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Clean Transportation Program

FINAL PROJECT REPORT

Propel Fuels, Inc.

Low Carbon Fuel Infrastructure Investment Initiative

Prepared for: California Energy Commission

Prepared by: Propel Fuels, Inc.



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PREFACE

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program, formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program. The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the Clean Transportation Program through January 1, 2024, and specifies that the CEC allocate up to \$20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational.

The Clean Transportation Program has an annual budget of about \$100 million and provides financial support for projects that:

- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and nonroad vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce-training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

To be eligible for funding under the Clean Transportation Program, a project must be consistent with the CEC's annual Clean Transportation Program Investment Plan Update. The Energy Commission issued solicitation PON-08-010 to provide funding opportunities under the Clean Transportation Program for developing and deploying alternative and renewable fuels to achieve the state's climate change policies, reduce petroleum use, increase the use of alternative fuels and spur the development of in-state bioenergy sources. In response to PON-08-010, the recipient submitted an application which was proposed for funding in the CEC's notice of proposed awards on March 18, 2010. The agreement was executed as ARV-09-006 on August 30, 2010 in the amount of \$2.1 million. Propel committed to \$15 million in private matching funds.

ABSTRACT

While access to lower carbon fuels is important to meeting the goals of California's Low Carbon Fuel Standard, there were fewer than 30 public renewable fuel stations throughout the state in 2009. In 2010 the California Energy Commission and the U.S. Department of Energy awarded the Department of General Services and Propel Fuels a grant to build 75 alternative fuel filling stations. The Low Carbon Fuel Infrastructure Investment Initiative leverages existing fueling infrastructure, currently distributing conventional fuels, to provide public access to E85 ethanol to the over 600,000 Flex Fuel Vehicles statewide. Propel is the leading provider of renewable fuels in California and has experience operating stations across the state. The Department of General Services manages the nation's largest state fleet with over 52,000 mobile assets including 38,000 passenger vehicles.

The objective of the Low Carbon Fuel Infrastructure Investment Initiative program is to displace over 24 million gallons of petroleum annually by the completion of the program. In addition, the program was designed to stimulate job growth by creating 450 direct and indirect jobs. While meeting its job creation goals, the program completed thirty-six of the seventy-five stations and displaced 12.5 million gallons of petroleum through March of 2014. Along with the station build-out, alternative fuel education and community outreach were a critical piece of the project. Propel worked with partners CALSTART and the Clean Cities Coalitions across the state to educate consumers and fleets on the benefits of low carbon, alternative fuels.

Funding for this project was granted through the California Energy Commission's Clean Transportation Program and the U.S. Department of Energy's American Recovery and Reinvestment Act. These programs are working to reduce petroleum consumption and greenhouse gas emissions while increasing the use of alternative fuels through innovative technologies.

Keywords: California Energy Commission, E85, Flex Fuel, Flex Fuel Vehicles, FFVs, ethanol, biodiesel, greenhouse gas, emissions, low carbon, fuel, development, infrastructure, gas stations, renewable fuel filling station.

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EXECUTIVE SUMMARY

The Low Carbon Fuel Infrastructure Investment Initiative is a collaboration between Propel Fuels, California's leading retail provider of renewable fuels, and the California Department of General Services, who manages the nation's largest state fleet. The goal of the Low Carbon Fuel Infrastructure Investment Initiative was to increase public access to lower carbon renewable fuels by building approximately 75 renewable fuel filling stations termed "Clean Fuel Points." These clean fuel points distribute E85 Flex Fuel ethanol and B20 biodiesel to the general public, and government and private fleets. E85 is a blend of 85 percent fuel grade ethanol and 15 percent gasoline; B20 is a blend of 20 percent biodiesel (fatty acid methyl esters, made from vegetable oil or animal fats).

Propel's objective was to displace 24,255,000 gallons of petroleum annually and to reduce greenhouse gas emissions by the conclusion of the project. The program also set the goal to create over 450 direct and indirect jobs to stimulate California's economy.

The Low Carbon Fuel Infrastructure Investment Initiative is a comprehensive development program and includes identifying and establishing lease agreements for station locations, designing, engineering and permitting plans for the infrastructure and signage, engaging contractors to perform the build and manage construction, and marketing the fuels to the public and fleets to increase adoption of the fuels. In addition, Propel Fuels and the Department of General Services jointly managed billings with the grant authorities, and collecting the reimbursement.

Propel raised approximately \$40 million dollars in private capital to put to work alongside the \$10.9 million grant from the U.S. Department of Energy and the CEC. The development program set aggressive construction targets, but faced significant challenges meeting those targets. Ultimately, Propel was able to construct 36 stations of the 75-station goal. Propel invoiced both agencies only for the stations that were successfully completed. A total of \$6,014,969 in public funding was reimbursed out of the \$10.9 million made available by the U.S. Department of Energy and California Energy Commission; \$3,894,731 from the U.S. Department of Energy and \$2,120,238 from the CEC.

While there were challenges in meeting the construction requirements of the grant program, there have also been significant areas of success. The volumes of renewable fuels sold through the stations are among the highest in the country, showing that California's drivers appear to be adopting low-carbon fueling at a high rate. Across the Propel network, customers purchased more than 6.7 million gallons of renewable fuels in 2013 and are choosing renewable fuels over 50,000 times per month. This equates to over 20,000 gallons of renewable fuels per station on average, with the majority of these sites still in the growth phase.

The stations specifically built under the Low Carbon Fuel Infrastructure Investment Initiative program displaced 12.5 million gallons of petroleum fuel through March of 2014. In addition, the program has reduced 6,343 metric tons (13.9 million pounds) of greenhouse gas emissions to date.

Table ES-1: Low Carbon Fuel Infrastructure Investment Initiative Program Gallon & Greenhouse Gas Reductions

Renewable Fuel	Gallons Sold (March 2014)	GHG Pounds Saved (March 2014)*
E85 Flex Fuel Ethanol	10,449,577	10,820,972
Biodiesel	2,044,383	3,163,832
Total	12,493,960	13,984,804

*GHG calculations based on 2013 Carbon Intensity scores approved under LCFS.

Source: Propel Fuels

This rapid adoption of renewable fuels illustrates that Californians are actively choosing renewable alternatives over petroleum. Propel's customer analysis also reveals that the community of renewable fuel users is diverse in ethnicity and income, representing the diverse population of California.

The project created 544 direct and indirect jobs, exceeding the desired outcome and providing stimulus to California's economy. This was calculated using a per project hourly formula which included various positions, including project managers, engineers, laborers of every trade, general contractors and sub-contractors, and marketing specialists.

Conclusion

While there were challenges in meeting the station construction requirements for the Low Carbon Fuel Infrastructure Investment Initiative program, the 36 stations that were built created benefits for the state by displacing petroleum and reducing carbon emissions. The rapid adoption of renewable fuels by diverse communities in the state illustrates strong viability for the market of alternative fuels in California.

The shortfall in Low Carbon Fuel Infrastructure Investment Initiative's construction program is due to two primary reasons. First, construction costs increased significantly beyond the cost estimates used in Propel's grant proposal to the CEC. Secondly, retail petroleum fueling station operations proved more complex than anticipated. Propel believes that through the knowledge gained during the Low Carbon Fuel Infrastructure Investment Initiative program, these challenges can be overcome.

The Low Carbon Fuel Infrastructure Investment Initiative program had particular success in the areas of job creation, petroleum displacement, and carbon emissions reductions. With public access to renewable fuels now available in every major market in California, drivers appear to be adopting low-carbon fueling at a high rate. Propel's stations are now showing the highest sales volumes in the country. In addition, this retail infrastructure can be a conduit for

bringing even lower-carbon intensive, next-generation versions of E85 and biodiesel to an established community of drivers.

CHAPTER 1:

Project Purpose and Approach

Project Purpose

The California Low Carbon Fuel Standard (LCFS) sets ambitious targets for greenhouse gas reductions by 2020. In the LCFS's Initial Statement of Reasons, the California Air Resources Board (ARB) modeled that significant transportation-generated GHG emissions reductions would come a combination of lower carbon intensity (CI) fuels such as ethanol, biodiesel, and compressed natural gas. According to the ARB's modeling, the state will need 4,400 to 5,000 E85 stations by 2020 to meet the targets for emissions reductions. The California Energy Commission, recognizing the need for California to expand its network of low carbon fuel infrastructure, provided a solicitation to support companies to build renewable fuel filling stations.

Transportation emissions account for 40 percent of total greenhouse gas (GHG) emissions in the state, mostly from passenger vehicles. At the start of this project, there were approximately 600,000 Flex Fuel Vehicles (FFVs) statewide, and less than 30 publicly accessible E85 filling stations.

The purpose of the Low Carbon Fuel Infrastructure Investment Initiative (LCFI3) was to build 75 new renewable fuel filling stations or Clean Fuel Points to distribute low carbon, alternative fuels (E85 flex-fuel and biodiesel) to the public. Clean Fuel Points were to be built in areas supporting high densities of Flex Fuel and diesel vehicles.

In building the stations, Propel's objective was to displace 24,255,000 gallons of petroleum per year by the completion of the project. The program's objective was also to create over 450 direct and indirect jobs and stimulate California's economy, as it was jointly funded by the U.S. Department of Energy's American Recovery and Reinvestment Act.

To deliver on these objectives, a comprehensive infrastructure development program was required. The LCFI3 program has several project components, each with a distinct approach. The components of this project include:

- Real estate analysis and location acquisition,
- Permitting and compliance,
- Construction and project management, and
- Education and outreach.

Real Estate Analysis and Location Acquisition Approach

To achieve the volume goals for the program, Propel sought to locate Clean Fuel Points in areas that met specific parameters. Propel employed a sophisticated approach to qualifying potential location leads that takes into account many factors. The following key site selection metrics were applied to the real estate acquisition program.

- 1. Residential Flex Fuel Vehicle Counts:** Potential locations must have a very strong residential base in the immediate trade area (3 miles, 6 minute drive) with Flex Fuel vehicle (FFV) counts above 2,000 (including consumer and fleet FFVs).
- 2. Traffic Counts:** Locations must have daily commute/retail routes with traffic above 30,000 vehicles. Locations should be selected along daily-commute corridors that boost repeat visits, including primary corridors linking residential to daily shopping, and employment and onramps linking freeways to residential neighborhoods.
- 3. Residential Density:** Locations are ideally surrounded by dense single-family residential properties with high residential FFV counts in the trade area. Avoid areas where residential density and residential site access is interrupted by industrial areas. In reviewing downtown city sites and urban centers, ensure the station intercepts the primary daily commute traffic (freeway or major arterial route) serving that urban center.
- 4. Retail Centers:** Locations along a corridor serving retail centers with heavy daily use traffic including super markets, big box and malls are advantageous. Retail centers are a distinct exception to the “residential desert” rule.
- 5. Distance Between Stations:** A 10-minute drive (about 3-5 miles) is a threshold for consumer convenience. Do not build locations within 3 mile or 10 minute drive of each other. Build regional clusters to enhance general awareness and increase visits.
- 6. Signage:** Only enter into contract with locations that have strong visible signage. Over 40 percent of customers stated that visible signage was a key factor in building customer awareness.

With these parameters, the team would visit the sites in person, and observe the surrounding traffic flows. Other factors such as aesthetic appearance of the station are taken into consideration, as well the proximity to other stations – whether the dealer’s station is out-positioned by another competitor. Freeway access, proximity to residential neighborhoods, shopping centers, demographic information, and transient traffic are all taken into consideration. The availability of fleets to support the stations is also key to building station fuel sales.

Real Estate and Location Strategies

As part of its location development program, Propel set out to secure three types of properties, each supporting a different approach to providing access to renewable fuels. These real estate programs included Clean Fuel Point, Clean Mobility Center (CMC) & Branded Supply Agreements (BSA).

Clean Fuel Point (CFP)

Propel's original operating model, the CFP establishes contracts with existing petroleum station owners / operators, co-locating Propel owned and operated renewable fuel infrastructure at their location. This efficiently leverages existing properties, and provides station owners a new customer base and profit stream through revenue share and rent.

Figure 1: Clean Fuel Point, Redwood City



Photo credit: Propel Fuels, Inc.

Clean Mobility Center

As Propel continued its development program the opportunity to take over and re-brand full station properties became part of its real estate strategy. With full control of the property, Propel could add renewable fuels, under the LCFI3 grant. This enabled Propel to locate renewable fuels in areas where it was difficult to secure a CFP partner.

Figure 2: Clean Mobility Center, Fullerton



Photo credit: Propel Fuels, Inc.

Branded Supply Agreements

The Branded Supply Agreement enabled Propel to engage owner/operators looking to invest in renewable fuel infrastructure themselves, while leveraging Propel's recognized brand and marketing expertise. Under this program, station owners paid for equipment and construction costs directly. Once the project was complete, Propel and DGS submitted invoices for reimbursement under the grant, ultimately reimbursing the station owner.

Figure 3: Branded Supply Agreement Partner, Huntington Beach, CA



Photo credit: Propel Fuels, Inc.

Permitting Approach and Regulatory Partnerships

Propel's approach to permitting involved a significant planning process. As part of this process, Propel would take into account learnings from the Real Estate team as discussed above, engage architects and contractors to continue to gather information on the proposed location, and begin the design and engineering of the construction plans. Below is a table outlining Propel's approach.

Table 1: LCFI3 Permitting Approach

Step Number	Activity	Approach
1	Site impact review (SIR)	"Mini" S.I.R., identifies agencies involved, timeframes
2	Draft Site plan, design scope / job.	Weigh competing factors of visibility, allowable footprint
3	Construction Documents (Plans)	Minimize timeframe from design to plans (2 weeks)
4	Plan check	Wait, follow up aggressively
5	Iterations	Turn around plans within a week or two
6	Stamped plans, contractor pulls permits	Pull permits immediately
7	Order equipment	Order equipment before pulling permits, when it appears were through process
8	Construction	Start construction ASAP, within two weeks of pulling permits

Source: Propel Fuels, Inc.

Even though Propel's preferred strategy was to locate ethanol tanks and dispensers within existing gasoline stations, permitting was still challenging. In California, it can take from two months to over one year to complete the permitting process and be in position to begin construction of renewable fuels infrastructure. From submitting plans to pulling permits and starting construction – there is a higher standard of compliance required of station owners and operators in California than in other states around the country. Zoning requirements, California Environmental Quality Act compliance, and the nature of dealing with a hazardous material can provide for an environment of lengthy approval cycles.

In certain regions, permitting with one agency could take four to six months before initial feedback. Then multiple iterations of resubmittals and comments could last months afterwards.

All gas stations in the state of California operate under what is referred to as a conditional use permit (CUP). In certain cases, due to the nature of how the CUP was written when first issued twenty years ago, adding renewable fuels to the list of products allowed to be sold at existing gasoline fueling stations can trigger an official modification process with the city's planning department. These situations could last from six to 12 months or more, with permitting costs ranging into the tens of thousands of dollars.

Some cities were more sophisticated with regards to alternative fuels than others. Propel Fuels' approach to this environment was to attempt to become the experts. On everything from the equipment used to new state regulations and legislation, Propel tried to take the approach of being the leader in educating not just the public, but also the planners and plan checkers at local municipalities on what the industry standards are, and therefore what should be permissible and allowable to approve for installation.

In some cases, planners requested detailed documentation to prove that the equipment used by Propel CFPs were compatible with high ethanol or biodiesel blends. Underwriters Laboratories, for example, is the standard for proving equipment compatibility for Fire Departments and CUPAs in California.

As a result of the complexity of the state's regulatory framework, Propel's approach to designing, engineering and permitting stations involved a combination of State-level political outreach and support, and local level one-on-one coaching and interaction.

An example of a regulatory partnership that Propel spearheaded during the course of executing on this aggressive development effort was to lobby for and eventually achieve a "consolidated permitting process" with the California Environmental Protection Agency (CalEPA) and the State Water Resources Control Board (SWRCB). This consolidated permitting process enabled all CUPAs in California to reference a pre-approved set of "standard" (or generic prototype) plans during the plan check phase. By being able to reference a standard that was approved at a state level, plan checkers could be assured that they were making appropriate corrections to the site-specific plans they were checking. Propel was then able to get plans processed more quickly, rather than re-starting the education process with each individual permitting entity.

At the state level, Propel worked with the Governor's Office of Business and Economic Development (GoBIZ) when facing permitting challenges.

Approach to Construction

Propel's approach to construction was multifaceted. The company worked with third party project management companies to design and implement strict program guidelines. Propel's executives opted to utilize these project management companies (such as QPM and Total ProjeX) to handle construction management for builds in the early part of the program, thus ensuring adherence to the program guidelines. Chain of command hierarchy was also enforced. Table 3 illustrates the list of major steps in the construction process:

Table 2: LCFI3 Construction Process

Week 1: Perform Demolition and Excavation	
Cut Lines and Re-Pipe	Test, Back Fill and Resurface
Dig New Tank Pit	Shoring
Backfill Tank Top	Soil Samples
Perform Soils Sampling	
Week 2: Install Tanks and Dispenser	
Prepare Trench and Excavate	Remove Shoring
Install Penetrations	Install New Sumps
Install Electrical	Install UDC
Electrical Inspection	Install Piping
Install New Tanks	
Week 3: Primary Inspection	
AQMD / CUPA Backfill Inspection	Secondary Pipe Installation
Rebar Installation	Pre-ELD & ELD Within 1K of Well Testing
Concrete Slab	Backfill
Pre Monitoring Certification For Fuel Drop	Concrete Island
Start Up Dispenser	Install Displays, Wiring and Plumbing
AQMD Testing	Final ELD
Fuel Drop After ELD Report And Monitoring Report	Clean Up
Secondary Inspection	

Source: Propel Fuels, Inc.

Propel conducted a detailed planning process at every site prior to breaking ground. This included having architectural design companies do S.I.R.s to identify which agencies were involved in permitting and construction for schedule inspections.

Initially, Propel put all jobs out to bid with a request for proposal (RFP) process. To save time, subsequent bids were negotiated rather than competitively bid.

From this initial group of contractors, Propel chose a select few to handle the construction. In Northern California, only two were needed, whereas in Southern California more were engaged in order to spread risk.

Any changes to the scope during construction were handled by providing a written Change Order request to the project manager prior to work being undertaken on the projects behalf.

Propel had all contractors' bids provided on a program specific bid form utilizing the budget categories associated with the grant award. In this way, the company could be certain that all resources were being deployed to the appropriate categories.

A contract was written, taking into account the Federal and State prevailing wage requirements, terms and conditions of the grants. Minor adjustments were made to this standard agreement with each contractor only to clarify administrative changes, while leaving all other contract language regarding prevailing wages, grant documentation, etc.

Propel's approach to quality was to always hire certified licensed and bonded contractors to do the work, and ensure that they documented existing site conditions before, during and after construction so that stations were returned to the conditions they were in prior to start of work. All jobs were inspected by local agency inspectors and certified as passing prior to being given permits to operate. Close-out binders were sent within 30 days after job completion to the site, Propel's headquarters, and their environmental compliance companies to ensure all permit records are current, accurate and available to agencies, employees, inspectors and site is in compliance. All materials sourced were new and warrantied against failure. Propel conducts business according to industry best practices, and hold their contractors to the highest standards.

Communications management was handled through project management information systems, in addition to emails and phone calls. Originally a specifically designed databased called Protrack, implemented by QPM, was utilized to manage the construction process. For more recent program builds the company used Smartsheet – a collaborative environmental which enables cross-department coordination on schedules, tasks and budgets.

Propel maintained insurance for all jobs, full- and part-time employees, contract workers, and sub-contractors. Procurement was handled with requests for information where applicable. Bulk purchases were made from vendors in advance of constructing multiple sites to increase savings on a per unit basis.

Approach to Education and Outreach

An important driver of success for the LCFI3 program is the sale of fuel through this newly established public infrastructure. Propel's education and outreach is designed to steer traditional gasoline and diesel customers towards the use of renewable fuels through a variety of tactics. In addition to company-initiated campaigns, Propel worked in coordination the U.S. Department of Energy Clean Cities coalitions to educate customers and fleets across the state. These education and outreach programs seek to create awareness of our locations, educate customers of the value proposition of renewable fuels, and efficiently drive initial product trial.

Launch Marketing Approach

Propel's launch programs create new renewable fuel customers as a station opens. Launch activities take advantage of the stations newness in a community to create awareness, build a customer database, drive trial and increase customer acquisition rates early in the stations life.

Activities focus primarily on station launch events—often coordinated with Clean Cities Coalitions—that provide free fuel trials for local residents & fleets and are supported by direct marketing programs, social/online programs, and direct fleet sales.

Ongoing Marketing Approach

Ongoing marketing activities focus on direct mail to consumers and direct sales efforts to fleets both public and private in the immediate vicinity of each station. Ongoing marketing campaigns build awareness with commuters using the transportation routes that intersect with Propel stations. In addition, programs focus on dealership and retail partner co-marketing along station corridors, geo-targeted online search marketing as well as fleet and consumer referral programs. Clean Cities Coalitions were critical to the ongoing education efforts, hosting numerous events and seminars regarding renewable fuels in the communities they represent.

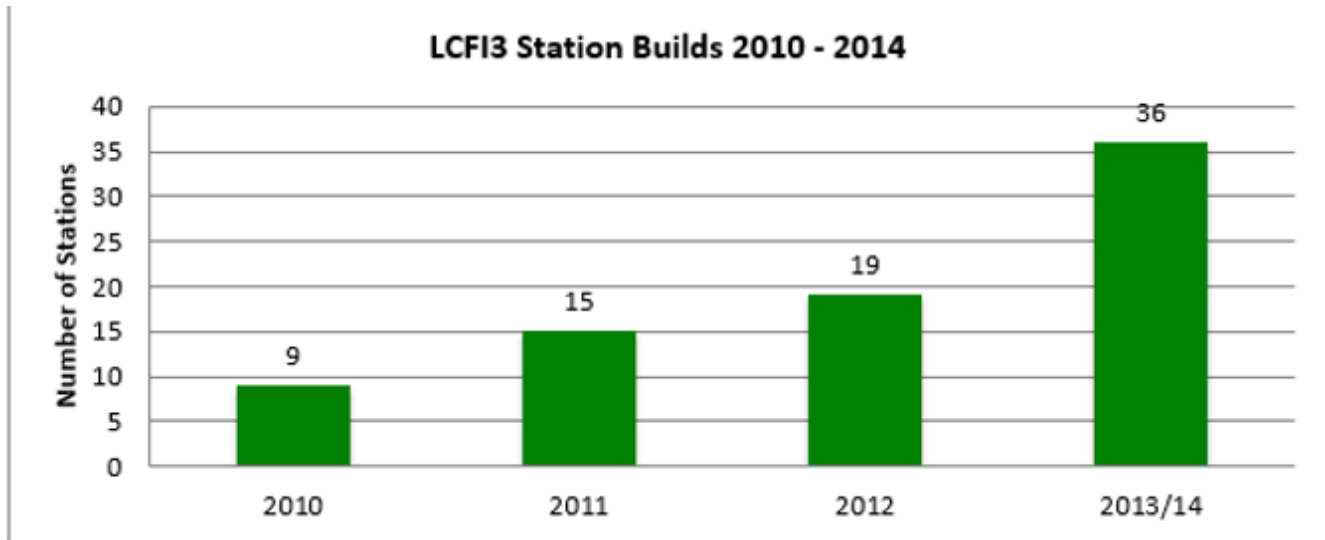
CHAPTER 2:

Program Activities and Results

Activities Performed and Results

Since 2010, Propel built 36 stations under the LCFI3 grant, providing public access to renewable fuels for thousands of California drivers (Figure 4).

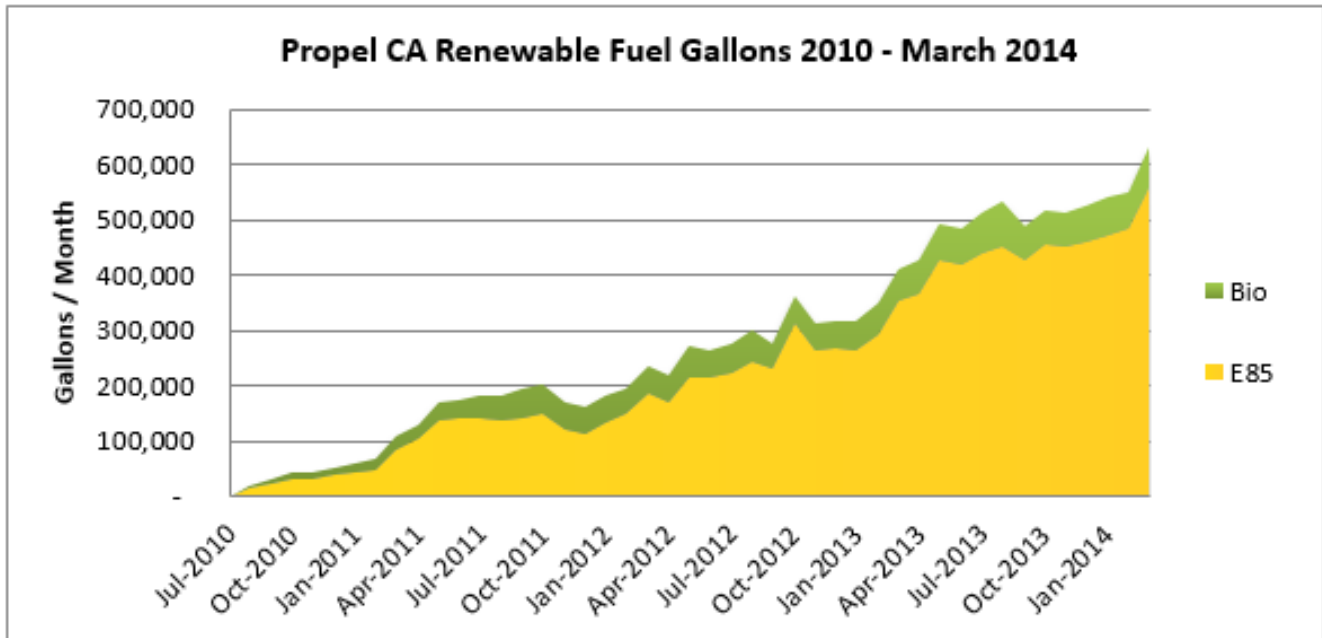
Figure 4: LCFI3 Program Station Construction Activity



Source: Propel Fuels, Inc.

With 12.5 million gallons of E85 and biodiesel sold through Propel's public network since the program began, the rate of renewable fuel adoption among California's citizens is strong.

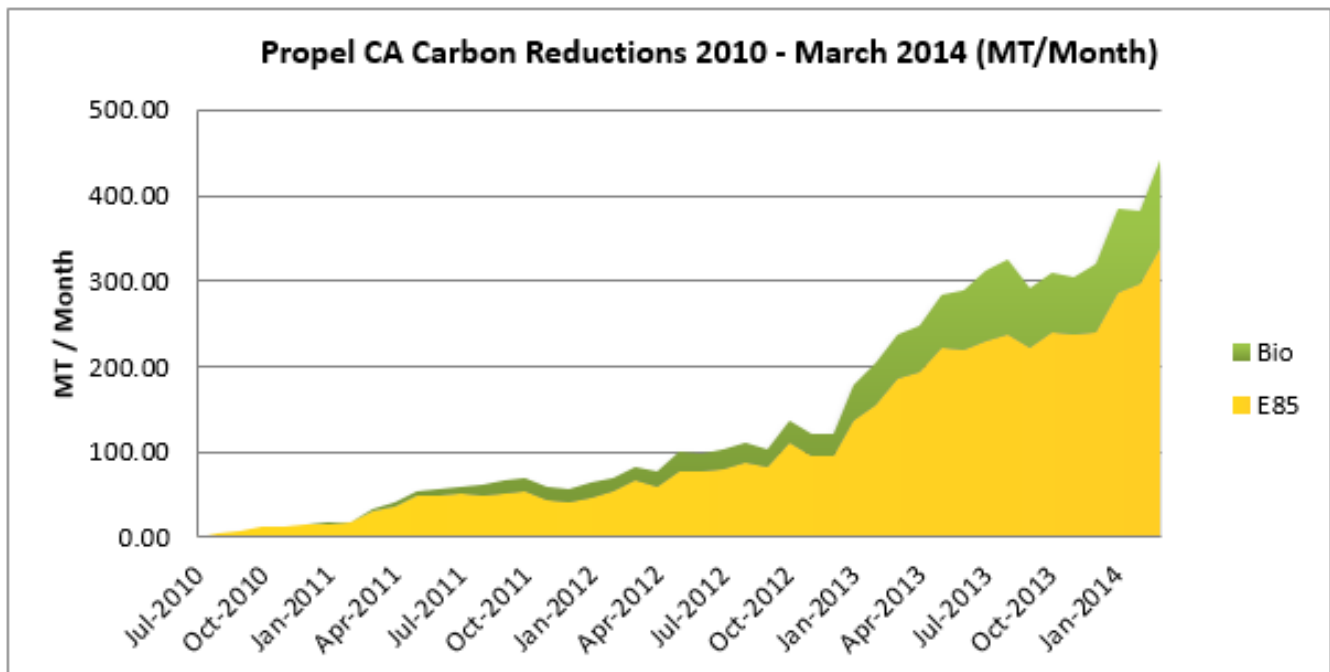
Figure 5: LCFI3 Program Sales Growth in Gallons



Source: Propel Fuels, Inc.

Growth in public access, combined with increasing volumes, has led to more than 6,343 metric tons (MT) of carbon reductions in California through 2014, exceeding 400 MT of carbon savings every month.

Figure 6: GHG Reductions as a Result of LCFI3



Source: Propel Fuels, Inc.

Real Estate Acquisition Activities Results

Using the site selection methodology outlined in Chapter 1, Propel's Real Estate team took a systematic approach to identifying appropriate sites and contracting with station partners. The process followed a set of stages, ultimately leading to a contract agreement with a station owner and triggering the permitting phase. See Table 4. During permitting, some unanticipated issues arose that could cause a station to withdraw. Therefore, the real estate team signed more contracts than were actually built.

During this process, Propel contacted approximately 3,000 station operators through direct sales and direct mail efforts. These outreach efforts resulted in contact with over 350 station locations as potential LCFI3 grant participants. Of these locations, 118 reached the contract phase, while 240 did not meet site selection requirements and fell out. Of these 118 signed contracts, 36 stations were built.

Table 3: Real Estate Site Selection Stages

Stage 1	Identify & map hot spot trade areas based on key site selection metrics
Stage 2	Market directly to station owners in the hot spot trade areas via direct sales and direct mail
Stage 3	Qualify incoming lead by set criteria and review mapping program to ensure enough FFV counts
Stage 4	Real Estate prepares station plans with owners
Stage 5	Contract is send out to owner after approval from Director
Stage 6	Station owner returns signed contract to Real Estate
Stage 7	Propel approves contract and site goes into permitting phase

Source: Propel Fuels, Inc.

Permitting Activities and Results

Once a contract is signed, it enters the permitting phase. As mentioned, certain real estate contracts could not be permitted for various reasons. Third party project management companies, QPM, Total ProjeX, were hired to work with architects, contractors and engineers on designing the stations, submitting plans for approval, and physically "running" the permits. For every job, these contractors are hired on a time and materials basis, and it took a team of six (6) people to work the multiple sites the company was working on at any given time.

The activities for permitting on any given site usually encompass:

- S.I.R. – or site impact review, looking at the agencies involved, permitting time frames, approximate cost of getting plans approved, and potential issues (zoning, CUP, etc.)
- Site plan – 1 draft with two revisions if necessary, to start the design
- Construction Documents – full CAD files and large printed copies of plans, for submittal to agency disciplines (Fire dept., CUPA, Building, Planning, Electrical, etc.)

- As-Builts (as required) for submission after construction reflecting and changes from approved set of plans that occurred during installation
- Equipment list
- Sign design, permit drawings
- Engineering (as required)

Since the start of the program, Propel worked to permit over 118 Clean Fuel Points. Permitting activities included: designing and drawing multiple iterations of plans; running plans and permits; meeting multiple times with planners and plan checkers to receive approval on different iterations of plans; and providing final documentation to the permitting agencies. Propel used a standardized set of plans with the State Water Board to try to expedite the process.

Construction Activities and Results

Propel built 36 Clean Fuel Points under the Low Carbon Fuel Infrastructure Investment Initiative grant program. The company built the rest of the station network gradually over the course of the four-year program.

Ten Clean Fuel Points were built with E85 fueling infrastructure only, while the rest (26 CFPs) were built to retail both E85 and B20 biodiesel fuels. Table 5 shows locations and fuel offerings for all 36 stations.

Table 4: Station Build Program Results

Station No.	Type	Address	Fuels Offered	Open Date
1	CFP	735 Capital Expressway Auto., San Jose	E85, B20	7/29/2010
2	CFP	39707 Paseo Padre Pkwy, Fremont	E85, B20	7/29/2010
3	CFP	999 Sunrise Ave., Roseville	E85, B20	8/5/2010
4	CFP	350 Grand Ave., Oakland	E85, B20	8/16/2010
5	CFP	790 Montague Expressway, San Jose	E85, B20	9/1/2010
6	CFP	849 University Ave., Berkeley	E85, B20	9/17/2010
7	CFP	151 Main Street, Placerville	E85, B20	10/4/2010
8	CFP	1002 N. 1st Street, San Jose	E85, B20	10/26/2010
9	CFP	7901 Madison Ave., Citrus Heights	E85, B20	12/2/2010
10	CFP	1495 East H Street, Chula Vista	E85, B20	2/28/2011
11	CFP	102 E. Huntington Drive, Arcadia	E85, B20	3/12/2011

Station No.	Type	Address	Fuels Offered	Open Date
12	CFP	1250 Sepulveda Blvd., Harbor City	E85, B20	5/4/2011
13	CFP	503 Whipple Ave., Redwood City	E85, B20	5/10/2011
14	CFP	12042 Firestone Blvd., Norwalk	E85, B20	6/29/2011
15	CFP	1401 W Pacific Coast Hwy, Wilmington	E85, B20	7/1/2011
16	CMC	1124 E Chapman, Fullerton	E85, B20	5/2/2012
17	CFP	1101 Broadway, Sacramento	E85, B20	08/22/12
18	CFP	3291 W. Florida Ave., Hemet CA 92545	E85, B20	12/21/12
19	BSA	16990 Beach Blvd., Huntington Beach 92647	E85	12/14/12
20	CFP	1850 East Holt Blvd., Ontario 91761	E85, B20	01/15/13
21	CFP	701 Torrance Blvd., Torrance CA 90502	E85, B20	01/30/13
22	CFP	14152 E Imperial Hwy., La Mirada CA 90638	E85, B20	03/01/13
23	CMC	4994 E. Ashlan Ave., Fresno, CA 93707	E85, B20	03/25/13
24	CFP	701 E Foothill Blvd., Claremont CA 91711	E85, B20	04/15/13
25	BSA	15971 Goldenwest St., Huntington Beach 92647	E85	04/15/13
26	BSA	300 S. Brookhurst Street, Anaheim CA 92804	E85	04/22/13
27	BSA	12881 Encinitas Ave., Sylmar	E85	06/03/13
28	BSA	23805 Clinton Keith Rd., Wildomar	E85	07/29/13
29	BSA	40452 Hot Springs Road., Murrieta	E85	10/14/13
30	BSA	800 Rancho Santa Fe Road, San Marcos	E85	12/27/13
31	CFP	705 Harbor Pointe Place, West Sacramento	E85, B20	12/16/13
32	CFP on CMC	3860 Kearny Mesa Rd., San Diego	E85, B20	12/17/13

Station No.	Type	Address	Fuels Offered	Open Date
33	BSA	1501 N Melrose Drive, Oceanside	E85	12/31/13
34	BSA	391 West A Street, Hayward	E85	03/11/14
35	CFP on Vintage	1990 E. Del Amo Blvd., Long Beach	E85, B20	03/20/14
36	CFP on Vintage	6819 E Carson Ave., Lakewood, CA	E85, B20	04/10/14

Source: Propel Fuels, Inc.

Equipment

Propel used over \$170,000 in equipment and components for each of their jobs. All components met technical specifications for alternative fuels. California requirements for fueling station equipment include double wall piping, double walled tanks, and continuous monitoring equipment.

Propel ordered equipment from multiple vendors, sometimes in bulk, for example: tank trim, island forms, manways, dual-sided dispensers with factory graphics, and LED price signs. Underground Storage Tanks (USTs) are long lead items that needed to be ordered four to six weeks before construction starts. Therefore, the project team had to time the ordering and delivery of tanks and other long lead items with estimates of when permits were expected to be received.

Construction Activities

Propel sought contractors with expertise in each region. Propel put each station project out to bid using a request for proposal process. To save time, subsequent projects in each region were negotiated instead of putting every project out to bid again. Table 6 shows a typical list of contractors' activities.

Table 5: List of Construction Activities

#	Activity
1	Contact agencies for inspections, set schedule
2	Notify agencies of intent to dig (dig alert)
3	Conduct soil testing and analysis prior to construction to determine if any contamination
4	Make arrangements for soil disposal (prior to construction)
5	Saw cut concrete and asphalt, (demolition and disposal)
6	Soil Excavation and hauling off site
7	Shoring of the tank hole (utilizing cranes)

#	Activity
8	Tank set and backfilling with pea gravel
9	Enhanced Leak Detection testing
10	Trenching, installation of primary piping, secondary piping,
11	Installation of turbines, electrical conduit, relays, sumps, Under Dispenser Containment
12	Penetrations, rebar, concrete
13	Monitoring certification
14	Fuel drop
15	Point of Sale, card testing
16	Air Quality Management District testing

Source: Propel Fuels, Inc.

The following are a series of pictures illustrating the construction work described in Table 6 (Figures 7 through 13).

Figure 7: La Mirada – Installation of Sumps and Piping



Photo credit: Propel Fuels, Inc.

Figure 8: Lakewood - Under Dispenser Containment and Island Form



Photo credit: Propel Fuels, Inc.

Figure 9: San Diego - Construction



Photo credit: Propel Fuels, Inc.

Figure 10: Completed Construction at Clean Fuels Point



Photo credit: Propel Fuels, Inc.

Figure 11: Oceanside – Fuel Storage Tank Delivery



Photo credit: Propel Fuels, Inc.

Figure 12: Completing Construction - Claremont Clean Fuel Point



Photo credit: Propel Fuels, Inc.

Figure 13: Claremont Station Owner Ali Esayli



Photo credit: Propel Fuels, Inc.

Marketing and Education: Activities and Results

LCFI3 marketing outreach and education activities were designed to assist in meeting the projected volume of renewable fuel sales at each station. With new fuels being introduced in the marketplace, Propel and its partners made a concerted effort to create awareness for renewable fuels, develop understanding of the benefits of using the fuels, and encouraged consumer and fleet adoption of these fuels for the first time.

Clean Cities Coalitions

U.S. Department of Energy Clean Cities Coalitions across the state were an important partner in the effort to educate the public and fleet managers about renewable fuel choices. Each Coalition brings their own expertise to the table, from event marketing, to video production, to email newsletters. The following is a sample of the types of marketing tasks conducted by participating Clean Cities organizations during the program.

Table 6: Clean Cities Programs

Clean Cities Partners	Clean Cities Programs
East Bay Clean Cities Sacramento Clean Cities San Diego Regional Clean Cities San Joaquin Valley Clean Cities Silicon Valley Clean Cities Western Riverside County Clean Cities Long Beach Clean Cities	<ul style="list-style-type: none"> • Station Events: Educational events at Propel stations to encourage renewable fuel trial and long-term use. • Community & Corporate Workshops: fleet and consumer focused events to highlight alternative fuels, vehicle technology and infrastructure, and encourage adoption of renewable fuels. • Direct Mail & Email Outreach: Preparing and distributing email and direct mailers to regional fleets, consumers and coalition members. • Video and Television Production: produce educational videos about renewable fuels for use on websites, television, and events. • Fleet and Member Database Development: Develop and maintain information on fleets and other members of the coalition who could adopt biofuels. • Online and social media outreach: build awareness for biofuels & stations via digital media. • Station Support: Provide staffing to answer questions from fleets and general public. • Vehicle Dealership Outreach: Provide local auto dealers information on renewable fuels and provide information with vehicles that are sold. • Presentation & Materials Development: Create presentations and materials to be used at public events.

Source: Propel Fuels, Inc.

Launch Events

Propel hosted grand opening promotions for all 36 locations, often in coordination with regional Clean Cities Coalitions that represent the trade area in which that station was built. These public events were designed to educate and activate customers in order to create a customer base from which to build volume growth. Events were conducted for approximately 3-5 days, depending on the location, and converted 80 to 250 new customers (20—50 per day).

Table 7: Launch Event Results

Number of Events	Event Length	New Customer Trials	Total New Customers
36	3-5 days	20-50 per day	~4,300

Source: Propel Fuels, Inc.

Figure 14: Photo Collage of Station Launch Events



Photo credit: Propel Fuels, Inc.

Direct Mail/ Database Marketing

Propel developed consumer-focused direct mail campaigns, including fuel coupons, targeting the Flex Fuel Vehicle and diesel vehicle owners in the trade areas for each new station. Propel worked with RL Polk to create customized mailing lists for each station, leveraging Polk's databases of alternative fuel vehicle owners. Mailers were customized to their trade area, highlighting stations in their neighborhood, convenient and relevant to new customers. The goal of the campaign was to motivate FFV and diesel owners to try renewable fuels and experience them first-hand. The campaigns resulted in high conversion rates of 8 to 10 percent, proving them to be an efficient means to generate new alternative fuel customers. These campaigns were supported by online communications that provided vehicle

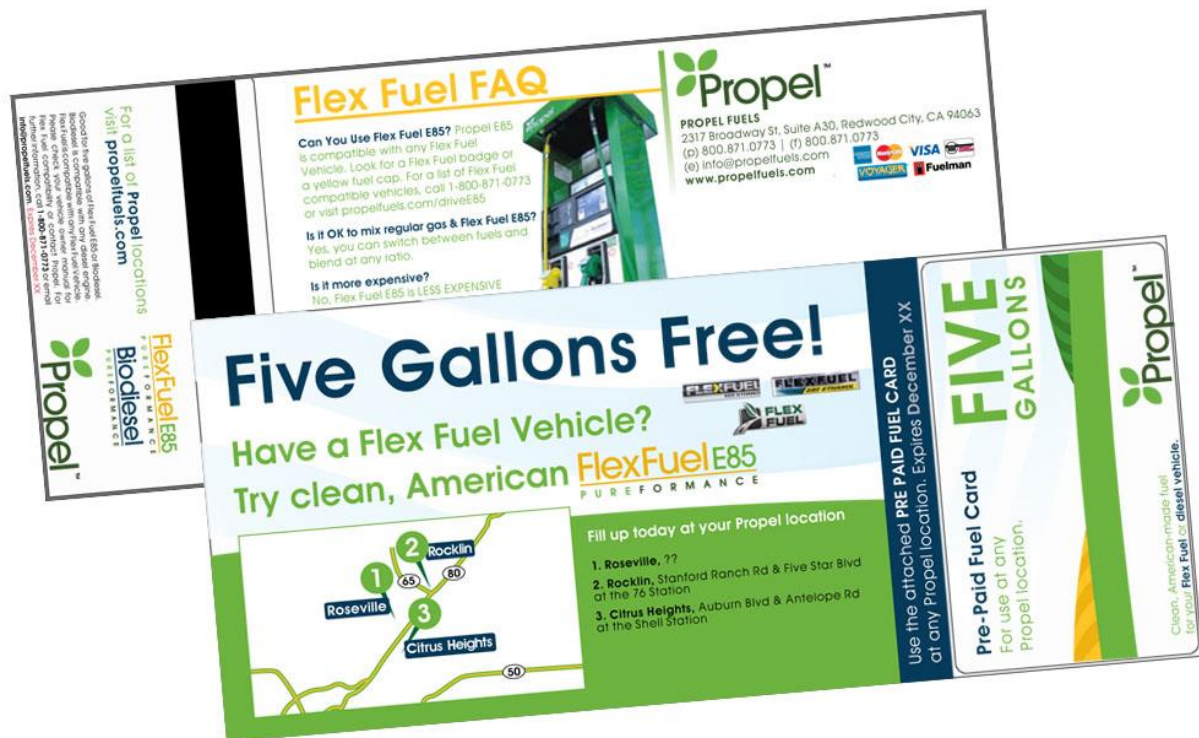
compatibility tools, station locator maps, and information regarding the benefits of renewable fuels.

Table 8: Direct Mailer Results

Number of Mailers	List size	Conversion rate	New Customers per Mailer	Total New Customers
35	500 – 1000/ mailer	8-10%	60	~2,000

Source: Propel Fuels, Inc.

Figure 15: Sample Direct Mailer with Fuel-Card Coupon



Source: Propel Fuels, Inc.

Station Communications

Propel created station communications, educational materials and signage to support the 36 Clean Fuel Points. These materials described the benefits of E85 ethanol and B20 biodiesel for new customers. Materials included:

- E85 compatibility pump topper
- E85 & biodiesel hose hangers
- Fuel overview pole mount signage
- Station brochures

- E85 & biodiesel nozzle talkers
- CleanDrive registration decals

Figure 16: Educational Communications on Dispensers



Photo credit: Propex Fuels, Inc.

Public Relations

Effective public relations outreach was a priority for Propex as they sought to create awareness of renewable fuels for nearby fleets and consumers with FFV and diesel vehicles. Propex found there was particular interest in news coverage about new station openings and about advanced low carbon fuels such as algae-based biodiesel. Propex also generated awareness for these fuels through industry media coverage. A list of public relations coverage is available at [Propex's News and Media](http://propexfuels.com/news_and_media/) (http://propexfuels.com/news_and_media/).

CHAPTER 3:

Project Successes and Public Response

Public Assessment of the Project

While there were challenges in meeting the construction requirements of the grant program, Propel's sales data and customer studies demonstrate that the adoption of renewable fuels by California drivers has been a success. Meeting Propel's goals for renewable fuel sales depended on California consumers and fleet managers switching to renewable fuels. The public can now access renewable fuels in every major market in California and drivers are adopting low-carbon fueling at a high rate. This is most clearly illustrated by the magnitude of renewable fuel sales volumes from the LCFI3 program; some of Propel's new stations have the highest sales volumes in the nation, exceeding 20,000 gallons per month.

To understand consumer perceptions of these fuels, Propel conducted a market wide study in the summer of 2012, interviewing over 900 customers at stations Northern California, Southern California and the San Francisco Bay Area. This study was intended to determine the motivators and barriers to usage, value perceptions and affordability of the fuels when compared to conventional gasoline, and the profile of customers adopting renewable fuels. The outcomes of this study help determine the program's success from the public's perspective.

Customer Adoption of Renewable Fuels

Across the Propel network, customers purchased more than 6.7 million gallons of renewable fuels in 2013 and refilled their tanks over 50,000 times per month. This equates to an average of over 20,000 gallons of renewable fuels per station.

This level of adoption is largely due to strong customer loyalty to the fuels. Based on Propel's study, customers are filling their tanks with renewable fuels 75 percent of the time. In addition, 50 percent of customers fill exclusively with lower-carbon fuels, meaning half of these users no longer use conventional petroleum.

Affordability

When it comes to affordability, the renewable fuels evaluated in Propel's customer studies appear to offer the highest value proposition of any fuels available in the state. Self-described as price-conscious, 75 percent of Propel customers reported seeing a better value with lower carbon fuels than with petroleum, while 92 percent of customers described the value as the same or better.

Table 9: Affordability Survey Results - Renewable vs. Conventional Fuels

BETTER VALUE than conventional petroleum	75%
SAME VALUE as conventional petroleum	17%
SAME or BETTER VALUE than conventional petroleum	92%

Source: Propel Fuels, Inc.

Motivators

Propel learned that price is only one of the consumer motivators for purchasing renewable fuels. Propel customers articulated numerous advantages of E85 and biodiesel during the study. First, customers stated that they became interested in renewable fuels by two major Conventional Motivators – that is, the same motivators that influence customers to purchase traditional fuels: Convenience and Price. Beyond those Conventional Motivators, however, are several New Motivators that provide customers with additional value unique to renewable fuels, including: Sustainability, Performance and Made in America, among others.

Interestingly, customers also cite Convenience as the Primary Barrier to increased adoption, further underlining the importance of network access in converting drivers into regular renewable fuel customers.

Table 10: Renewable Fuel Customer Motivators and Barriers

CONVENTIONAL MOTIVATORS Traditional value propositions associated w/ conventional fuels	Low Price	65%
	Convenience	42%
NEW MOTIVATORS New value propositions unique to renewable fuels	Sustainability	29%
	Performance	24%
	Made In America	21%
	Oil Independence	19%
	Other	7%
PRIMARY BARRIER TO ADOPTION	Convenience / Access	77%

Source: Propel Fuels, Inc.

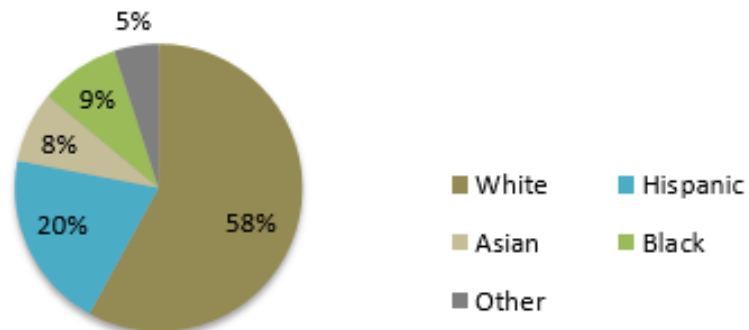
Customer Demographics

Propel's customer surveys revealed that the community of renewable fuel customers is economically and ethnically diverse, reflecting the demographics of California's population. The

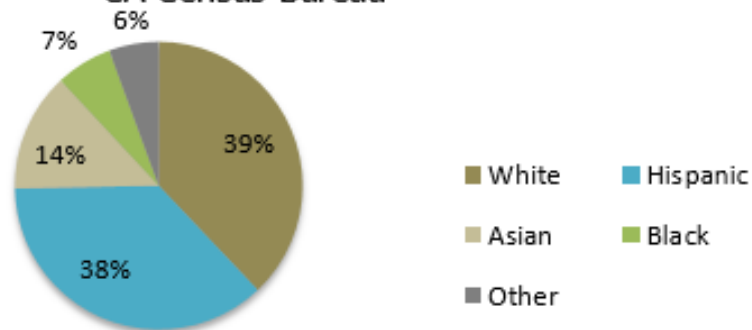
LCFI3 program created an opportunity to bring renewable fuels at a price point that is accessible to drivers of every economic background.

Figure 17: Propel Customer Ethnicity - Customer Study 2012

Propel Renewable Fuel Customer



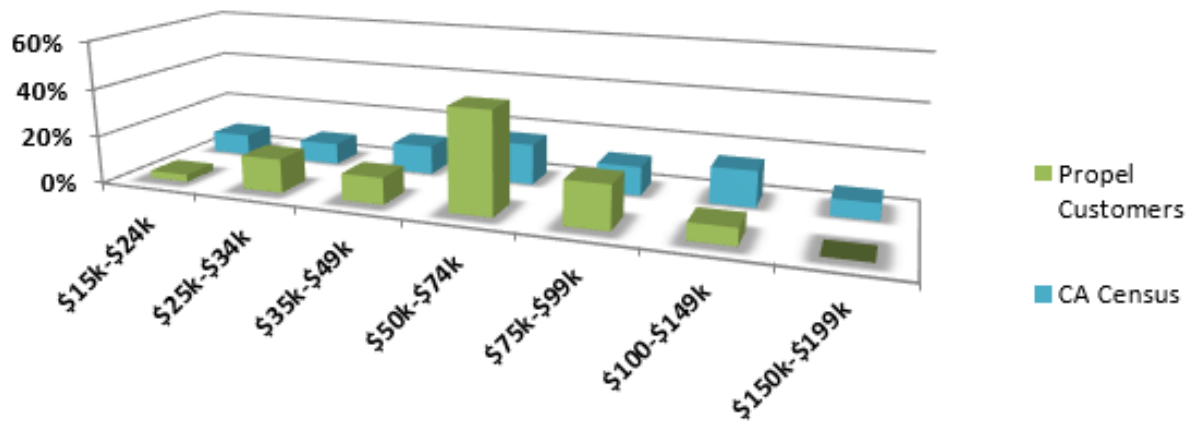
CA Census Bureau



User demographics represent the diversity in CA while exhibiting opportunities to expand reach toward Hispanic communities in California's most underserved markets.

Source: Propel Fuels, Inc.

Figure 18: Median Household Income
 Propel Renewable Fuel Customer vs. CA Census Bureau



Affordability of renewable fuel offerings enables participation across a diverse economic base.

Source: Propel Fuels, Inc.

Figure 19: Customers Fueling at Propel Stations



Photo credit: Propel Fuels, Inc.

CHAPTER 4:

Program Observations and Recommendations

As the first major development of renewable fuel infrastructure in the state of California, this project has led to many insights. Propel believes these insights and best practices can be applied to future infrastructure installations and can improve efficiency and reduce barriers towards meeting the growing demand for renewable fuels in the state.

Insight: Managing Costs of Infrastructure

Since 2009, Propel has constructed and operated renewable fuel infrastructure across the state, closely monitoring construction and operational costs. A major challenge of the program, and a leading cause of project delays, were cost overruns. Since the inception of the program, there has been a consistent increase in build and operating costs. Construction costs have ranged from \$172,000 to over \$450,000 since projects first began in 2010, and in many cases exceeded the estimated project budget outlined in LCFI3 grant of \$306,789. These overruns were associated with high permitting costs and regulatory requirements, such as larger canopy covers and additional shoring.

Equipment, labor and construction costs increased every year. Local government plan checkers often required multiple iterations of plans, with each iteration requiring additional submittal with fees. Any process involving the Conditional Use Permit applications added months of time and over tens thousands of dollars in fees and time and materials alone. This occurred more frequently on jobs with canopies – one of the reasons Propel stopped building sites with canopies, even though it generally yields higher per gallon throughput.

Soil disposal and LED price signs were also expensive items. Anytime the soil is contaminated, which occurs frequently at older, aging petroleum retail locations, the costs for removal and disposal increases dramatically. LED signage that displays prices are a key factor in driving sales volume and initially were a key component of Propel's development plans. As the program matured, Branded Supply Agreement partners were not willing to pay the higher costs for LED signage, opting instead for less expensive plastic numerals. Propel agreed to this compromise to keep costs low.

As a result of lessons learned from the CEC grant, Propel identified ways to keep costs lower. For example, retrofitting existing underground fuel storage tanks for E85 ethanol was significantly less expensive than installation costs for new tank installations. Eliminating expensive construction tasks such as excavating, shoring and installing new tanks resulted in savings of over \$100,000 as compared to a normal CFP. However, limiting future builds to tank conversions will decrease the number of potential installations that can be made in the state, as there is a smaller availability of sites with renewable fuel compatible (newer, double wall fiberglass tanks) and/or extra tanks.

Up to date costs for leases, equipment and construction should be incorporated into future grant solicitations under the Clean Transportation Program.

Insight: Reducing Complexity of Operations

At the initiation of this project, Propel's business model focused on a single operating model – the Clean Fuel Point. Leveraging existing fuel stations, Clean Fuel Points can be built quickly, have low operational and maintenance costs, require zero investment from station operators, and enable Propel to provide renewable fuels to the top vehicle markets in California.

However, Propel developed two additional business models during this project that introduced complexity into the real estate acquisition and construction process. These new models included the Branded Supply Agreement model, and the Clean Mobility Center model.

The Branded Supply Agreement Program required station operators to own and operate the equipment. Under this agreement, these station operators must also absorb the cost of the infrastructure equipment and construction, as well as manage the permitting and build process themselves. These dependencies created significant disadvantages for the LCFI3 Program. First, it made location contracts slower and more difficult to finalize because there were fewer operators with the cash flow available to finance build costs. In addition, Propel could not directly manage contractors under the BSA program, which increased construction timelines.

With the Clean Mobility Center program, Propel had to identify and purchase full station properties. Once Propel acquired a property, they added renewable fuel storage and dispensing equipment to that station site. Propel learned that identifying, negotiating and purchasing these large and expensive properties was a time intensive and costly endeavor. Before the renewable fuel development could begin, numerous site improvements were needed to bring the properties into working order. The petroleum and convenience store components of the properties often needed to be upgraded, resulting in delays that hindered the development of renewable fuels infrastructure.

Due to this experience, Propel decided to divest its Clean Mobility Center petroleum and convenience store operations to focus specifically on efficient low carbon fuel development. In future programs, Propel will focus primarily on the largely successful Clean Fuel Point program, and consider the Branded Supply Agreement program as a secondary option for increasing access in certain communities.

Insight: Creating Efficiency through Regulatory Partnerships

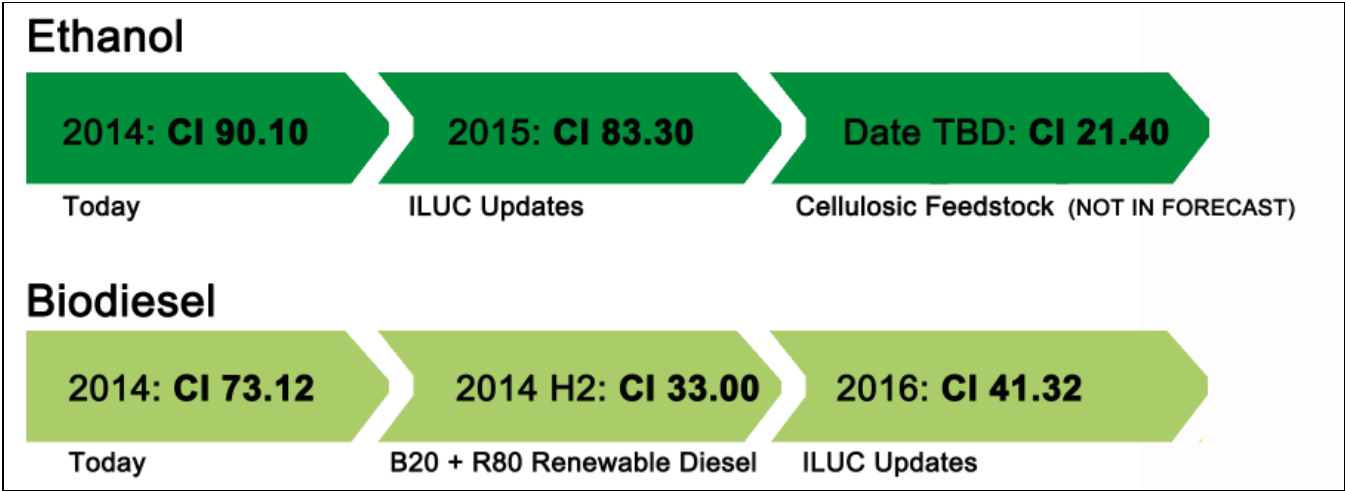
To help ensure timely development under LCFI3, Propel collaborated with a number of state agencies, including CalEPA and the State Water Resources Control Board, to find permitting efficiencies.

Propel established a regulatory partnership during the development of LCFI3 that became a "consolidated permitting process" with CalEPA and the State Water Resources Control Board. This consolidated permitting process enabled CUPAs throughout the state to reference a pre-approved set of "standard" plans during plan check. By being able to reference a standard that was approved at the state level by the Chief of the Underground Storage Tank program, local plan checkers could be assured that they were making appropriate corrections to the site-specific plans they were reviewing. These permitting efficiencies can and will be applied to future Propel infrastructure programs in the state.

Insight: Leveraging LCFI3 Infrastructure for Future Ultra-low Carbon Fuels

Currently, stations built under the LCFI3 program offer consumers affordable renewable fuel options that can immediately reduce California’s dependence on petroleum. In the near future, this same LCFI3 retail infrastructure can be the conduit for bringing even lower-carbon next generation iterations of E85 and biodiesel to an established community of drivers. Directly compatible with Propel’s installed station network under 15-year operating contracts, next generation fuels are significantly lower in carbon intensity, and offer a distinct advantage in carbon reductions.

Figure 20: Improving Carbon Intensity Scores of Future Fuels



Note: ILUC = Indirect Land Use Change

Source: Propel Fuels, Inc.

Insight: Serving Disadvantaged Communities

The California Environmental Protection Agency (CalEPA) has defined specific geographic areas as Disadvantaged Communities, based on socioeconomic, public health or environmental concerns.

Many of Propel’s highest-performing stations can already be found in these CalEPA-designated regions. E85 and biodiesel pumps in the rural, industrial, and working family-centric regions of Fresno, Ontario, and Harbor City are selling 25,000 – 40,000 plus gallons of renewable fuels per month to consumers from a broad variety of backgrounds and socioeconomic status.

Propel has learned that further expansion into rural and under-served communities – including the Central Valley, the San Joaquin Valley, Southern Los Angeles County and the Inland Empire – will enable local drivers to take advantage of affordable, low-carbon fuels *immediately* – with the vehicles they own today.

There are also a wide variety of renewable fuel-compatible vehicle makes and models that are advantageous to lower income and blue-collar populations. Whereas plug-in electric and hybrid vehicles are almost exclusively sedans, FFVs are available in a number of body styles, from

compacts and sedans to small business-friendly work trucks and minivans. What's more, FFVs are also widely available in the Used and Certified Used vehicle markets.

Based on the demographic profile of Propel customers, the affordability of renewable fuels, and the history of Propel's top performing sites, these currently underserved areas possess tremendous potential for successful adoption of lower-carbon renewable fuels.

Table 11: Market Potential for New Stations in Disadvantaged Communities

REGION	FFV COUNT (2012)	MARKET POTENTIAL (No. of Stations)
1 – Greater Los Angeles	207,882	25 - 35
2 – Riverside	77,456	15 - 21
3 – Stockton	12,626	5 - 7
4 – Modesto	10,395	4 - 6
5 – Fresno	17,287	6 - 9
6 – Bakersfield	20,272	8 - 11

Source: Propel Fuels, Inc.

Conclusion

While 36 of the approximately 75 stations were built, the project was successful for a number of reasons. LCFI3 was a success on the basis of the GHG and jobs metrics. The stations built under the LCFI3 program displaced 12.5 million gallons of petroleum fuel, and the program has reduced 6,343 metric tons (13.9 million pounds) of GHG emissions through March of 2014. The project achieved the state goal of creating 544 direct and indirect jobs; exceeding the desired outcome of 450 and providing much-needed stimulus to California's economy, especially in construction and green jobs. This means that capital provided by the Federal "stimulus" ARRA funds was spent putting people back to work at a time when the economy needed it badly.

The project made significant strides in building the alternative fuel infrastructure California needs to continue to reducing the carbon intensity of the fuels used in the transportation sector. Customer adoption has been strong and public feedback positive – a testament to the education and outreach components of the project. Across Propel's network, customers purchased more than 6.7 million gallons of renewable fuels in 2013 and are choosing renewable fuels over 50,000 times/month. This equates to over 20,000 gallons of renewable fuels per station on average.

Stations built under the LCFI3 grant sell some of the highest volumes of renewable fuels in the country. This high volume retail infrastructure can be a conduit for bringing even lower-carbon intensive, next-generation versions of E85 and biodiesel to an established community of drivers.

The LCFI3 project was a strong example of public-private partnerships working together to bring much needed lower carbon fueling infrastructure to California citizens in a tough development environment.

GLOSSARY

AIR POLLUTION CONTROL DISTRICT (APCD) -- A county agency with authority to regulate stationary, indirect and area sources of air pollution (e.g., power plants, highway construction and housing developments) within a given county and governed by a district air pollution control board composed of the elected county supervisors.

ALTERNATIVE FUEL VEHICLE (AFV) - Motor vehicles that run on fuels other than petroleum-based fuels. As defined by the National Energy Policy Act (EPAct), this excludes reformulated gasoline as an alternative fuel.

AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 (ARRA) -- U.S. Congress passed the American Recovery and Reinvestment Act of 2009 on February 13, 2009, at the urging of President Obama, who signed it into law four days later. A direct response to the economic crisis, the Recovery Act strives to create new jobs and save existing ones, spur economic activity and invest in long-term growth, and foster unprecedented levels of accountability and transparency in government spending. Among its objectives, the act makes \$275 billion available for federal contracts, grants, and loans.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) -- A non-profit organization that provides a forum for producers, consumers and representatives of government and industry to write laboratory test standards for materials, products, systems and services. ASTM publishes standard test methods, specifications, practices, guides, classifications and terminology.

B20 - A mixture of 20% biodiesel and 80% petroleum diesel based on volume (NREL).

BIODIESEL - A biodegradable transportation fuel for use in diesel engines that is produced through the transesterification of organically derived oils or fats. It may be used either as a replacement for or as a component of diesel fuel (NREL).

BRANDED SUPPLY AGREEMENT (BSA) – Propel's term for a business model whereby station owners and operators could invest directly in renewable fuel infrastructure, while leveraging Propel's recognized brand and marketing expertise. Under this program, station owners paid for equipment and construction costs directly.

CALIFORNIA AIR RESOURCES BOARD (ARB) - The state's lead air quality agency consisting of an 11-member board appointed by the Governor, and just over thousand employees. ARB is responsible for attainment and maintenance of the state and federal air quality standards, California climate change programs, and is fully responsible for motor vehicle pollution control. It oversees county and regional air pollution management programs.

CALIFORNIA DEPARTMENT OF GENERAL SERVICES (DGS) - Serves as business manager for the state of California. DGS serves the public by providing a variety of services to state agencies through procurement and acquisition solutions; real estate management and design; environmentally friendly transportation; professional printing, design and web services; administrative hearings; legal services; building standards; oversight of structural safety,

fire/life safety and accessibility for the design and construction of K-12 public schools and community colleges; funding for school construction; and disability access.¹

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY (CALEPA) - A state government agency established in 1991 for unifying environmental activities related to public health protection in the State of California. There are five boards, departments and offices under the organization of Cal/EPA including the California Air Resources Board (ARB), State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB), Department of Pesticide Regulation (DPR), Department of Toxic Substances Control (DTSC) and Office of Environmental Health Hazard Assessment (OEHHA). The Cal/EPA boards, departments and offices are directly responsible for implementing California environmental laws, or play a cooperative role with other regulatory agencies at regional, local, state and federal levels.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) - California law that sets forth a process for public agencies to make informed decisions on discretionary project approvals. The process aids decision-makers to determine whether any environmental impacts are associated with a proposed project. It requires environmental impacts associated with a proposed project to be eliminated or reduced and that air quality mitigation measures are implemented.

CLEAN FUEL POINT (CFP) – Propel’s original operating model, the Clean Fuel Point establishes contracts with existing petroleum station owners / operators, co-locating Propel owned and operated renewable fuel infrastructure at their location.

CLEAN MOBILITY CENTER (CMB) – Propel’s term for a retail fueling facility that is fully owned and operated by Propel to sell renewable fuels.

CARBON INTENSITY (CI) -- The amount of carbon by weight emitted per unit of energy consumed. A common measure of carbon intensity is weight of carbon per British thermal unit (Btu) of energy. When there is only one fossil fuel under consideration, the carbon intensity and the emissions coefficient are identical. When there are several fuels, carbon intensity is based on their combined emissions coefficients weighted by their energy consumption levels.

CERTIFIED UNIFIED PROGRAM AUTHORITY (CUPA) - The Unified Program protects Californians from hazardous waste and hazardous materials by ensuring consistency throughout the state regarding the implementation of administrative requirements, permits, inspections, and enforcement at the local regulatory level. CalEPA oversees the statewide implementation of the Unified Program and its 81 certified local agencies, known as Certified Unified Program Agencies, which apply regulatory standards established by the Governor’s Office of Emergency Services, the Department of Toxic Substances Control, the

¹ [California Department of General Services](https://www.dgs.ca.gov/) (https://www.dgs.ca.gov/)

Office of the State Fire Marshal, the State Water Resources Control Board, and the California Environmental Protection Agency.²

CLEAN CITIES PROGRAM - As part of the U.S. Department of Energy's Vehicle Technologies Office, Clean Cities coalitions foster the nation's economic, environmental, and energy security by working locally to advance affordable, domestic transportation fuels, energy efficient mobility systems, and other fuel-saving technologies and practices. Since beginning in 1993, Clean Cities coalitions have achieved a cumulative impact in energy use equal to nearly 8 billion gasoline gallon equivalents through the implementation of diverse transportation projects.³

CONDITIONAL USE PERMIT (CUP) – A permitting process that allows a city or county to consider special uses which may be essential or desirable to a particular community, but which are not allowed as a matter of right within a zoning district, through a public hearing process. A conditional use permit can provide flexibility within a zoning ordinance. Another traditional purpose of the conditional use permit is to enable a municipality to control certain uses which could have detrimental effects on the community (*Neighborhood Action Group v. County of Calaveras* (1984) 156 Cal.App.3d 1176).⁴

E85 -- A nominal blend of 85 volume percent denatured ethanol and 15 volume percent unleaded gasoline that is used in flexible fuel vehicles.

ETHANOL (also known as Ethyl Alcohol or Grain Alcohol, CH₃CH₂OH) - a liquid that is produced chemically from ethylene or biologically from the fermentation of various sugars from carbohydrates found in agricultural crops and cellulosic residues from crops or wood. Used in the United States as a gasoline octane enhancer and oxygenate, it increases octane 2.5 to 3.0 numbers at 10 percent concentration. Ethanol can also be used in higher concentration (E85) in vehicles optimized for its use.

FLEXIBLE FUEL VEHICLE (FFV) -- a vehicle that can operate on either alcohol fuels (methanol or ethanol) or regular unleaded gasoline or any combination of the two from the same tank.

GOVERNOR'S OFFICE OF BUSINESS AND ECONOMIC DEVELOPMENT (GO-Biz) -- The Governor's Office of Business and Economic Development (GO-Biz) serves as the State of California's leader for job growth and economic development efforts. They offer a range of services to business owners including: attraction, retention and expansion services, site

² [California Environmental Protection Agency](https://calepa.ca.gov/cupa/) (https://calepa.ca.gov/cupa/)

³ [U.S. Department of Energy, Energy Efficiency and Renewable Energy, Clean Cities](https://cleancities.energy.gov/about/) (https://cleancities.energy.gov/about/)

⁴ Governor's Office of Planning and Research, *The Planner's Training Series – The Conditional Use Permit*, 1997.

selection, permit assistance, regulatory guidance, small business assistance, international trade development, and assistance with state government.

GREENHOUSE GAS -- Any gas that absorbs infra-red radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), halogenated fluorocarbons (HCFCs), ozone (O₃), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs). (EPA)

LOW CARBON FUEL STANDARD (LCFS) -- A set of standards designed to encourage the use of cleaner low-carbon fuels in California, encourage the production of those fuels, and therefore, reduce greenhouse gas (GHG) emissions. The LCFS standards are expressed in terms of the "carbon intensity" (CI) of gasoline and diesel fuel and their respective substitutes. The LCFS is a key part of a comprehensive set of programs in California to cut greenhouse gas emission and other smog-forming and toxic air pollutants by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) -- the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This area of 10,743 square miles is home to over 16.8 million people – about half the population of the whole state of California. It is the second most populated urban area in the United States and one of the smoggiest. Its mission is to clean the air and protect the health of all residents in the South Coast Air District through practical and innovative strategies.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD) - A public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality management strategies. Our Core Values have been designed to ensure that our mission is accomplished through commonsense, feasible measures that are based on sound science. The San Joaquin Valley Air Pollution Control District is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern County.⁵

STATE WATER RESOURCES CONTROL BOARD (SWRCB) and the nine Regional Water Quality Control Boards (Regional Water Boards), collectively known as the California Water Boards (Water Boards), are dedicated to a single vision: abundant clean water for human uses and environmental protection to sustain California's future. Under the federal Clean Water Act (CWA) and the state's pioneering Porter-Cologne Water Quality Control Act, the State and Regional Water Boards have regulatory responsibility for protecting the water quality of nearly

⁵ [San Joaquin Valley Air Pollution Control District](https://www.valleyair.org/General_info/aboutdist.htm#Mission) (https://www.valleyair.org/General_info/aboutdist.htm#Mission)

1.6 million acres of lakes, 1.3 million acres of bays and estuaries, 211,000 miles of rivers and streams, and about 1,100 miles of exquisite California coastline.⁶

UNDERGROUND STORAGE TANK (UST) - Refers to tanks used to store gasoline underground

UNITED STATES DEPARTMENT OF ENERGY (U.S. DOE) -- The federal department established by the Department of Energy Organization Act to consolidate the major federal energy functions into one cabinet-level department that would formulate a comprehensive, balanced national energy policy. DOE's main headquarters are in Washington, D.C.

⁶ [California State Water Resources Control Board](https://www.waterboards.ca.gov/about_us/) (https://www.waterboards.ca.gov/about_us/)