

The Clean Cities Connection

The Latest News on Alternative Fuel & Advanced Technologies in the Western Region

Winter Quarter 2009



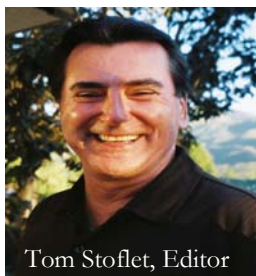
15TH ANNIVERSARY

15 Years of Petroleum Reduction

The Clean Cities Program is administered by the United States Department of Energy. www.eere.doe.gov/cleancities

Inside this issue:

<i>Coalitions Soar</i>	1,2
<i>Odyssey Day Events</i>	1,2,5,6
<i>California's Low Carbon Fuel Standard</i>	3
<i>Status of California's AB118</i>	3
<i>Proterra Unveils its Zero Emission Bus in San Jose</i>	4



Tom Stoflet, Editor

Western Region Coalitions Soar

by Thomas Stoflet, Board of Director, Silicon Valley Clean Cities Coalition

Introduction

Greetings. This Western Region Clean Cities newsletter is another first in our attempt to highlight the activities and good work by all 16 of its Coalitions, members and stakeholders toward meeting the mission and goals of US DOE Clean Cities, e.g., reduction in the use of petroleum as a transportation fuel. This article discusses how the Coalitions have met and exceeded the expectations of that metric.

Under the direction of the Western Region Program Manager, Mike Bednarz, it is his desire to promote partnerships between all Coalitions to attain even higher performance. Future outreach to expand the Western Region business plan between the Coalitions is anticipated to occur regularly throughout the year. Please contact Mr. Bednarz at 412-386-4862 for

any comments or suggestions. All comments are welcome.

Coalition Demographics

According to the US Census bureau, the population of the US is approximately 305.7 million. The population of the Western Region, composed of California, Nevada and Hawaii, is approximately 40.7 million, of which 36.8 million reside in California, the most populated state in the US! Therefore, the Western Region Coalition represents approximately 13.3% of the US population.

More specifically, according to the US Bureau of Transit Statistics, over 250.9 million vehicles (cars & SUVs) are registered to operate in the US. Another 6.5 million are registered to operate as trucks and buses. According to DMV, over 24 million vehicles are registered to operate in California alone, or approximately 10% of the US vehicle total! According to the

2007 Western Region survey, 76,530 alternative fueled vehicles (AFVs) affiliated with Clean Cities Coalitions were in operation in the Western Region.

Clean Cities Goals

According to the US Energy Information Administration (EIA), the US uses over 21 million barrels of oil (42 gallons per barrel) every day, of which over 70% is used to fuel vehicles in the transportation sector. According to 2002 EIA data, the West Coast uses over 3 million barrels of oil for transportation fuel, with the East Coast doubling that.

Since USDOE Clean Cities' inception in 1993 and through 2007, Clean Cities Coalitions and their stakeholders nationally have displaced over 2.0 billion gallons of petroleum fuel. The Clean Cities Program has a national goal to reduce petroleum consumption by 2.5 billion gallons by the year 2020. (http://www1.eere.energy.gov/clean_cities).

Continued on Pg. 2

Western Region takes an Odyssey that was Superb

by Thomas Stoflet

This article salutes the Western Region Coalitions who participated in the National AFV Odyssey Day for 2008.

As many of you may know, Odyssey is short for the National Alternative Fuel Vehicle (AFV) Day Odyssey that is coordinated by the National Alternative Fuels Training Consortium (NAFTC), headquartered at West Virginia University, in

partnership with US DOE Clean Cities and their over 80 Coalitions nationally.

Odyssey Day events are to promote reduction of air pollution sources, to promote the advancement of alternative fuels programs and AFVs, as well as to reduce the nation's dependence on oil as a transportation fuel.

The Odyssey Day events in

2008 had even more of a special meaning as they coincided with celebrating US DOE Clean Cities 15th year anniversary.

According to NAFTC, approximately ninety (90) Odyssey day events were held nationally in October 2008.

Remarkably, twenty-eight (28) or approximately 31% of all Odyssey day events were held in the Western Region!

NAFTC will publish in 2009 the

outcomes of all 2008 Odyssey Day events nationally.

Odyssey day events were held in all California Coalitions and Hawaii. Expos and conferences were held at the Ports of Long Beach and Stockton, the Ontario, Long Beach and San Jose Convention Centers, and the cities of Honolulu, Fresno, San Diego, San Luis Obispo, San Jose, San Francisco, and Sacramento, and at colleges.

Continued on Pg. 2

Western Region Coalitions Soar *(cont. from pg. 1)*

Coalition Successes

Data contained in the 2007 Western Region Annual Surveys completed by each Coalition were reviewed and one major criterion, i.e., petroleum displacement, was compiled as shown on Figure 1. However, there were many findings in the surveys that clearly demonstrate the successes of the Coalitions and their stakeholders toward meeting the US DOE Clean Cities mission.

For example, US DOE Clean Cities headquarters presented information at the 2008 Coordinators Annual Leadership Retreat in Big Sky, Montana, that AFVs displaced 247 million gallons of gasoline equivalent (GGEs) in 2007 from the efforts of over 80 Clean Cities Coalitions and their stakeholders nationwide!

Data in Figure 1 below indicates that the AFVs in the Western Region Coalitions attributed to the displacement of over 66 million GGEs in 2007, or approximately 26% of all 2007 US DoE Clean Cities total petroleum displacement!

Based upon the 2007 survey data, the top three Western Region Coalitions, with regard to petroleum displacement, were Western Riverside (WR), Southern California Association of Governments (SCAG) and Los Angeles (LA), all southern California Coalitions.

It is likely that these Coalitions have benefited from stricter government policies, regulations and funding opportunities to mitigate the impacts from motor vehicles operating on conventional fuels in that region and their corresponding impact on air quality, which is the poorest in the US according to the American Lung Association.

Nonetheless, again natural gas vehicles lead the way in GGE displacement in the Western Region. Over 66% of all GGE displacement was attributed to light and heavy duty compressed natural gas (CNG) vehicles or heavy duty liquefied natural gas (LNG) vehicles.

Congratulations to all Coalitions and keep up the good work!



Honda GX fueling at CNG station



FIGURE 1: 2007 PETROLEUM DISPLACEMENT BY ALTERNATIVE FUELED VEHICLES IN WESTERN REGION

Note: Values expressed as gallons of gas equivalent (GGEs) in thousands of GGEs.

Coalitions	Biodiesel	CNG	LNG	LPG	E85	H2	Elect.	HEV	NEV	IR	VMT	NR	TOTALS	%
AV		191	207	44					44				486	0.73%
C5	3	110		134			0	28	39		198	1	512	0.77%
CV		2,076	139	8	2	29	16	28	13				2,310	3.46%
EB	492	2,116	228	13	27		23	22	16			31	2,969	4.45%
ES		251		63	1			4		1			37	0.53%
HI				46			0	0					169	0.32%
LV		650		417	503	2		140	47			2,858	4,617	6.91%
LB		649	264	75			56	10					1,054	1.58%
LA		1,406	1,601	1,320		4	18	244	49	916	1,720		7,279	10.90%
SAC		4,971	935	198		4	40	42	14	64		37	6,305	9.44%
SD	304	3,498	845	86	10	2	33	1,994	40			18	6,831	10.23%
SF		1,362	89	13			2,617	96	22			1,255	5,454	8.17%
SJ	408	4,905	689	123	55	1	28	1	45			33	6,289	9.42%
SV	993	266		350	4	36	503	20	44			18	2,235	3.35%
SCAG	447	4,672	863	159	14	24	30	237	18			540	7,006	10.49%
WR	740	9,839	1,466	681	6	3	2	71	46			3	12,857	19.25%
TOTALS	3,387	36,962	7,328	3,730	623	104	3,367	2,938	437	980	1,918	5,001	66,776	100.00%
%	5.07%	55.35%	10.97%	5.59%	0.93%	0.16%	5.04%	4.40%	0.65%	1.47%	2.87%	7.49%	100.00%	

Note: Refer to page 6 for legend on Coalition acronyms.

Western Region takes an Odyssey that was Superb *(cont. from pg.1)*

Many of the Odyssey day events were sponsored by well known AFV organizations from both the private and public sector, and included exhibits on AFVs, AFV fueling infrastructure and AFV ride-and-drives.

Nine (9) of the 28 Odyssey day events were held in both northern and southern California that marked the actual or planned openings of E85 stations initiated by Pearson Fuels. Therefore, approximately one-third (1/3) of all 2008 Western Region Odyssey Day events pertained to E-85 stations.

Over 45,000 people were reported to have attended the Odyssey day events in the Western Region, with many speakers from academia, Clean Cities, many AFV partners from prestigious private firms, air district executives and local and regional legislators, including California Congresswoman Solice and Congressman McNerney.

Even T. Boone Pickens spoke at one of the Odyssey events in southern California.

As many you may know, Coalitions receive honors from US DOE Clean Cities headquarters. Maybe it's time for each region to receive an award, and based upon the Western Region's Odyssey day efforts, if such an award was available, we should receive it, don't you think @?

For more information on Odyssey contact <http://www.naftc.wvu.edu>



Pacific Ethanol Plant Opening at the Port of Stockton



E85 Station Groundbreaking in San Jose



San Luis Obispo AFV Show

Continued on Pg. 5

California's Low Carbon Fuel Standard

By Paul Wikoff and Thomas Stoflet

In January 2007, California's Low Carbon Fuel Standard (LCFS) was established under the governor's Executive Order S-1-07 to reduce by at least 10% the carbon intensity of transportation fuels by the year 2020. Another purpose of LCFS is to reduce green house gas (GHG) emissions pursuant to AB 32, the Global Warming Solutions Act.

Fuel	Energy Required Btu/mmBtu	Well to Wheel GHG gCO ₂ e/MJ	Low Carbon Fuel Bins
CARBOB	1337384	96.88	
CaRFG		97.8	
ULSD	1296094	95.3	
Corn Ethanol	2664085	68.6	Ultra Low
Sugarcane Ethanol from Brazil	2249563	26.6	Ultra Low
Cellulosic Ethanol (Farmed Trees)	2455759	5.38	Ultra Low
Cellulosic Ethanol (Forest Residue)			Ultra Low
Biodiesel (Soybean)	1363058	26.93	Ultra Low
Renewable Diesel (Soybean)			Ultra Low
Compressed Natural Gas (CNG) from North American Natural Gas	1113153	68	Low
Landfill Gas to CNG	185104	11.01	Low
Liquefied Natural Gas (LNG)			Low
Electricity (California Mix)	1273410	124.1	Super Ultra Low
Hydrogen (Gaseous Hydrogen from North American Natural Gas)	2603961	142.2	Super Ultra Low

The Executive Order required CA EPA to coordinate activities between the University of California, the California Air Resource Board (CARB) and the California Energy Commission (CEC) to develop methodologies and for CARB to develop regulations to meet the 2020 compliance schedule.

Under the LCFS, fuel providers would be required to track the global warming intensity (GWI) of their products, measured on a per-unit-energy basis, and reduce this value over time. "Global warming intensity" is a measure of all of the mechanisms that affect global climate including not only greenhouse gases (GHGs) but also other processes (like land use changes that may result from biofuel production). The term "life cycle" refers to all of the activities included in the production, transport, storage and use of the fuel, commonly referred to as "well to wheel". The unit of measure for GWI used in this study is grams of carbon dioxide equivalent per megajoule of fuel delivered to the vehicle (gCO₂e/MJ), adjusted for inherent differences in the in-use energy efficiency of different fuels (e.g., diesel, electricity and hydrogen).

According to a University of California study on LCFS, many of the low carbon fuels expected to be commercially available in large quantities within the 2020 time horizon are biofuels. The GWIs of select biofuels are shown in the table to the left, and they were determined by a complex model, commonly referred to as a "CA modified Greet model".

There has been considerable controversy from the scientific community regarding the technical soundness of CARB's LCFS. Specific studies and comments on CARB's LCFS meetings can be found on <http://www.arb.ca.gov/fuels/lcfs/lcfs.htm>.

At this time the LCFS is undergoing further evaluations of the GWIs related to land use changes from the production of certain biofuels. The CARB Board intends on holding a meeting regarding the final proposed regulation of LCFS on April 23, 2009.

Status of California's AB 118

The California Energy Commission (CEC) has held many meetings and hearings in Sacramento on AB 118, or more specifically, the Alternative and Renewable Fuel and Vehicle Technology (ARFVT) program.

Workshops have been conducted by CEC in Feb. 2009 at several locations throughout the San Francisco Bay area and the LA region.

CEC's Peter Ward and other CEC staff have presented CEC's long awaited Investment Plan that describes funding recommendations for the ARFVT program. These can be found on CEC's web site at: <http://www.energy.ca.gov/proceedings/2008-ALT-1/index.html#021809>.

The purpose of the ARFVT program is to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies per AB 32 and the LCFS.

CEC will have up to \$120M of funding available per year through 2015 for eligible projects; \$75M for FY 2008-09, and \$101M for FY 2009-10.

Projects eligible for funding include:

- Alternative and renewable low carbon fuel development and production;

- Projects that optimize alternative and renewable low carbon fuels for engine technologies;
- Alternative and renewable fuel infrastructure, fueling stations and equipment;
- Improve light-, medium-, and heavy-duty vehicle technologies for better fuel efficiency;
- Education and program promotion and develop technologies centers.

The Investment Plan is scheduled to be adopted final by the Energy Commission in March 2009.

Solicitations for AB 118 grant funding are anticipated to be released by CEC in Spring 2009.



Proterra Unveils its Zero Emission Bus in San Jose

by Thomas Stoflet

Proterra, a Colorado company that is a leading innovator and manufacturer of clean commercial transit solutions for city buses, kicked off its 4-city “California Clean Bus Tour” with the unveiling of its EcoRide B35 all-electric transit bus in San Jose, on February 6, 2009.



The tour will make stops in Los Angeles, Sacramento, and San Francisco.

The event in San Jose was sponsored by the City of San Jose’s Redevelopment Agency. This event was also attended by Silicon Valley Clean Cities Coalition Board of Directors, Breathe California, and children from Trace Elementary School. The children were dressed in special Silicon Valley Clean Cities Shirts. Mike Bednarz, the Western



Region Program Manager for US Department of Energy, Clean Cities Division, was also present. A luncheon was conducted at the City Hall Rotunda where key information was presented by Proterra and the City about this new venture. Later, children and others were given the opportunity for a test ride.

(Proterra’s Dale Hill and Mike Bednarz, US DOE PM)

San Jose is talking to Proterra about a possible venture to relocate its electric bus factory to San Jose. According to Jim Weiss, the city’s assistant executive director of the Redevelopment Agency, this venture would fit San Jose’s goals of creating green jobs and converting its fleet to non-polluting vehicles. A meeting is even scheduled between Proterra and with staff of the San Jose Int’l Airport to consider replacing the airport’s new fleet of CNG buses with the Proterra’s all electric buses on or about 2010. The City has also offered Proterra other unspecified incentives for this venture to move to San Jose.

The 35-foot long transit bus, with a seating capacity of 37 and standing room capacity for 31 additional passengers, is equipped with lithium batteries, a high efficiency electric motor, and regenerative braking system, which provide a range of 30 to 40 miles before the batteries need to be recharged. Through its innovative “Terra Volt Energy Storage system”, Proterra has indicated the batteries can be recharged within 10 minutes.

According to Proterra, the EcoRide B35 can obtain a \$310,000 savings in fuel expenses over its lifetime, that is, the differential in the cost of using diesel versus electricity. That differential would also amount to over 120,000 gallons of petroleum displaced per bus over its 12 year lifetime.

Proterra has focused on the California market primarily due to the high pollution levels from diesel buses. According to the American Lung Association’s 2008 State of the Air Report, five of the top 10 most polluted cities in America are located in California.

As a result, California has mandated that 15% of all buses added to fleets after 2011 be zero emission vehicles. According to Dale Hill, Proterra’s founder and Chief Technology Officer, “The fact is emission free transit is not just a ‘nice to have’, but it is a must have for clean, healthy communities across California and the U.S. That is why we are thrilled to bring our clean transit solutions to California—where transit agencies need an economical solution available today to make progress toward meeting emission standards established by the California Air Resources Board.”

When full production is achieved, the cost of the EcoRide B35 will be comparable to a diesel-hybrid bus, according to Mr. Hill.

Proterra certainly appears to be “pro earth”.

Proterra can be contacted at <http://www.proterraonline.com> for more information.



(Proterra’s Dale Hill speaking at San Jose City Hall)

NOTICE: Coalition and Stakeholder Spotlight

It is the intent of this quarterly newsletter to spotlight and highlight the good efforts of any Coalition or its stakeholders in meeting or exceeding the goals of the US DOE, Clean Cities. For any future recognition, please provide your articles and pictures to **Tom Stoflet, at stoflet@comcast.net**, or at **925-672-7976** and your and your stakeholders well deserved accomplishments will be put into print. Thank you—Editor.

Western Region takes an Odyssey that was Superb

(Continued from Pg. 2)

Summary of 2008 Odyssey Day Events in Western Region

No.	Coalition	Date of Event	Event Name	Event Location	Event Type	Sponsors	Exhibitors/ Speakers	Guests	Unique Results
1	C5	10/2/08	Green Car Show	San Luis Obispo	AFV show	Private AF companies and CA State Poly	26	2000	26 Alternative Fuel Vehicles (AFVs) on display to public, along with mobile diesel manufacturing system by SLO CA State students.
2	C5	10/3/08	Advancing the Choice	San Luis Obispo	AF Workshop	C5		96	SL County Sup. and SLAPCD spoke on the importance of AFVs and AB118. Panel of experts addressed AF issues along with a display of AFVs.
3	HI		Clean Fuels for Clean Air and Live Energy Lite	Honolulu	Expo	Hawaiian Electric Co.		2000	Expo featured interactive exhibits on energy awareness and environmental themes. An active Hydrogen Fuel Cell model was also on display.
4	LV	10/3/08	Accomplishments of Alternative Fuels Industry.	Las Vegas	Seminar	College of Southern Nevada (CSN)	6	100	Discussions by CSN's Dr. Michael Spangler and Dan Hyde, City of Las Vegas Fleet Manager, and ride and drive.
5	LA, SCAG		The Future is Green	Long Beach Convention Center	Conference & Expo	CAPCOA others exhibitors	70	500	Clean Air Technologies and innovations focused on clean transportation and clean fuel technology. Over 60 speakers, with T. Boone Pickens as special guest
6	LA, LB, CV, SCAG, WR	10/13/08 to 10/15/08	Clean Vehicle Technology Expo	Ontario Convention Center	Expo, Education & Outreach	SCAQMD, 50 So. CA Cities, & exhibitors	18	700	Funding opportunities for purchase of AFV, fueling station infrastructure, success stories and a Ride & Drive on AFVs for fleet managers, politicians, Public Works, Fire Dept., local DOT, local GSA, and School Districts.
7	LA, SCAG			Whittier Narrows Recreation Area	Education	Rio Honda College		225	Vehicle displays and presentations on green solutions. Presentation by Congresswoman Solice in support of Clean Cities.
8	LA		Santa Monica Car Show	Santa Monica	Alternative Energy and Transportation Expo	AQMD, Honda, Nat'l Biodiesel board, So. CA. Edison, and more		16000	Panel discussion, over 100 vehicle displays, and high profile speakers including director Chris Paine of "Who Killed the Electric Car."

Note: Source is NAFTC write ups received Jan/Mar. 2009.

Continued on Pg. 6

Western Region takes an Odyssey that was Superb

(Continued from Pg. 5)

Summary of 2008 Odyssey Day Events in Western Region

No.	Coalition	Date of Event	Event Name	Event Location	Event Type	Sponsors	Exhibitors/ Speakers	Guests	Unique Results
9	LB/sj	10/4/08	Green Port Fest	Port of Long Beach	Exhibits, Port Tours, AFVs	Port of Long Beach	70	10000	Educating school students and politicians on Clean Cities goals and to reduce foreign oil via AFVs.
10	CV		Clean Energy Fuels Job Fair	Newport Beach & Los Angeles	Job Fair	Clean Energy		60	
11	SAC	10/3/08		Yuba College, Marysville	Seminar	CalTrans, PG&E, Yuba-Sutter Transit			Information on cost-effective alternative energy and alternative fuel vehicles. Ride & drive on hybrids and fuel cell hybrid.
12	SJ			Fresno	Expo	Fresno Business Council and others	6	200	Crushing late model cars. AFV displays, AFV ride & drive, medium duty AFV conversion demonstrations.
13	SV	9/24/08	Go Green	Mountain View	Employee Fair	Lockheed Martin			Discussion of health effects of global warming and air pollution. Displays of AFVs. Dissemination of Clean Cities and NAFTC info, and surveys of benefits of AFVs.
14	SV	9/25-9/27/08	West Coast Green	San Jose Convention	Conference	Multiple	100		
15	SV	9/26/08	NUMMI Motors	Fremont	Employee Fair	NUMMI			
16	SV	10/1/08	Boston Scientific	Santa Clara	Employee Fair	Boston Scientific			
17	SV	10/1/08	Gavilan College	Gilroy	Fair	Gavilan College			
18	SV	10/4/08	Breathe of Life Walk	Saratoga		Breathe California		12300	
19	SV/SJ	10/8/08	Ethanol Plant Opening	Port of Stockton	Plant Tour	Pacific Ethanol		400	
20-28	EB, SAC, SCAG, SV, SD, WR	10/7/08 to 10/16/08	E 85 Station opening	Sacramento, Carmichael, Hayward, Concord, San Jose, Beaumont, Perris, Carlsbad, San Diego	Tour	Pearson Fuels		575	Nine (9) planned or actual E-85 (85% ethanol) fuel station openings

Note: Source is NAFTC write ups received Jan./Mar 2009.

Total attendees: **45156**

Legend on Western Region Clean Cities Coalitions:

AV =Antelope Valley (Palmdale); C5 = Central Valley (San Luis Obispo); CV= Coachella Valley, (Palm Springs); EB = East Bay (Oakland); ES = Eastern Sierra (Reno/Tahoe); HI =Honolulu, Hawaii; LA =Los Angeles; LB = Long Beach; LV = Las Vegas (Nevada); SAC = Sacramento; SD = San Diego; SF = San Francisco; SJ = San Joaquin Valley (Fresno/Bakersfield); SV =Silicon Valley (San Jose); SCAG = Southern California Association of Governments; WR = Western Riverside (county)

