August 12, 2013

Richard Corey, Executive Officer
Air Resources Board
1001 I St.
Sacramento, CA 95814

RE: AB32 Scoping Plan Update

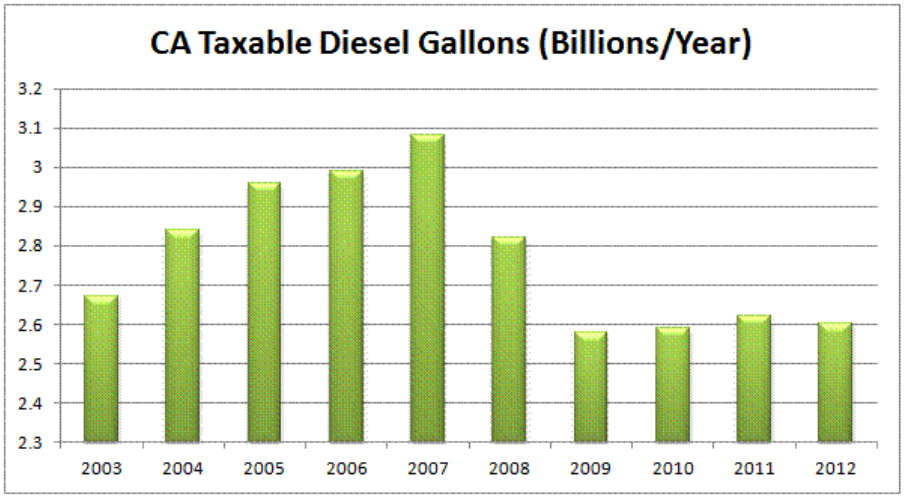
The California Trucking Association (CTA) is the nation's largest statewide organization representing the trucking industry. We would like to thank the Air Resources Board (ARB) for the opportunity to submit these comments.

Our comments solely address the freight portions of staff's workshop presentations. Among staff's stated goals for the Scoping Plan Update are:

Goods move more efficiently and with zero- or near-zero emissions

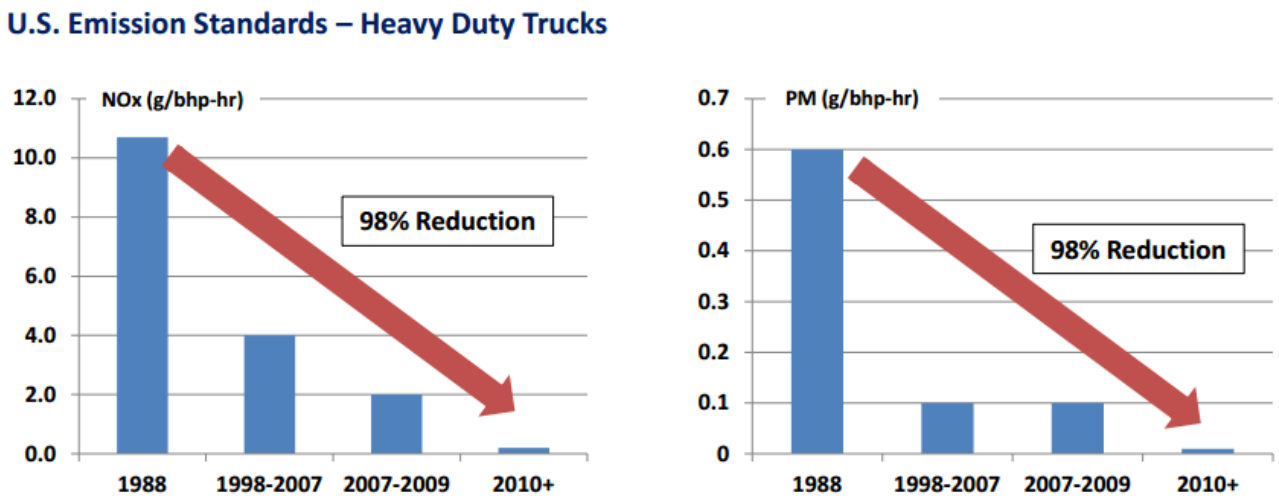
The Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration have estimated that their combined heavy-duty fuel economy standards will reduce CO2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 vehicles.[1] The ARB should reflect these rules, and their associated costs and expected GHG reductions, in their Scoping Plan Update.

Also, despite increasing economic activity, California's diesel fuel consumption is flat.

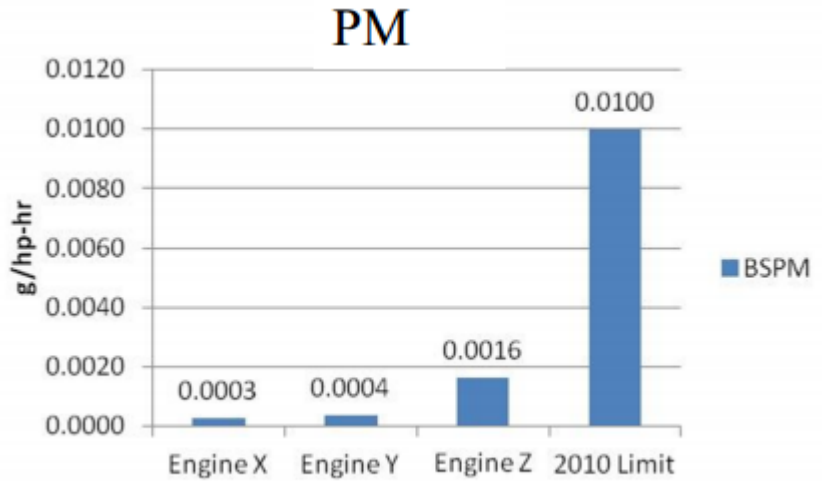


While no combination of existing fuels or engine technologies will produce zero or near-zero GHG emissions, existing engine technologies are producing near-zero levels of criteria pollutants necessary for regional air quality attainment goals.

[1] http://www.epa.gov/otaq/climate/documents/420f11031.pdf

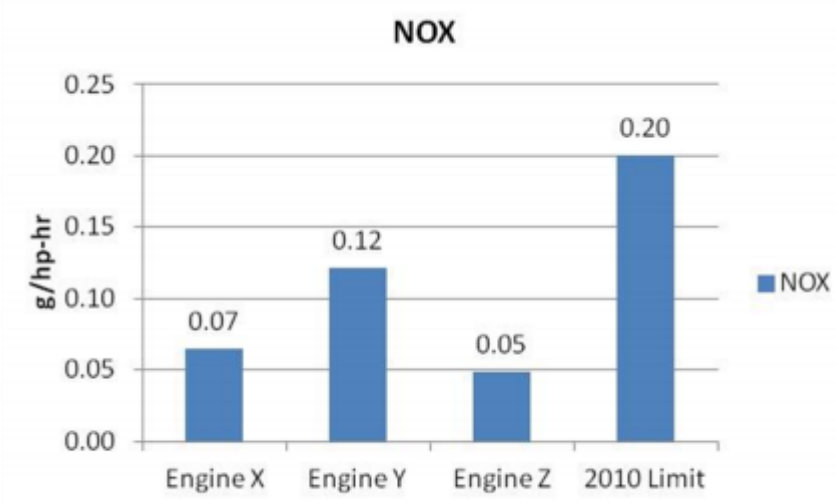


The above image demonstrates how far diesel emission control technology has come in just the past 20 years. Most amazing, is while U.S. emission standard have fallen dramatically, recent testing shows that the engines are actually outperforming the standards by a wide margin.



Diesel particulate matter has been virtually eliminated. Note that while the emission standard has fallen by 98% since 1988, actual emissions have fallen by 99.9%.

NOx is also getting closer to absolute zero levels, with the best performing engines cutting actual emissions by 99.5% relative to 1988 standards.



Relative to 1988 emission standards, we are now left with 0.01% of the PM and 0.5% of the remaining NOx to reach absolute zero tailpipe emissions.

System provides acceptable velocity and expanded capacity

While we are unsure what staff may consider as "acceptable velocity", we would like to highlight a comparable definition used in the San Pedro Ports Technology Advancement Program.[2]

Zero or positive impact on operational efficiency when compared to existing diesel trucks (operational efficiency is the actual throughput of cargo compared to the maximum theoretical throughput of cargo and is reduced by mechanical failures, increased refueling times, etc)

CTA also supports the development of a plan to fund and operate Intelligent Transportation System (ITS) applications that can better utilize existing capacity and alleviate congestion on California's key goods movement corridors. Basic applications such as dynamic freeway ramp metering systems, truck parking availability applications, and real time traffic monitors that can be used to increase greatly efficiency on our roadways, thereby reducing emissions and alleviating the need for greater capacity.

This plan should also prioritize and develop funding and operations strategies for advanced ITS applications with statewide efficiency and emissions reduction benefits.

System integrates with the national and international freight transportation system

Some advanced alternative fuel technologies will require build out of fueling infrastructure. For instance, battery electric, hydrogen fuel cell, compressed or liquefied natural gas (CNG/LNG), liquefied petroleum gas (LPG), and other alternative fuels like dimethyl ether (DME) all require proprietary fueling systems. Moreover, fueling infrastructure built to service the needs of alternative fueled private passenger vehicles (PPVs) do not always match the needs of their

[2] http://www.cleanairactionplan.org/programs/tap/techdemos.asp

commercial counterparts. For instance, early prototype battery electric drayage trucks have required DC fast charging equipment. Early hydrogen fueling infrastructure site planning has mostly concentrated on build-out for PPVs, with retail stations in mostly affluent neighborhoods, not necessarily centers of regional and short-haul freight activity. Wayside power options, such as Siemens' e-Highway concept require the installation of fixtures such as catenaries on either existing or new roadway infrastructure. Unfortunately, the state has limited ability to influence fueling and roadway infrastructure decisions made outside of its borders. For on-road commercial vehicles, 38% total carbon emissions come from "over the road" tractors[3], whose trips typically originate from or are destined to other states. "Regional" tractors may also operate in multiple states or outside of the range of even relatively developed alternative fueling infrastructure like LPG or CNG/LNG.

Table 3: Truck Categories, 2010 Populations and CO_2e Emissions

Vehicle Category	Truck Population	% Population	Average VMT	CO_2e (MMT/yr)	$\%CO_2e$
Tractors - OTR	175,000	12%	85,000	12.9	38%
Tractors – Short Haul/Regional	111,000	8%	55,000	6.3	18%
Class 3 – 8 Work - Urban	253,000	17%	25,000	3.6	11%
Class 3 – 8 Work – Rural/Intracity	295,000	20%	35,000	6.1	18%
Class 3 – 8 Work – Work Site	77,000	5%	13,000	0.8	2%
Class 2B/3 vans/pickups	531,000	36%	21,000	4.2	12%
Unknown	15,000	1%	8,192	0.1	0%
Total	1,457,000	100%	34,255	34.0	100%

California truck population by weight class and application, along with average vehicle miles traveled, CO_2 equivalent emissions in MMT/year, the percentage of vehicles by category, and percentage contribution to total truck CO_2e emissions.

California Hybrid, Efficient and Advanced Truck Research Center calculations

Widespread use of electricity and hydrogen as transportation fuels; Low-carbon, renewable natural gas and other fuels where internal combustion engines remain

Due to range limitations and other factors, it is unlikely that full battery electric trucks will service all trucking sectors. For instance, the CalHEAT Roadmap found that full battery electric trucks would not be feasible even after the 2020 timeframe for over-the-road trucks.

[3] http://www.calstart.org/Libraries/CalHEAT_2013_Documents_Presentations/CalHEAT_Roadmap_Final_Draft_Publication_Rev_6.sflb.ashx

Early hydrogen fuel cell demonstration trucks are also targeted at the short-haul and drayage markets.

Renewable natural gas, while promising, is also unlikely to materialize in great quantity by 2020. The Coalition for Renewable Natural Gas has estimated that landfills could produce up to 31 million diesel gallon equivalents (DGE) by 2020, but would most likely only produce 46.5 thousand DGE[4].

Potential vehicle to grid approaches

We will reserve comments until staff provides more details, but any vehicle-to-grid strategies would, obviously, be dependent on deployment of commercial BEV or PHEV and the inherent challenges therein.

Close relationship between evolution of transportation sector and future energy needs; Scoping Plan will identify steps to start transformation of transportation sector; Focus on policy priorities and actions for State agencies over next five years

It is important for staff to recognize that there is very successful framework for technology and infrastructure advancement and deployment through existing AB118 programs. In the near-term, staff may want to illustrate that the majority of AB118 programs are oversubscribed and how additional, specific, incentives-based technology advancement could occur with strong Cap and Trade Investment Plan support.

Eventually staff will need to begin identifying commercial and economic barriers to deployment of individual technologies and fuels and assess whether these technologies and fuel pathways are ultimately scalable, sustainable and viable in the markets they seek to serve.

Thank you for the opportunity to submit comments. If you have any questions, please contact Chris Shimoda at cshimoda@caltrux.org.

Sincerely,

Eric Sauer, Vice President of Policy and Regulatory Affairs
California Trucking Association
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[4] http://www.energy.ca.gov/2013_energypolicy/documents/2013-07-31_workshop/presentations/15_Johannes_Escudero.pdf