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Comments on Committee Draft Alternative Fuels Plan- Preliminary Assessment

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October 16, 2006 CaIETC Presentation: Electric drive technologies are a viable component of a portfolio to reduce emissions and petroleum use

- Today electric technologies compete well in markets such as:
 - Lift trucks, with a market share of 60%
 - Burden/personnel carriers, tow tractors, and turf trucks with a market share of 40%
 - Sweepers, scrubbers, and burnishers with a market share of 80+%
 - Lawn and garden equipment with a market share of 38%

- Electric transportation growth markets that can have a significant impact on reducing emissions and petroleum use are:
 - Truck Stop Electrification (idling reduction)
 - Port Electrification (AMP or cold ironing)
 - Electric-Standby Truck/Container Refrigeration Units
 - Light- duty Plug-In Hybrids

AB 1007 Electric-Drive Storyline

- Marine Port Electrification
- Truck Idling Reduction with Electrification
- Electric-Standby Truck Refrigeration Units
- Electric Lift Trucks and Other Industrial Equipment
- Plug-In Hybrids

Electric-Drive Storyline 2012-2022

	29	58	88	169	471	772	251	720	1,190
	12	25	37	63	229	283	91	260	430
	0.13	0.26	0.39	0.46	1.81	2.96	0.96	2.73	4.51
	\$33.9	\$49.0	\$64.1	\$123.7	\$323.9	\$524.1	\$169.1	\$486.0	\$902.9
	\$39.2	\$79.2	\$119.2	\$216.3	\$405.8	\$595.3	\$317.6	\$922.3	\$1,527.1
	(\$5.2)	(\$30.2)	(\$55.2)	(\$92.8)	(\$281.9)	(\$471.2)	(\$148.6)	(\$436.4)	(\$724.2)
	74	129	183	384	864	897	320	813	1,326
	302	295	487	293	535	776	347	660	973
	1.83	2.93	4.02	2.96	5.30	7.64	3.90	6.55	9.60
	\$157.6	\$289.3	\$340.8	\$288.2	\$591.4	\$894.5	\$349.6	\$777.6	\$1,205.6
	\$166.6	\$368.5	\$770.3	\$673.2	\$1,264.4	\$1,855.7	\$831.0	\$1,655.4	\$2,479.9
	(\$200.0)	(\$318.8)	(\$429.5)	(\$385.0)	(\$673.1)	(\$961.2)	(\$481.4)	(\$877.8)	(\$1,274.2)

Note: Numbers in parentheses represent negative values. Negative operational savings represent net costs.

Electric-Drive Storyline 2030-2050

	900	2,864	6,109	1,555	5,884	10,922	2,211	9,302	19,542
	273	869	1,466	420	1,403	2,351	541	2,273	3,807
	2.87	9.14	15.44	8.42	14.76	28.22	5.69	23.94	39.98
	\$607.2	\$1,932.1	\$3,257.0	\$1,088.2	\$3,504.3	\$5,882.2	\$1,491.7	\$6,273.7	\$10,534.2
	\$1,045.3	\$3,326.2	\$6,678.3	\$1,771.9	\$6,916.8	\$9,964.5	\$2,489.5	\$10,473.4	\$17,684.0
	1,820	3,017	6,297	1,702	5,373	11,133	2,384	9,505	19,775
	639	1,468	2,171	914	2,080	3,211	1,178	3,107	4,833
	6.58	14.30	22.04	9.27	21.18	32.70	11.85	31.71	49.38
	\$827.1	\$2,276.1	\$3,725.1	\$1,345.6	\$3,930.7	\$6,439.0	\$1,880.0	\$6,798.4	\$11,191.3
	\$1,899.6	\$4,438.9	\$7,009.2	\$2,943.1	\$7,383.6	\$11,725.0	\$4,055.0	\$12,352.4	\$19,876.6
	(\$1,045.3)	(\$2,162.8)	(\$3,284.1)	(\$1,599.5)	(\$3,452.9)	(\$5,286.0)	(\$2,175.0)	(\$5,554.0)	(\$8,685.3)

Note: Numbers in parentheses represent negative values. Negative operational savings represent net costs.

October Surprise! AB 1007 Committee Draft Scenario for Electric-Drive

- PHEVs
- Full-Function BEVs (Assumed Incremental Cost begins at about \$60,000)
- Medium-Duty Plug-In Vehicles (Assumed Incremental Cost begins \$300,000).
- Heavy-Duty Plug-In Vehicles
(Assumed Incremental Cost begins \$400,000)

Use of the Committee Draft Electric-Drive Scenario

- Not Realistic.
- Not one commercial product available.
- Very high vehicle costs in early years.
- Higher-cost and lower-benefits than the Storyline scenario.
- Recommendation: Use the Storyline scenario for the Draft Final Report.

R&D Expenditures in the Economic Analysis

- Total R&D Expenditures for Electric-Drive vehicles are too high: \$5.33 billion. (source information is not applicable.)
- \$81 million in State funding per year is not realistic. \$10-20 more reasonable.
- R&D should be amortized across vehicles sold, rather than a flat amount per year.

Other Assumptions

- Staff should use a range of electricity prices: PG&E, LADWP, and SMUD have prices about one-half of what staff is assuming.
- Report should incorporate figures for electricity used in mass-transit (488 GWh).
- Alt Fuel Use Goals for Electricity are too low; below “Business as Usual”.

Design and Display of the Economic Analysis

- Should have displayed total lifecycle costs.
- Consumer Payback figure is misleading (7 year “required” payback; 8% ROR).
- Analysis does NOT include a value for the societal benefits of fuel diversity.
- Infrastructure costs are assumed away the Analysis.