

AB 32 Implementation: Light Duty Vehicles and Their Fuels

An Informational Hearing of the Senate Transportation and Housing Committee

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State Capitol, Room 112

Testimony of Adrienne Alvord, California and Western States Director, Union of Concerned Scientists, before the California State Senate Transportation and Housing Committee Hearing:

Chairman DeSaulnier and Committee members, thank you very much for this opportunity to testify today on how technology advances in light duty vehicles and fuels can help the state reach our AB 32 goals and provide multiple benefits to our state. My name is Adrienne Alvord and I am the California and Western States Director for the Union of Concerned Scientists.

UCS is a national non-profit that puts rigorous, independent science to work to solve our planet's most pressing problems. We combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.

UCS has been working on transportation and vehicle policy in California for more than two decades, during which time we've seen the state make pioneering advances in vehicle and fuel technology, significant improvements in air quality, and reductions in greenhouse gas emissions.

Today I will focus on the importance of the progress we are making in vehicle and fuel technology. My colleague Simon Mui will provide a more detailed discussion of the Low Carbon Fuel Standard.

The main point I want to make is that **California is on the right path – pursuing policies and programs to improve efficiency and drive innovation.**

UCS analysis shows that if we rely on innovation and efficiency as California is already doing, the U.S. can cut oil consumption by half over the next twenty years. This is particularly important in a state that uses more transportation fuel than any other in the nation.

We will make progress not by relying on a single fuel as we have in the past, but by giving consumers more vehicle, fuel, and transportation options — taking what our engineers call a “silver buckshot” approach.

As you have already heard today, California’s smart policies are helping to incentivize a combination of advanced fuel-efficient vehicles, low-carbon fuels, and zero-emission vehicles such as battery and plug-in electric vehicles are now either fully commercialized, being introduced, or in advanced states of development. Similar options are also being created for trucks, trains, planes, and ships. These choices are being enabled by policies California has put in place over the past decade.

Policies that encourage cleaner, more fuel-efficient cars and fuels include:

- Our pioneering vehicle greenhouse gas standards that came out of Senator Pavley’s AB 1493 that are now being harmonized with standards at the federal level, an instance where our state policy has paved the way to

reduce oil consumption and decrease emissions nationwide.

- The Zero Emission Vehicle program ensures automakers are investing in battery electric and fuel cell technology – transformational technologies needed to meet our climate goals and reduce petroleum consumption, and the 2013 ZEV action plan brings state agencies together in support of the expansion of advanced technology vehicles, and reducing barriers to consumer adoption – complimentary actions that will help automakers meet the ZEV requirements.
- The LCFS allows fuel suppliers to choose the most cost effective mix of fuels that delivers lower carbon fuels while minimizing competition with food and forest protection by moving beyond food-based biofuels. We can find ways to improve and ratchet up the LCFS over time.

Benefits of these policies include:

- Consumer savings at the pump
- Investment in new technology, benefitting our local economy and creating more jobs
- Energy security
- Lower carbon pollution

Critics of these policies have misled the debate by focusing on the potential for higher costs instead of acknowledging the significant benefits they deliver. If we do not diversify our fuels and car

technologies to reduce our oil use, we remain vulnerable to fuel price spikes and supply risks.

You have heard Dr. Simmons and others testify today about the wide range of new products and technologies that are in development. California's advanced clean car and fuel policies are largely the reason that we are a leading center for the development of these exciting new products.

Technology innovation and economic growth always involve some "costs" but this term is misleading. The more accurate characterization is "investment" because there is a tangible return—new products, industries, and jobs, decreased reliance on an increasingly expensive and unreliable commodity, and reduced risk to the increasingly obvious impacts of climate change.

The fact that the price of gasoline has not fallen even as domestic demand is dropping and supplies are growing shows that our use of a single, international commodity has huge economic and security risks. The product choices we are now developing are crucial to protecting consumers and the economy as well as our public health and the climate.

I have distributed copies of the executive summary of a study that UCS published earlier this year on where your gas money goes. Among its findings is that a car purchased in 2011 with average fuel economy (22.8 mpg) and driven for the life of the vehicle would consume more than \$22,000 in gasoline costs — almost as much as the cost of an average new vehicle.

Very little of the money you spend on gasoline stays in the local economy. Nationally we found that gas stations averaged only 3 to 5 cents per gallon in profit over the last five years.

Two-thirds of the money you spend goes straight to private oil companies like ExxonMobil and nationalized oil companies like Saudi Aramco.

On the other hand, investment in efficiency saves consumers thousands of dollars. For example, the 2013 Ford Fusion SE Hybrid costs about \$3,500 more than a similarly equipped conventional Fusion SE, but it costs \$8,800 less to fuel over the life of the vehicle. We calculate that a consumer can save enough on gas each month to cover the added finance cost of the hybrid technology, delivering more than \$5,000 in net savings over the life of the car.

I want to take a moment to address the committee's analysis concerning the projected share of hydrogen vehicles. In general, UCS supports an emphasis on performance measures — defining what standard we want a vehicle to meet such as the level of greenhouse gas reductions, and letting consumers decide which products are winners based on price and performance.

However, it is important to continue to support the continued development of fuel cell vehicles by providing at least some support in the development of their infrastructure. Our technical assessment is that they could be better than battery electric vehicles in some respects. A new National Academy of Sciences report that looks at the potential to cut oil and ghgs from light duty cars in half by 2030 and 80 percent by 2050 takes the same stance:

It says the following: “The technical hurdles that must be surmounted to develop an all-purpose vehicle acceptable to consumers appear lower for FCEVs (Fuel Cell Electric Vehicles) than for BEVs (Battery Electric Vehicles.) However, the infrastructure and policy barriers appear larger. Well before 2050 the cost of FCEVs could actually be lower than the cost of an equivalent ICEV (Internal Combustion Engine Vehicle), and operating costs should also be lower. FCEVs are expected to be equivalent in range and refueling time to ICEVs.”

As the NAS report makes clear, there is a continued need for policies to drive the market for these advanced technologies and create more and better choices, eventually pushing costs down as consumer adoption ramps up.

In short, innovative clean energy policies such as the LCFS, the Advanced Clean Car rule, and vehicle efficiency requirements are helping to put California on a path to cut our carbon emissions back to 1990 levels by 2020, and have many other benefits as well.

Oil companies need to do their part by not standing in the way of innovation. Thank you.

(For questions contact aalvord@ucsusa.org or call (510) 229-0923.)