CALIFORNIA ENERGY COMMISSION

California Energy Commission

Clean Transportation Program

FINAL PROJECT REPORT

Propel Fuels, Inc.

Low Carbon Fuel Infrastructure Investment Initiative II

Prepared for: California Energy Commission

Prepared by: Propel Fuels, Inc.

Propel™ Fueling Change.

Gavin Newsom, Governor

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Rob Elam, CEO
Primary Author

Propel Fuels, Inc.
1815 19th Street
Sacramento, CA 95811
Propel Fuels Website (http://propelfuels.com)

Agreement Number: ARV-10-002

Andre Freeman
Project Manager

Elizabeth John
Office Manager
ADVANCED FUEL PRODUCTION OFFICE

Kevin Barker
Deputy Director
FUELS AND TRANSPORTATION

Drew Bohan
Executive Director

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 CEC issued solicitation PON-09-006 to provide funding opportunities under the Clean Transportation Program for projects that develop infrastructure necessary to store, distribute and dispense the following transportation fuels: electricity, E-85, biomass-based diesel, and natural gas. In response to PON-09-006, Recipient submitted application No. 39, which was proposed for funding in the Energy Commission's Notice of Proposed Awards, revised on January 11, 2011, in the amount of $1,000,000. Propel committed to $2,000,000 in private matching funds.

ABSTRACT

Increasing public access and sales of lower carbon biofuels is important to meeting the goals of California's Low Carbon Fuel Standard. In 2009, there were over 1,000,000 Flex Fuel Vehicles that could fuel with E85 ethanol, but fewer than 30 public renewable fuel stations in California selling E85. In 2011, the California Energy Commission and the U.S. Department of Energy awarded Propel Fuels a grant to build 10 alternative fuel filling stations that could sell E85 ethanol and B20 biodiesel. Propel is the leading provider of renewable fuels in California and has experience operating stations across the state.

Propel's objective was to install alternative fuel tanks and dispensers at 10 existing gas stations using their Clean Fuel Point business model. These stations will be constructed and operated in regions that support high densities of Flex Fuel Vehicles. When available, Propel will source domestically-produced biofuels fuels from inside California to provide their consumers with the most local and most sustainable fuel. Propel will also seek to distribute advanced second-generation fuels as they become available in the market.

Propel's objectives with the 10 stations were to displace 3,234,000 gallons of petroleum annually and reduce 24,933 metric tons of greenhouse gas emissions each year.

Due to challenges with financing, Propel constructed just two of the planned 10 stations.

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

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TABLE OF CONTENTS

Page

Preface i
Abstract ii
Table of Contents iii
List of Figures iii
List of Tables iv
Executive Summary 1
CHAPTER 1: Project Purpose and Approach 3
Project Purpose 3
The Clean Fuel Point Approach 4
Permitting Approach 5
Construction Approach 6
CHAPTER 2: Program Activities and Results 7
Project Objectives 7
Install Alternative Fuel Infrastructure at Ten Public Petroleum Sites to Distribute E85 Fuels 7
Siting Propel Stations in California Regions with High Densities of Flex Fueled Vehicles 8
Work with State, Federal, and Business Fleets to Maximize Alternative Fuel Use 9
Displace Approximately 3.2 Million Gallons of Petroleum Annually 9
Create a Distribution Network for Second Generation Biofuels 9
Displace Approximately 24,933 Tons of Greenhouse Gas Emissions Annually. 10
CHAPTER 3: Public Assessment 12
Public Assessment of the Project 12
Affordability 12
Commitment to Using Renewable Fuels 12
Payment Method 12
Demographics 13
CHAPTER 4: Program Challenges, Observations and Recommendations 14
Program Challenge: Infrastructure Financing 14
Program Challenge: Market Uncertainties 14
Serving Disadvantaged Communities 15
Vehicle Access & Affordability 16
Glossary 18

LIST OF FIGURES

Page

Figure 1: Example of Clean Fuel Point Location 4

Figure 2: Example of Branded Supply Agreement Location 5
Figure 3: River Road Sacramento Location Construction 8
Figure 4: Decline in Carbon Intensity Values with Cellulosic Process Technologies.....9
Figure 5: Propel Customer Ethnicity - Customer Study 2014 13
Figure 6: Ontario Station Location Relative to CalEPA DACs 15
Figure 7: River Road Station Location Relative to CalEPA DACs 16

LIST OF TABLES

Page

Table 1: LCFI3 II Permitting Approach 5
Table 2: Propel's Construction Approach.....6
Table 3: Program Results 7
Table 4: Flex Fuel Vehicle Counts Near New Stations 8
Table 5: Carbon Reduction Forecast for a Propel Station 10
Table 6: Annual GHG Reductions from Two Stations 11
Table 7: Affordability–Renewable vs. Conventional Fuels 12

EXECUTIVE SUMMARY

The goal of The Low Carbon Fuel Infrastructure Investment Initiative II was to increase public access to lower carbon renewable biofuels by building ten renewable fuel filling stations termed "Clean Fuel Points." These clean fuel points distribute alternative fuels, primarily E85 ethanol. E85 is a blend of 85 percent fuel grade ethanol, made primarily from Midwestern corn feedstocks, and 15 percent gasoline.

In building the 10 stations, Propel's objective was to displace 3,234,000 gallons of petroleum and reduce 24,933 metric tons of greenhouse gas emissions when the stations were complete and operational.

The LCFI3 II development program had numerous phases, including identifying and establishing lease agreements for station locations, creating the design, engineering and permitting plans for the new equipment, engaging contractors to install the new equipment, opening the new stations, and marketing the new low carbon fuel products to the public and fleets. In addition, Propel Fuel managed the grant agreement with the CEC.

Propel's previous management team had set aggressive construction and expansion targets for new stations, but the lack of sufficient capitalization caused near bankruptcy. Propel's current management team faced significant financial challenges meeting those targets. Ultimately, Propel was only able to build two stations out the ten-station goal, one in Sacramento and the other in Ontario. Propel was reimbursed $146,020 out of the $1 million available from the grant. The first station in Sacramento opened in July 2014 and displaced 14,800 gallons of petroleum fuel through April of 2015. The second station in Ontario opened in April 2015.

The shortfall in the Low Carbon Fuel Infrastructure Investment Initiative II's buildout program was due to infrastructure financing challenges and market uncertainties facing the low carbon fuels industry. Propel was badly mis-managed from 2010 through 2013, obligating creditors to take control of the company to avoid bankruptcy. The creditors fired the board and hired new (original) management to stabilize the company and restore its solvency. The turnaround process is now complete, but it took approximately 16 months, during which time the company could not raise financing or execute the multi-station rollout strategy envisioned when Propel won the grant.

While there were challenges meeting the construction requirements of the grant program, there have also been areas of success. The volumes of renewable fuels sold through Propel stations are among the highest in the country, showing that California drivers are adopting low-carbon biofuels fuels at a high rate. Propel's customers purchased more than 8.8 million gallons of renewable fuels in 2014 and are choosing renewable fuels over 50,000 times/month.

CHAPTER 1:
Project Purpose and Approach

Project Purpose

The California Low Carbon Fuel Standard (LCFS) set an ambitious target for a 10 percent reduction in greenhouse gas emissions by 2020. In the LCFS's Initial Statement of Reasons, California Air Resources Board (ARB) modeling showed that significant reductions would come from a combination of lower carbon intensity (CI) fuels such as ethanol, biodiesel, and compressed natural gas. The California Energy Commission, recognizing the need for California to expand its network of low carbon fuel infrastructure, provided a solicitation to support companies building renewable fueling stations.

Transportation emissions account for 40 percent of total greenhouse gas (GHG) emissions in California, mostly from passenger vehicles. At the start of this project, there were approximately 1 million Flex Fuel Vehicles (FFVs) in California, but less than 100 publicly accessible E85 filling stations. FFV's tend to be larger passenger vehicles, including mini vans, sports utility vehicles and pickup trucks. There are few electrification options for this class of passenger vehicles and trucks, making renewable biofuels one of the few affordable options to reduce carbon emissions from this class of vehicles.

The purpose of the Low Carbon Fuel Infrastructure Investment Initiative II (LCFI3 II)[1] was to build 10 renewable fuel filling stations or Clean Fuel Points to distribute lower carbon E85 to the public. Propel planned to build Clean Fuel Points in areas supporting high densities of Flex Fuel Vehicles.

Propel's objective with the 10-station project was to displace 3,234,000 gallons of petroleum annually and reduce greenhouse gas emissions by nearly 25,000 metric tons. Propel also planned to create 60 direct and indirect jobs to stimulate California's economy.

Propel's LCFI3 II program had several components. This chapter outlines Propel's approach in each of these areas.

- The Clean Fuel Point approach
- Permitting approach
- Construction approach

1 Propel's initial Low Carbon Fuel Infrastructure Investment Initiative was a 75-station project jointly funded by the CEC and U.S. DOE under grant ARV-09-006 in 2009.

The Clean Fuel Point Approach

The Clean Fuel Point (CFP) business model enables Propel to establish contracts with existing petroleum station owners, and co-locate Propel-owned, and operated renewable fuel infrastructure at their location. This business model efficiently leverages existing properties, and provides station owners a new customer base and profit stream through revenue sharing and rent.

Figure 1: Example of Clean Fuel Point Location

Photo credit: Propel Fuels

Clean Fuel Points are also established via Branded Supply Agreements (BSA). BSAs enable 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 build costs directly. Once the project was complete Propel submitted invoices for reimbursement under the grant, ultimately reimbursing the station owner.

Figure 2: Example of Branded Supply Agreement Location

Photo credit: Propel Fuels

Permitting Approach

Propel's approach to permitting involved a comprehensive planning process. Table 1 outlines this planning process.

Table 1: LCFI3 II Permitting Approach

Steps	Description	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 ft^2 etc.
3	Construction Documents (Plans)	Minimize timeframe from design to plans (2 weeks)
4	Plan check	Follow up with agency
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

Steps	Description	Approach
		through process
8	Construction	Start construction ASAP, within two weeks of pulling permits

Source: Propel Fuels

Construction Approach

Propel works with project management companies to design and implement strict program guidelines. Table 2 lists the major steps in the construction process.

Table 2: Propel's Construction Approach

Weeks 1-2	
Perform demolition and excavation	Perform soils sampling
Cut lines and re-pipe	Test and back fill/ resurface
Dig New Tank Pit	Shoring
Backfill tank top	Soil samples
Weeks 2-3	
Install turbines	Install new tanks
Prep Trench and digging	Remove Shoring
Install Penetrations	Install new sumps
Install Electrical	Install UDC
Electrical Inspection	Install Piping
Weeks 3-6	
Primary Inspection	Secondary 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 Display/wiring /plumbing
AQMD Testing	Final ELD
Fuel Drop when ELD report complete	Clean up

Source: Propel Fuels

CHAPTER 2:
Program Activities and Results

Project Objectives

The Statement of Work for this grant identifies the key objectives for the project. This chapter outlines the results of the program based on these objectives.

- Install alternative fuel infrastructure at ten (10) public petroleum fueling sites to distribute E85 fuels;
- Supply low carbon domestically-produced ethanol in regions throughout California that support high densities of FFVs, owned and operated by both the private and public sectors;
- Work with the largest state, federal, and business fleets to meet advanced technology vehicular fueling needs and to maximize mandated and elected alternative fuel use;
- Displace approximately 3,240,000 gallons of petroleum annually;
- Establish a platform for second-generation fuel distribution, such as cellulosic ethanol, biobutanol and/or synthetic gasoline made from sustainable and renewable feed stocks;
- Create over 60 direct and indirect jobs through the design, build, and operation of a statewide network of sites with alternative fuel infrastructure; and
- Displace approximately 24,933 tons of greenhouse gas emissions annually.

Install Alternative Fuel Infrastructure at Ten Public Petroleum Sites to Distribute E85 Fuels

Propel's previous management team set aggressive expansion targets that ultimately failed due to insufficient capitalization. Lack of sufficient capitalization affected the new Propel management team as well. Ultimately, Propel was able to build only two stations of the ten specified in the grant. Propel submitted invoices for the two stations and was reimbursed $146,020 of the $1 million available under the grant.

Table 3: Program Results

Station	Type	Address	Fuels offered	Open Date
1	BSA/CFP	1515 South River Road Sacramento, CA 95691	E85	June 2014
2	CFP	1850 East Holt Ave, Ontario, CA 91716	E85, B20	April 2015

Source: Propel Fuels

Figure 3: River Road Sacramento Location Construction

Photo credit: Propel Fuels

Siting Propel Stations in California Regions with High Densities of Flex Fueled Vehicles

To maximize potential sales, Propel sought to locate Clean Fuel Points in areas with high concentrations of FFVs. Potential locations needed to have a strong residential base in the immediate trade area (2-3 miles, 6 minute drive) with Flex Fuel Vehicle registrations above 2,000.

Table 4: Flex Fuel Vehicle Counts Near New Stations

Step	Type	Address	Flex Fuel Vehicle Registrations
1	BSA/CFP	1515 South River Road Sacramento, CA 95691	6 min Drive Time: 3,557 9 min Drive Time: 7,616
2	CFP	1850 East Holt Ave, Ontario, CA 91716	6 min Drive Time: 1,543 9 min Drive Time: 5,789

Source: Propel Fuels

Work with State, Federal, and Business Fleets to Maximize Alternative Fuel Use

Propel's network serves a large base of fleet customers across the state. For these customers, renewable fuels provide a cost-effective solution to government requirements to reduce petroleum consumption. In the public sector, Propel's renewable fuel infrastructure enables government fleets to comply with federal mandates encouraging the adoption of renewable fuels. To date, the U.S. Postal Service, the Armed Forces, Veteran's Affairs, the California Department of Transportation and the State of California are among those public fleets filling with Propel's renewable fuels.

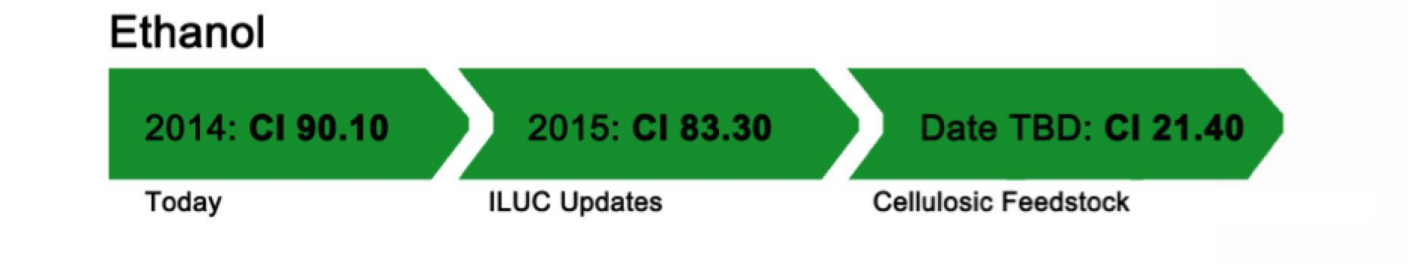
Displace Approximately 3.2 Million Gallons of Petroleum Annually

As of May 2015, the Sacramento and Ontario stations will displace approximately 280,000 gallons per year. Propel expects these stations to perform as others in the network, reaching approximately 480,000 gallons per year at maturity. This infrastructure will remain in service for an estimated period of 10 years, multiplying the effect of the investment, resulting in 4.8 million gallons of petroleum displacement.

Create a Distribution Network for Second Generation Biofuels

Next generation biofuels like cellulosic ethanol, renewable gasoline and renewable diesel have significantly lower carbon intensity values than first generation biofuels using food-based feedstocks like corn and soybeans. These low carbon intensity fuels are directly compatible with Propel's installed station network under its long-term operating contracts. Figure 4 shows the expected decline in ethanol carbon intensity values with waste-based feedstocks and cellulosic processing technologies.

Figure 4: Decline in Carbon Intensity Values with Cellulosic Process Technologies



Source: Propel Fuels

The impact of these lower CI, next generation fuels on carbon reduction at Propel stations can be illustrated at the individual station level in future years. Table 5 compares Propel's per-station carbon reduction actuals in 2013 to forecasted carbon reductions in 2016 and 2020.

Table 5: Carbon Reduction Forecast for a Propel Station

Year	Gallons/Station (Year)	Number of FFVs in CA	E85 gCO2e/gal	Ethanol Carbon Intensity gCO2e/MJ*	Per Station Annual CO2e Reduction (MT)
2013	213,998	629,000	8,020	90.3	82
2016	235,933	~900,000	8,020	88.3	90
2020	**301,118**	**~1,200,000**	**3,260**	**21.4**	**259**

* The standard metric for measuring the carbon intensity of transportation fuels is grams of CO2–equivalent per Mega joule of energy.

Multiple U.S. energy companies are making progress developing cellulosic ethanol production facilities:

- Project Liberty in Iowa: 25 million gallons annually of bio-ethanol, which started in September 2014
- Indian River BioEnergy Center in Florida: produces 8 million gallons of cellulosic ethanol per year from municipal waste.
- Dupont 2015: 30 million gallon cellulosic ethanol biorefinery opened in Nevada, Iowa.
- Abengoa: cellulosic ethanol plant in Hugoton, Kansas to produce up to 25 million gallons per year.

Displace Approximately 24,933 Tons of Greenhouse Gas Emissions Annually.

The carbon intensity values of California's fuels are constantly in flux. At the time of the grant solicitation and application, the carbon intensity of the E85 fuels marketed under LCFI3 II had not yet incorporated Indirect Land Use Change (iLUC) scores. The CI scores at that time yielded a net carbon savings of 6.8 lbs/gal of E85. The net carbon savings based on this calculation should have been calculated at 9,996 MT of greenhouse gas emissions annually (not 24,933 outlined in the SOW).

Today, the carbon intensity of the E85 fuel marketed under LCFI3 II provides a net carbon savings of 1.28 lbs/gal. Considering this updated CI measurement, the stations built under this program will provide approximately 361,000 lbs (164 MT) of annual GHG reductions as of May. This infrastructure will remain in service for an estimated period of 10 years, resulting in 2,436 metric tonnes of total greenhouse gas displacement. See Table 6.

Table 6: Annual GHG Reductions from Two Stations

Station	Locations	Annual GHG reductions (May)	Annual GHG reductions (at maturity)	10 year GHG Reductions
1	Sacramento	361,000 lbs (164 MT)	537,000 lbs (279 MT)	5.4 million lbs (2,436 MT)
2	Ontario			

Source: Propel Fuels

CHAPTER 3:
Public Assessment

Public Assessment of the Project

To assess the impact of these fuels on the communities they serve, Propel conducted a customer study in May 2014 at Propel stations in Ontario & Fresno, California, interviewing over 200 customers. This study set out to identify how customers perceived and valued the benefits of renewable fuels in comparison to conventional gasoline. The study also generated a profile of customers adopting renewable fuels. The outcomes of this study help assess the success of this program from the public's perspective.

Affordability

The renewable fuels evaluated in Propel's customer study appear to offer the highest value proposition of any fuels available in the state. Of Propel customers, 79 percent report seeing a better value with lower carbon fuels than with petroleum, while 95 percent describe the value as the same or better.

Table 7: Affordability–Renewable vs. Conventional Fuels

BETTER VALUE than conventional petroleum	79 percent
SAME VALUE as conventional petroleum	16 percent
SAME or BETTER VALUE than conventional petroleum	**95 percent**

Source: Propel Fuels

Commitment to Using Renewable Fuels

Study results show a strong commitment to the fuels, as shown by the level of repeat business from customers. Based on Propel's survey, customers are filling with renewable fuels 75 percent of the time, approximately 3 times out of 4 visits to the pump each month. In addition, 59 percent of customers surveyed fill exclusively with lower-carbon fuels, meaning more than half of these consumers no longer use conventional petroleum.

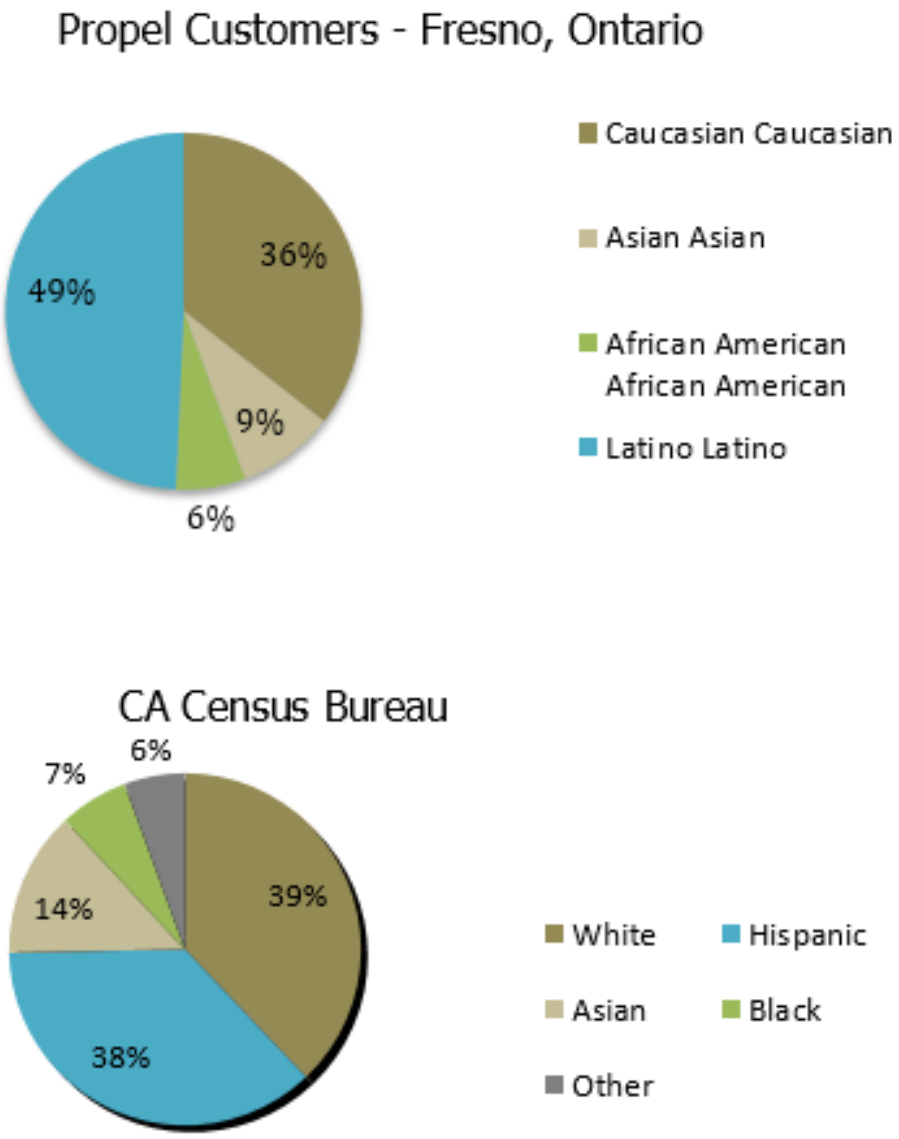
Payment Method

Just 31 percent of customers used credit cards when selecting a payment method for renewable fuels. The most used method of payment was debit cards with 41 percent, and cash at 28 percent. This illustrates the importance of alternate payment methods beyond credit cards for low carbon fuel adoption.

Demographics

Propel's customer surveys revealed that the community of renewable fuel customers is diverse in ethnicity, and represents the make-up of the population of California. The LCFI3 II program appears to offer renewable fuels at a price point that is accessible to drivers of every economic background.

Figure 5: Propel Customer Ethnicity - Customer Study 2014



Source: Propel Fuels

CHAPTER 4:
Program Challenges, Observations and Recommendations

Program Challenge: Infrastructure Financing

Company Management Challenges: Propel was badly mismanaged from 2010 through 2013, leading to creditors taking control of the company in order to avoid bankruptcy. Lenders fired the board, and hired new (original) management to put the company back on track to deliver on its mission and obligations to the state and its grant-making authorities. The turnaround process is now essentially complete, but it took approximately 16 months, during which time the company was un-financeable and unable to execute on the rollout strategy it had contemplated when the award was granted.

The market uncertainties discussed below created a challenging financing environment for the entire clean transportation sector, resulting in the failure of multiple electric vehicle, clean fuel and biofuels companies.

Program Challenge: Market Uncertainties

The U.S. EPA has delayed issuing its guidance for RVO volumes under the Renewable Fuels Standard (RFS2), creating risk for those financing the infrastructure. As of April 2015, it had not finalized rulemaking for 2015, let alone for 2014. This introduced a great deal of uncertainty and risk for investors in E85 fueling infrastructure. Federal Renewable Identification Number (RIN) credits generate over 50 percent of the revenues to Propel and its investors. Uncertainty with U.S. EPA's management of the RFS2 program have greatly delimited sources of matching capital.

California's LCFS has been delayed during litigation challenges. The litigation has resolved and new LCFS carbon reduction targets have been established. The LCFS is targeted for re-adoption in June of 2015.

In January of 2015, California extended its Carbon Cap&Trade regulation to include transportation fuels. This has recently improved the economics for E85.

In addition, the fall in the price of oil by approximately 50 percent since the middle of 2014 has compressed the spread between gasoline and ethanol, making wholesale purchasing and retail pricing (which is discounted for the lower energy density of E85 relative to gasoline) challenging in the mid-term. This additional margin compression has further increased the nervousness of investors in E85 fueling infrastructure.

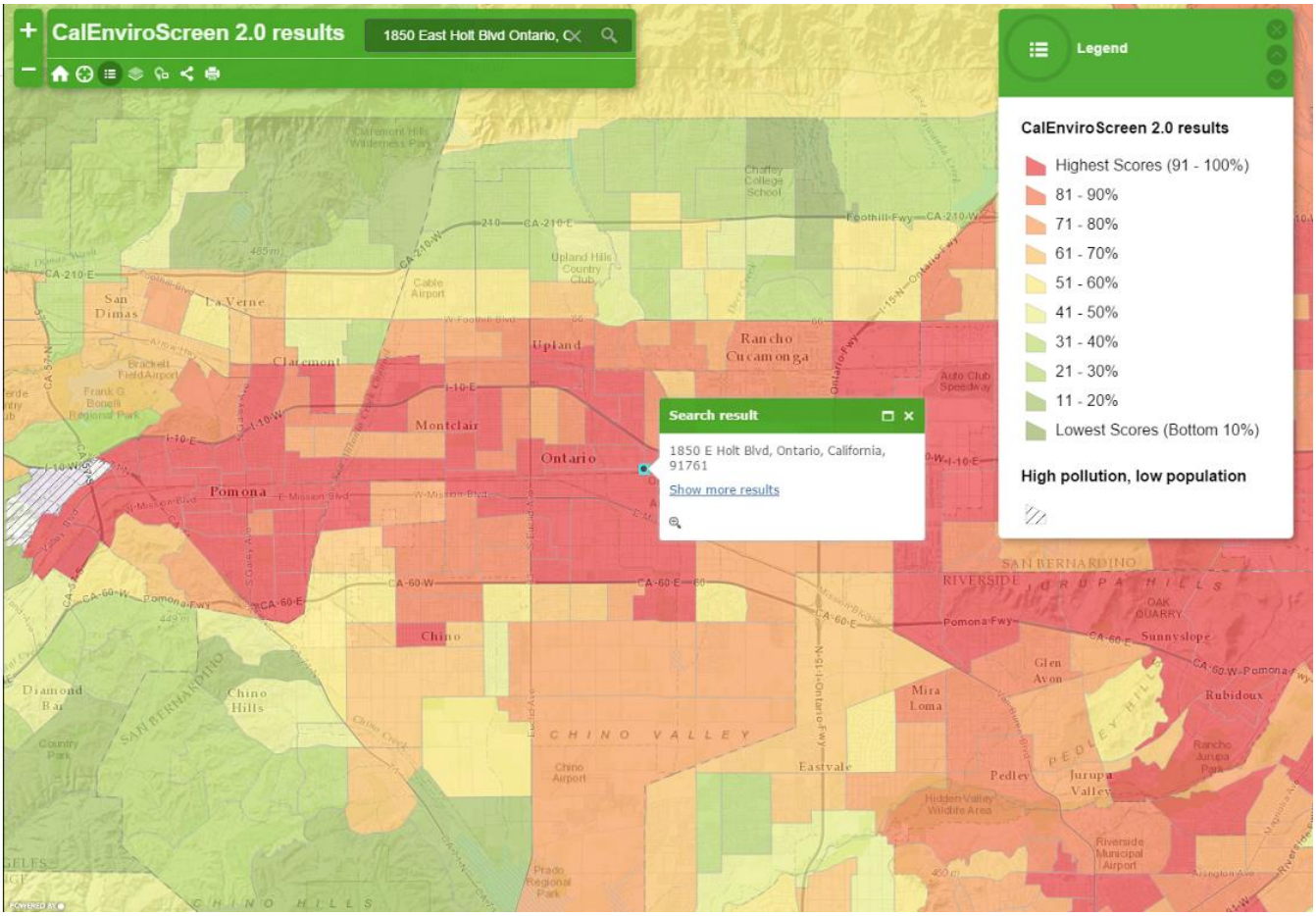
Overall, the financing market for E85 and all low carbon fuels appears to be improving based on stabilization of California's carbon regulatory framework.

Serving Disadvantaged Communities

The California Environmental Protection Agency (CalEPA) has defined specific geographic areas as disadvantaged communities (DACs) based on socioeconomic, public health or environmental concerns. Based on the demographic profile of Propel's customers and existing top performing sites, Propel has found that these areas possess tremendous potential for successful adoption of lower-carbon renewable fuels.

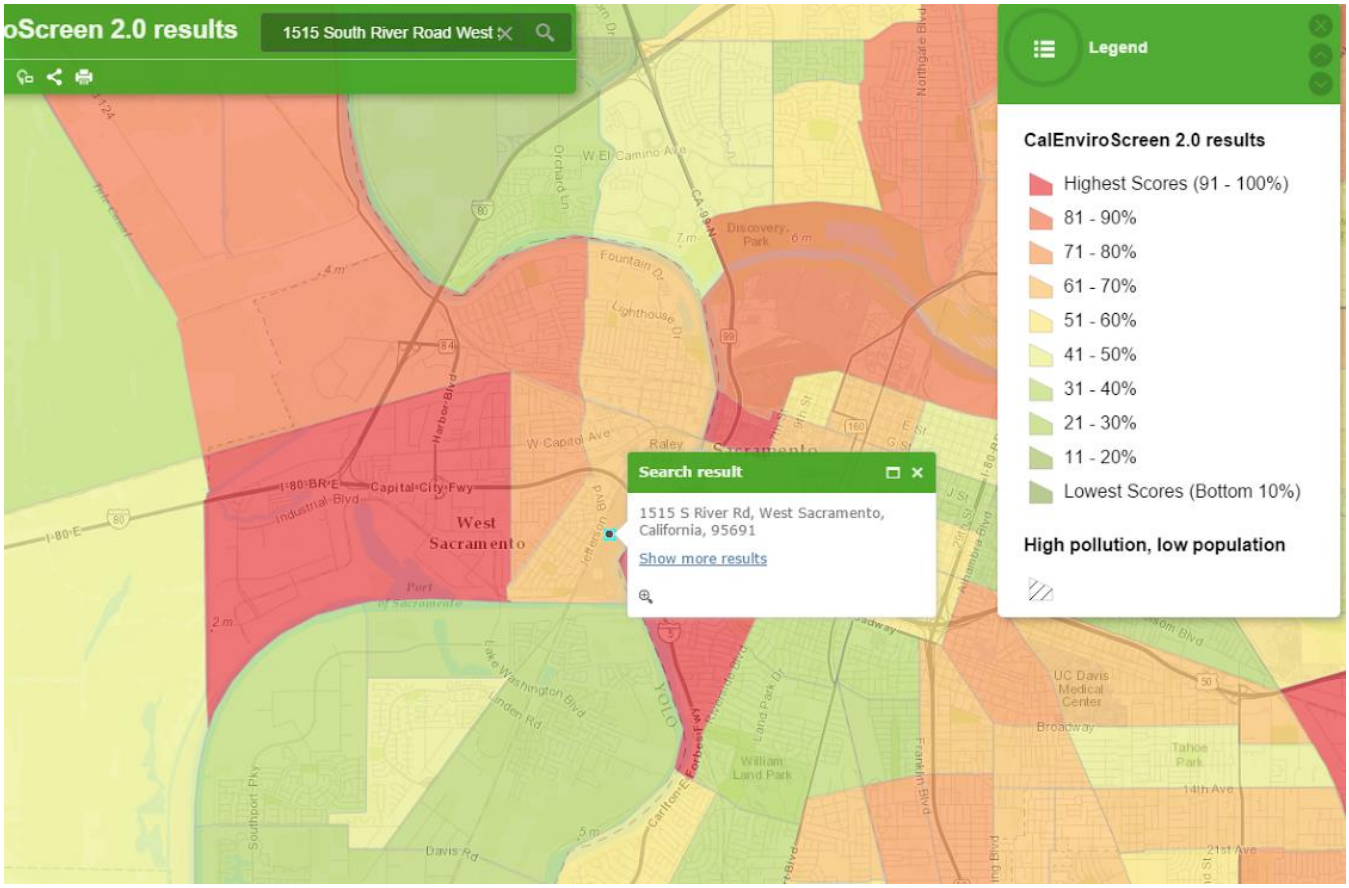
The following diagrams show overlap between the stations built under LCFI3 II and CalEPA Disadvantaged Communities, which are impacted by high transportation costs and poor air quality.

Figure 6: Ontario Station Location Relative to CalEPA DACs



Source: Propel Fuels, based on CalEPA data

Figure 7: River Road Station Location Relative to CalEPA DACs



Source: Propel Fuels based on CalEPA data

Many of Propel's highest-performing sites are located in CalEPA Disadvantaged Community regions. E85 and advanced diesel pumps in the rural, industrial, and working family-centric regions of Fresno, Ontario, and Harbor City are selling 25,000 to 40,000 gallons of renewable fuels per month to consumers from a broad variety of backgrounds and socioeconomic status. Propel recommends additional investment in these geographic areas.

Propel believes that access to affordable, low-carbon transportation in San Joaquin Valley and Inland Empire is critical. Improved renewable fuel infrastructure, coupled with access to affordable FFVs, is an immediate solution.

Vehicle Access & Affordability

California is now home to more than 1,000,000 Flex Fuel vehicles, representing the largest alternative fuel compatible vehicle fleet in the State. Unlike the concentrations of plug-in electric and hybrid vehicles that are found in the State's most populated and wealthier metropolitan areas, FFVs can be found in abundance in lower-income and rural communities throughout the state, from the San Joaquin Valley to the Inland Empire. Demand for FFVs is increasing. In a November 2013 survey conducted by the National Association of Convenience Stores (NACS), 62 percent of consumers would consider buying a FFV in the next 10 years.

There is also a wide variety of FFV makes and models. 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 at a much lower cost than other vehicles compatible with lower carbon fuels.

Based on these factors, Propel believes that expanded use of E85 in California's one million FFVs can make meaningful contributions to meeting the state's carbon reduction goals.

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 grown, 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 transesterfication 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.[2]

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY (Cal/EPA) -- 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 ENVIRONMENTIAL 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

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2 California Department of General Services (https://www.dgs.ca.gov/)

Office of the State Fire Marshal, the State Water Resources Control Board, and the California Environmental Protection Agency.[3]

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.[4]

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).[5]

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 know 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

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3 California Environmental Protection Agency website, Unified Program description (https://calepa.ca.gov/cupa/)

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

5 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 (GHG) -- 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.[6]

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

6 San Joaquin Valley Air Pollution Control District (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.[7]

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.

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