

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-14-603 – Zero Emission Vehicle Readiness



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ENERGY COMMISSION

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The *ARB Air Quality Improvement Program (AQIP) Guidelines*, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The *AQIP Guidelines* require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the project proposers or as determined by Energy Commission staff. Appendix A, *Localized Health Impact Report Assessment Method*, describes the analysis used for this report.

Keywords: Air pollution, air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), fuel cell electric vehicle (FCEV), greenhouse gas emissions (GHG), zero emission vehicle (ZEV)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this *Localized Health Impacts Report* describes the alternative fuel infrastructure projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts a readiness plan¹ may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The projects in this *Localized Health Impacts Report* are assessed for their location in nonattainment zones for ozone, particulate matter (PM) 2.5 and PM 10. It is not anticipated that implementation of these readiness plans will result in a net increase in criteria and toxic emissions in those communities considered most vulnerable. Potentially, the readiness plans stand to result in cleaner air through ZEV acceptance and use.

¹ “Readiness plans” prepare local and regional public entities for alternative fuel vehicles.

CHAPTER 1:

Projects Proposed for Funding

On September 9, 2014, the California Energy Commission released competitive Grant Solicitation PON-14-603, titled “Zero Emission Vehicle (ZEV) Readiness” under the Alternative and Renewable Fuel Vehicle Technology Program (ARFVTP). This grant solicitation was an offer to fund projects that support new and existing planning efforts for plug-in electric vehicles (PEVs).

On January 16, 2015, the California Energy Commission posted the Notice of Proposed Awards (NOPA) for PON-14-603, resulting in eight projects proposed for funding. This *Localized Health Impact Report* assesses and reports on the potential localized health impacts of the proposed projects. Table 1 lists the projects and the environmental justice (EJ) indicators as defined in Appendix A.

**Table 1: Proposed Projects With EJ Indicator(s)
Listed in the Order of the NOPA for PON-14-603, “Zero Emission Vehicle (ZEV) Readiness”**

Applicant	Project Name	Project Address	EJ Indicator(s)
Redwood Coast Energy Authority	North Coast Plug-in Electric Vehicle Readiness Plan Implementation Project	633 3rd Street, Eureka California 95501	Poverty
San Diego Association of Governments	San Diego Regional PEV Readiness Plan Implementation	401 B Street, Suite 800, San Diego, California 92101	Poverty
South Bay Cities Council of Governments	EVCS Siting and Installation Process in the South Bay Cities	20285 South Western Avenue, Suite 100, Torrance, California 90501	Minority and Age
Santa Barbara County Air Pollution Control District	Tri-County Hydrogen Readiness Plan	260 North San Antonio Road, Suite A, Santa Barbara, California 93110	Minority and Age
San Joaquin Valley Air Pollution Control District	Implementation of ZEV Awareness and Training Programs in the San Joaquin Valley	1990 East Gettysburg Avenue, Fresno, California 93726	Poverty, Age, Minority, and Unemployment
City of Corona	“Ready, Set, Plug-in” – PEV Readiness Activities in Corona, CA	755 Public Safety Way, Corona, California 92880	Minority
City and County of San Francisco	Neighborhood MUD Charging Solutions Project	1455 Market Street, Suite 1200 San Francisco, California 94103	Age
City and County of San Francisco	Fuel Cell Electric Vehicle Fleet and Infrastructure Planning for San Francisco	1455 Market Street, Suite 1200 San Francisco, California 94103	Age

Source: California Energy Commission staff analysis

Redwood Coast Energy Authority

North Coast PEV Readiness Plan Implementation

This project will implement strategies from the “North Coast PEV Readiness Plan.” It will include Humboldt, Del Norte, and Trinity Counties. The activities will include seeking guidance of the North Coast PEV Coordinating Council.

San Diego Association of Governments

San Diego Regional PEV Readiness Plan Implementation

This project will implement recommendations from the “San Diego Regional PEV Readiness Plan” and further regional deployment of PEVs and infrastructure through a combination of resource development, training, technical assistance, and outreach for San Diego County.

South Bay Cities Council of Governments

EVCS Siting and Installation Process in the South Bay Cities

This project will consist of outreach to multiunit dwelling owners and homeowners’ associations in Los Angeles County with the greatest potential for tenant demand for electric vehicle charging station installations.

Santa Barbara County Air Pollution Control District

Tri-County Hydrogen Readiness Plan

This project will prepare a readiness plan for a hydrogen infrastructure in Santa Barbara, Ventura, and San Luis Obispo. It will result in a “Hydrogen Station Installation Manual” for municipalities (permitting) for hydrogen refueling stations.

San Joaquin Valley Air Pollution Control District

Implementation of ZEV Awareness and Training Programs in the San Joaquin Valley

This project will include surveys, workshops, trainings, webinars, and “ride and drives.” It will provide websites, Web portals, and hotlines. The effort aligns with the San Joaquin Valley PEV Readiness Plan; it will support PEV awareness and promotion, streamlining permitting, inspection, and installation.

City of Corona

“Ready, Set, Plug-in” – PEV Readiness Activities in Corona

This project will support expanding EV infrastructure; it will include the construction of nine EV charging stations (EVCSs) at three sites to meet the growing number of registered EVs. It will increase the awareness of EVCS locations and cost. The project will develop residential EVCS installation processes, evaluate the electricity rate structures, and analyze overall infrastructure readiness.

City and County of San Francisco

Neighborhood MUD Charging Solutions Project

This project will accelerate EV adoption by the residents of multifamily building (MUDs) in San Francisco through a neighborhood-based approach to charging.

City and County of San Francisco

Fuel Cell Electric Vehicle (FCEV) Fleet and Infrastructure Planning

This project will plan activities for FCEV trials in proposed San Francisco city and county fleets. It will also support private consumer use of FCEVs.

CHAPTER 2: Approach

The Localized Health Impact Report Assessment Method (Appendix A) assesses communities potentially impacted by air pollution and benefitted by the proposed readiness plans. The California Air Resources Board (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to identify low-income communities highly impacted by air pollution.² Other resources are the *California Infrastructure State Implementation Plans*,³ which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*⁴.

For this *LHI Report*, the Energy Commission interprets “permits” to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Readiness plan implementation has the potential of requiring permits. For air permits, local air districts conduct a New Source Review (NSR) to determine emission impacts. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial-level permits in this report.

The communities potentially impacted by ZEV readiness plans are in PM 10 nonattainment zones. Table 1 shows the EJ indicators for the seven cities: one has four EJ indicators, two have two EJ indicators, and the remaining have one. The high-risk communities, according to the Environmental Justice Screening Method (EJSM) described in Appendix A, are Fresno, Santa Barbara, and Torrance. Table 2 lists the ethnicity, age, and income data for the city/community addresses in the readiness plans.

2 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

3 <http://www.arb.ca.gov/planning/sip/sip.htm>.

4 <http://www.epa.gov/oaqps001/greenbk>.

CHAPTER 3: Summary

The anticipated benefit from implementing the readiness plan projects for the people who live in the cities and the surrounding communities is highly likely, if not certain, to be positive. The readiness projects will develop and implement regional readiness plans for the deployment of zero-emission vehicles. The Energy Commission expects that air quality will improve over time where the readiness plans are proposed along with the net benefit to California.

Table 2: EJ Indicators Compared With California

Yellow highlighted areas indicate numbers (percentages) that meet the definition of EJ indicators. Demographics are based on the project city and the counties/ regions are listed as reference.

	Below Poverty Level (2009-2013)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (December 2014)
California	15.3	6.2	1.0	13.0	37.6	6.8	11.4	7.0
		>30	>30	>30	>30			
Corona	10.8	5.9	0.8	9.9	43.6	7.4	7.3	5.4
Eureka (Counties: Del Norte, Humboldt, and Trinity counties)	23.8	1.9	3.7	4.2	11.6	6.1	11.8	6.9
Fresno (San Joaquin Valley)	28.9	8.3	1.7	12.6	46.9	8.9	9.3	10.3
San Diego (County: San Diego)	15.6	6.7	0.6	15.9	28.8	6.2	10.7	5.2
San Francisco City and County	13.5	6.1	0.5	33.3	15.1	4.4	13.6	3.8
Santa Barbara (Counties: Santa Barbara, San Luis Obispo, and Ventura)	14.0	1.6	1.0	3.5	38.0	5.5	14.2	4.0

	Below Poverty Level (2009-2013)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (December 2014)
California	15.3	6.2	1.0	13.0	37.6	6.8	11.4	7.0
		>30	>30	>30	>30			
Torrance (County: Los Angeles)	7.4	2.7	0.4	34.5	16.1	5.2	14.9	3.6

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133> and Age / ethnicity demographics, U.S. Department of Census: <http://quickfacts.census.gov>.

CHAPTER 4:

Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Compressed natural gas (CNG)

Electric vehicle (EV)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Greenhouse gas (GHG)

Localized health impact (LHI)

New Source Review (NSR)

Notice of Proposed Awards (NOPA)

Particulate matter (PM)

Plug-in electric vehicle (PEV)

Program Opportunity Notice (PON)

Zero-emission vehicle (ZEV)

APPENDIX A:

Localized Health Impact Report Assessment Method

Based on the Energy Commission's interpretation of the *California ARB AQIP Guidelines*, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review process. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify readiness plan projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.⁵

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

⁵ California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010*. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high-risk communities, environmental justice (EJ) indicators for locations of ZEV readiness implementation are compared to data from the U.S. Department of Census or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high-risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having one or more of the following EJ indicators; (1) minority, (2) poverty, (3) unemployment; and/or (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
 - A minority subset represents more than 30 percent of a given city's population. [MINORITY]
 - A city's poverty level exceeds California's poverty level. [POVERTY]
 - A city's unemployment rate exceeds California's unemployment rate. [UNEMPLOYMENT]
 - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California. [SENSITIVE POPULATIONS – AGE]