- In addition, the calculations in policy paper do not assume that the auto industry will achieve future fuel economy improvements. Currently the President has proposed a 4% increase per year through 2017 (equivalent to 36 mpg for cars). The industry is currently working with legislators in Washington to propose Federal fuel economy improvements that are based on technology, value and safety. The CA standard (46 mpg for cars) is a proposed mandate that is not based on economic feasibility.
- **No** auto manufacturer in the industry has said that they will be able to meet the CA standard because it is not technologically viable.
- Adopting CA standards in IL will :
 - provide no environmental benefits above and beyond the federal program. CALEV is virtually equivalent to the U.S. EPA's Tier II" motor vehicle standards. By adopting California's standards, IL will lose flexibility the Federal regulations provide. By adopting CA standards, IL will be committed to taking regulatory action to adopt all future changes that CA makes to its own program.
 - increase the cost of a new vehicle by an average of \$3,000 and has the potential to eliminate several popular models of pick-up trucks, sport-utility vehicles, vans, minivans and cars. Ultimately, adoption of the CA standards will result in reduced towing capacity, hauling ability, off-road capability, cargo space, passenger room and horsepower. Last year, more than half of all new vehicles sold in the state were minivans, pickups, vans and SUVs. These vehicles are a necessarily – not a luxury—for many families and business owners.
- The National Highway Safety Administration when setting “maximum feasible” fuel economy standards for the nation, considers **technological feasibility, safety, affordability, emissions, consumer choice and effects on American jobs**. By contrast, California did not adequately consider any of these factors. A consistent national policy makes most sense to avoid such policy oversights.

Rebuttal to Written Comments Submitted by Ford Motor Company

Environmental Law & Policy Center
Environment Illinois
Sierra Club, Illinois Chapter
Union of Concerned Scientists

Ford comment:

- The ways to decrease CO₂ from autos are to drive less or use less fuel. Therefore **greenhouse gas (GHG) standards are functionally equivalent to fuel economy standards**. To the extent that GHG standards are considered, they must replace (not overlap with) the Corporate Average Fuel Economy Program (CAFE) and they must be administered at the Federal level. Automakers need a consistent national policy, and this nation-wide policy cannot be written by a single state or a group of states.

Rebuttal:

- The mission of the Climate Change Advisory Group is to develop a set of policy recommendations that will meet the governor's stated goal of reducing global warming pollution to 1990 levels by 2020, and 60% below 1990 levels by 2050. Adopting the vehicle emissions standards already in place in 12 states is the largest single reduction strategy Illinois could adopt in the transportation sector. These standards include all greenhouse gas pollutants, including nitrous oxide, methane, and hydrofluorocarbons. These additional pollutants beyond carbon dioxide are critical because they are up to 1300 times more potent than CO₂.

Various studies show that the LEV II and Pavley standards would cut global warming pollution here by 9-10 million metric tons every year. Furthermore, there are ways to reduce global warming from vehicles without affecting fuel economy. Advanced air conditioning systems with less polluting refrigerants, or biofuels with lower carbon content, are two examples. The fact that greenhouse gas reduction often leads to fuel efficiency improvement is a welcome side benefit to the legislation. In addition, the Supreme Court, in its recent *Massachusetts v. EPA* decision, said in discussing these two sets of standards, "But that DOT sets mileage standards in no way licenses EPA to shirk its environmental responsibilities...the two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations..." We do agree with Ford that a national policy is preferable, and would be eager to join forces with all automakers in support of a national adoption of the LEV II/Pavley program.

Ford comment:

- Auto manufacturers believe that CA Standards preempt the federal CAFE program. The recent Supreme Court Decision referenced in Policy Paper #18 does not address the issue of Federal preemption regarding fuel economy standards and therefore CA (nor any of the other states adopting CA standards) currently has the legal ability to enact regulations related to fuel economy. This issue will ultimately be decided in law suits filed by all automobile manufacturers in California, Rhode Island and Vermont challenging the GHG regulations. A resolution to this issue could take years. **Choosing**

this policy as one of the main ways to achieve IL's GHG reduction goals is risky as implementation could be significantly delayed or never receive approval.

Rebuttal:

- As stated in our rebuttal above, many technologies, the list of which can be found in the California Air Resources Board's 2004 Initial Statement of Reasons, already exist to ensure compliance with the LEV II/Pavley program. That list, prepared in consultation with automotive engineers, was designed to reduce global warming pollution—a goal that does not conflict with the federal CAFÉ program. In regard to the lawsuits, arguments concluded in the Vermont case last week, and various legal experts believe that the case will be decided by September. Thus if the current lawsuits are decided in the states' favor, the standards could become the law of those states in a matter of months, not years. We believe it is far more risky for the state of Illinois to choose not to adopt a program that would so effectively reduce global warming pollution. One other point—the comment states that all automobile manufacturers have filed suit in the three states listed. In reality, only General Motors, Daimler Chrysler, the Alliance of Automobile Manufacturers, and the Association of International Automobile Manufacturers have filed suit. While all automakers are in either the Alliance or the Association, the level of support of individual automakers for the lawsuit cannot be ascertained.

Ford comment:

- In addition, the calculations in policy paper do not assume that the auto industry will achieve future fuel economy improvements. Currently the President has proposed a 4% increase per year through 2017 (equivalent to 36 mpg for cars). The industry is currently working with legislators in Washington to propose Federal fuel economy improvements that are based on technology, value and safety. The CA standard (46 mpg for cars) is a proposed mandate that is not based on economic feasibility.

Rebuttal:

- We welcome the automakers' taking the initiative to improve fuel efficiency on their own, but have little confidence in their voluntary initiative, as we have waited for decades to see improvements but instead have been moving backwards, not forwards on fuel economy. Moreover, such improvements would not address the non-carbon greenhouse gas emissions discussed later in this rebuttal. Furthermore, the 46 mpg standard mentioned by Ford does not match the automakers' own calculation of the fuel economy needed to meet the LEV II/Pavley program in California when fully implemented. In documents filed there, the automakers said only 40.4 mpg would be needed to reach the standard, assuming more efficient air conditioning systems are installed. This is quite close, in fact, to the 2017 mpg put forth by the President—taking today's 27.5 mpg figure and adding 4%/year to 2017 brings the standard by then up to 37.6 mpg. Finally, the state of California has said on many occasions that it believes the LEV II/Pavley program is both cost-effective and economically feasible.

Ford comment:

- **No** auto manufacturer in the industry has said that they will be able to meet the CA standard because it is not technologically viable.

Rebuttal:

- As stated above, the California Air Resources Board has developed a list of modifications that in various combinations would ensure compliance with the LEV II/Pavley program. Given the lawsuits now filed, it would be surprising if one or more automakers would break from the pack and say that it/they could meet the standards.

Ford comment:

- Adopting CA standards in IL will :
 - provide no environmental benefits above and beyond the federal program. CALEV is virtually equivalent to the U.S. EPA's Tier II" motor vehicle standards. By adopting California's standards, IL will lose flexibility the Federal regulations provide. By adopting CA standards, IL will be committed to taking regulatory action to adopt all future changes that CA makes to its own program.
 - increase the cost of a new vehicle by an average of \$3,000 and has the potential to eliminate several popular models of pick-up trucks, sport-utility vehicles, vans, minivans and cars. Ultimately, adoption of the CA standards will result in reduced towing capacity, hauling ability, off-road capability, cargo space, passenger room and horsepower. Last year, more than half of all new vehicles sold in the state were minivans, pickups, vans and SUVs. These vehicles are a necessarily – not a luxury—for many families and business owners.

Rebuttal:

- The LEV II/Pavley program would provide significant air quality benefits to Illinois. According to the Illinois EPA, the California standard would reduce emissions of volatile organic compounds (VOCs) by 4.0 tons per day and emissions of nitrous oxides (NOx) by 6.6 tons per day compared to the Tier II federal program. These pollutants are the major contributors to Illinois' ozone pollution problems. According to the California Air Resources Board (CARB), greenhouse gas emissions will fall 18% by 2020 and 27% by 2030 there under the LEV II/Pavley program.
- By studying its various combinations of available technologies, the California Air Resources Board has estimated a maximum cost effect of the LEV II and Pavley program of just over \$1,000. Whether a vehicle would be purchased in cash or via a normal 5-year car loan, buyers would recoup the additional cost in less than two years because of greater fuel efficiency, and achieve net savings thereafter. In regards to the vehicle choice question, the state of Maryland, the most recent adopter of the LEV II/Pavley program, found no evidence that availability of virtually any model would be jeopardized, including the type of vehicles listed in Ford's comment.

Perhaps even more importantly, the LEV II/Pavley program is most strict on those vehicles weighing 3,750 lbs. or less fully loaded—these represent passenger cars plus only the lightest of SUVs. Vehicles weighing more than 3,750 lbs. are judged to a much less stringent set of standards. Availability of these larger vehicles would thus not be threatened whatsoever. Vehicle choice is even augmented by the Zero Emission Vehicle program contained within the LEV II standards because the program helps bring to market vehicles with advanced hybrid, hydrogen, and electric propulsion technology. In California alone since 2001, for example, more than 70,000 different hybrid vehicles have been sold including the GMC Sierra, the Toyota Prius, and the Ford Escape Hybrid. Not as well publicized is the most significant success of the program in California—500,000 “partial” zero emission vehicles (PZEVs) sold; these are cars/light-duty trucks with standard gasoline internal combustion engines but that produce cleaner emissions than a pure electric vehicle when taking into account the source of the power used to charge it. Plus, these PZEVs produce no evaporative emissions.

Ford comment:

- The National Highway Safety Administration when setting “maximum feasible” fuel economy standards for the nation, considers **technological feasibility, safety, affordability, emissions, consumer choice and effects on American jobs**. By contrast, California did not adequately consider any of these factors. A consistent national policy makes most sense to avoid such policy oversights.

Rebuttal:

- As often stated above, various technologies are available, by which to meet the LEV II/Pavley program. California finds both the available technologies and the LEV II/Pavley program in its entirety to be cost-effective. We do agree with Ford that the effect on American jobs is important, and would applaud Ford and other American automakers if they were to take the initiative to build the cleaner cars that people clearly want today. By so doing, the American automakers’ troubling financial results of the last several years could begin to be reversed.