California Energy Commission
Dockets Office, MS-4
Re: Docket No. 09-ALT-1
1516 Ninth Street
Sacramento, CA 95814-5512

2010-2011 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program

Comments of Catherine Dunwoody

Executive Director, California Fuel Cell Partnership

February 11, 2010

Thank you for the opportunity to comment on the staff's proposed 2010-2011 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program. I want to commend the staff for a thorough analysis, basing hydrogen infrastructure needs on automaker survey results that project when, where and how many fuel cell vehicles will be deployed in California. I am pleased that the CEC plans a hydrogen solicitation for $22 million in the coming months, using funds from the 2008-2009 Investment Plan, to build customer-friendly, publicly accessible and retail-oriented stations as well as support transit applications. This funding will help ensure that the first fuel cell vehicle customers, including transit customers, in the six early market communities (Northern and Southern California) have sufficient access to hydrogen fuel.

CaFCP was pleased to participate in the September 29, 2009, workshop for the investment plan. Our presentation is listed on the website and comments entered into the docket, although CaFCP's name does not appear in the list of workshop participants in the draft plan.

The California Fuel Cell Partnership action plan, published in February 2009, details the investments and actions needed to transition to an early commercial market for fuel cell vehicles and hydrogen in California. The action plan calls for 40 new hydrogen stations by 2014 to provide fuel for thousands of FCVs and up to 100 buses. CaFCP estimates the cost of this plan at $180 million industry and government funding. The action plan is based on a survey of automotive members conducted at the end of 2008, which CEC has referenced in the 2010-2011 Investment Plan. CaFCP surveyed our automotive members again at the end of 2009, and these results confirm the phased introduction of fuel cell vehicles, moving from hundreds, to thousands and then tens of thousands of vehicles. CaFCP will soon publish the results of this latest survey in a report detailing the progress made in 2009 and the actions and steps needed in 2010 and 2011. We expect the report to be available in the next few weeks, at which time I will submit it to the docket.

The 2010-2011 Investment Plan proposes to allocate $14 million for hydrogen infrastructure, stating "this funding could establish six to eight 'retail' stations (either inside or outside designated clusters), support existing stations requiring funds for continuing operations and maintenance, expand capacity/upgrade existing and strategically useful stations, and help establish needed transit demonstration fueling capability."

I have several comments regarding the analysis that leads to the CEC staff's recommendation:

1. Appendix C identifies four early market communities in Southern California and uses the CaFCP's action plan map. CaFCP's action plan includes Northern California as well, with early market communities for passenger vehicles and transit buses in the San Francisco Bay Area and Sacramento.
2. Appendix C lists the status of hydrogen fuel stations in California, along with an analysis of hydrogen fuel demand and capacity. Based on CaFCP's knowledge of current and planned hydrogen stations, our analysis projects lower hydrogen supply in each of the years 2010-2014 compared to CEC's assessment. (Please see the tables on the following pages.)
3. The time required to establish a new hydrogen station must include the process of planning, partnering, funding and contracting (e.g. between business and government entities) in addition to the design, permitting and construction process. Based on experience with past projects, CEC should allow two years between solicitation and station opening.

Thank you again for the opportunity to comment, and I look forward to submitting CaFCP's progress report for your consideration of our recommended next steps.

Table C-1: Hydrogen Fuel Demand and Capacity (with CaFCP revisions)

Year	Region	Vahicle Rollouts (From Table 8)	Hydrogen Demand (kg/day)	CEC Hydrogen Capacity (kg/day)	CEC Add'l Hydrogen Needed (kg/day)	Revised Hydrogen Capacity (kg/day)	Revised Add'l Hydrogen Needed (kg/day)	Comment(s)
2010	Santa Monica (cluster)	25	25	12	13	0	25	No City of Santa Monica
	Torrance (cluster)	25	25	58	0	0	25	Toyota and Honda stations not public access
	Newport Beach (cluster)	23	23	0	23	0	23	
	Irvine (cluster)	32	32	25	7	25	7	
	Los Angeles (non-clusters)	30	30	339	0	54	0	Santa Ana, Ontario, Chino, Culver City, LAX not public access, Burbank currently closed. Revised supply includes Diamond Bar, Riverside, and West LA only.
	San Diego	4	4	0	4	0	4	
	Bay area	20	20	150	0	0	20	Oakland transit only
	Sacramento	17	17	158	0	100	0	UCD closed, West Sac 100 kg/day
	Other	16	16	172	0	100	0	Thousand Palms 100 kg/day available for passenger vehicle fueling, Arcata limited access
	Total	192	192	914	47	279	104	
2011	Santa Monica (cluster)	45	45	12	33	0	45	
	Torrance (cluster)	45	45	108	0	150	0	Torrance Pipeline and Harbor City/Mebtahi
	Newport Beach (cluster)	38	38	100	0	100	0	
	Irvine (cluster)	47	47	25	22	25	22	
	Los Angeles (non-clusters)	57	57	639	0	330	0	Revised supply includes West LA, Fountain Valley, UCLA, CSULA only
	San Diego	8	8	0	8	0	8	
	Bay area	34	34	330	0	180	0	Emeryville and SFO only
	Sacramento	25	25	158	0	0	25	West Sac funding ends 2010
	Other	31	31	272	0	100	0	
	Total	330	330	1644	63	885	100	

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2012	Santa Monica (cluster)	73	73	12	61	0	73	
	Torrance (cluster)	64	64	108	0	150	0	
	Newport Beach (cluster)	53	53	100	0	100	0	
	Irvine (cluster)	67	67	25	42	0	67	UC Irvine funding ends 2011
	Los Angeles (non-clusters)	88	88	639	0	330	0	
	San Diego	8	8	0	8	0	8	
	Bay area	48	48	330	0	180	0	
	Sacramento	38	38	158	0	0	38	
	Other	56	56	272	0	0	56	Thousand Palms funding ends 2011
	Total	495	495	1644	111	760	242	
2013	Santa Monica (cluster)	107	107	12	95	0	107	
	Torrance (cluster)	91	91	108	0	150	0	
	Newport Beach (cluster)	70	70	100	0	100	0	
	Irvine (cluster)	104	104	25	79	0	104	
	Los Angeles (non-clusters)	117	117	639	0	330	0	
	San Diego	23	23	0	23	0	23	
	Bay area	91	91	330	0	180	0	
	Sacramento	60	60	158	0	0	60	
	Other	106	106	272	0	0	106	
	Total	769	769	1644	197	760	400	
2014	Santa Monica (cluster)	193	193	12	181	0	193	
	Torrance (cluster)	180	180	108	72	50	130	Harbor City/Mebtahi funding ends 2013
	Newport Beach (cluster)	208	208	100	108	0	208	Newport funding ends 2013
	Irvine (cluster)	268	268	25	243	0	268	
	Los Angeles (non-clusters)	382	382	639	0	30	352	Fountain Valley, UCLA, CSULA.funding ends 2013
	San Diego	33	33	0	33	0	33	
	Bay area	264	264	330	0	0	264	Emeryville and SFO funding ends 2013
	Sacramento	117	117	158	0	0	117	
	Other	194	194	272	0	0	194	
	Total	1839	1839	1644	637	80	1759	

Table C-2: Hydrogen Fuel Stations (with CaFCP revisions)

Station	Region	CEC Plan-Nominal Capacity (kg/day)	CaFCP projected supply for passenger vehicles (kg/day)	CaFCP projected supply for Transit (kg/day)	Pressure (Mpa)	Operational Status	Funding Status - Secured Through / (Expected Open)
Oakland - AC Transit	Bay Area	150	0	150	35	~~*Limited public access*~~ *Transit only. CLOSING Sept 2010*	Sept 2010
San Jose - Santa Clara VTA	Bay Area	1,000	0	0	35	~~*Transit station only*~~ *CLOSED*	2009
Emeryville - AC Transit	Bay Area	60	60	200	35/70	EXPECTED - 24/7 public access (for passenger FCVs)	(Opens Q3 2010)
San Francisco - SFO Airport	Bay Area	120	120	0	35/70	24/7 public access	(Opens Q3 2010)
Irvine - UCI	Cluster - Irvine	25	25	0	35/70	24/7 public access	2011
Irvine - UCI	Cluster - Irvine	3	0	0	35	*No public access*	N/A
Newport Beach	Cluster - Newport Beach	100	100	0	35/70	24/7 public access	(Opens Q2 2010)
Santa Monica	Cluster - Santa Monica	12	0	0	35	*Limited public access*	2010
Torrance - Honda	Cluster -Torrance	4	0	0	35	*No public access; OEM only (Honda)*	N/A
Torrance - Honda	Cluster -Torrance	4	0	0	35	*No public access; OEM only (Honda)*	N/A
Torrance	Cluster -Torrance	50	0	0	35/70	*No public access; OEM only (Toyota)*	N/A
Torrance	Cluster -Torrance	50	50	0	35/70	24/7 public access	(Opens Q4 2010)

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Harbor City	Cluster -Torrance	100	100	0	35/70	24/7 public access	(Opens Q2 2010)
Riverside	LA Non-Cluster	12	12	0	35	*24/7 public access. No plans to continue past 2010.*	2010
West LA	LA Non-Cluster	30	30	0	35	24/7 public access. Privately funded.	2011
Diamond Bar - SCAQMD	LA Non-Cluster	12	12	0	35	Limited public access. Plans for upgrade/continuation.	2010
Ontario	LA Non-Cluster	50	0	0	35	*Limited public access*	2010
Santa Ana	LA Non-Cluster	50	0	0	35	*Limited public access*	2010
Chino	LA Non-Cluster	9	0	0	35	*No public access; OEM only (Hyundai)*	2010
Culver City	LA Non-Cluster	30	0	0	70	*No public access; OEM only (GM)*	N/A
Los Angeles - LAX	LA Non-Cluster	30	0	0	70	*No public access; OEM only (GM)*	N/A
Los Angeles - CSULA	LA Non-Cluster	60	60	0	35/70	EXPECTED - 24/7 public access	(Opens Q4 2010)
Fountain Valley - OCSD	LA Non-Cluster	100	100	0	35/70	24/7 public access	(Opens Q2 2010)
Westwood - UCLA	LA Non-Cluster	140	140	0	35/70	24/7 public access	(Opens Q1 2011)
Burbank	LA Non-Cluster	116	116	0	35/70	CURRENTLY CLOSED	2010
Thousand Palms	Other	160	100	60	35	*24/7 public access. Supply different for LD and Transit.*	2012
Arcata - HSU	Other	12	0	0	35	*Limited public access*	N/A
Oceanside - Camp Pendleton	Other	30	0	0	35	Delayed opening with *limited public access*	(Opens TBD)
West Sacramento - CaFCP	Sacramento	150	100	0	35	*Daylight hours public access*	2010
Davis - UCD	Sacramento	8	0	0	35	*CURRENTLY CLOSED*	2009
TOTAL		**2677**	**1125**	**410**			