

San Joaquin Valley Regional Industry Clusters of Opportunity-II Project

**Final Report
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Executive Summary

The San Joaquin Valley (SJV) RICO-II project has enabled the region to more effectively coordinate its collective efforts around increased deployment and adoption of alternative fuels and vehicles, with the ultimate goal of improving the air quality of the eight-county region. The process was guided by a dedicated Action Team of organizations whose goal was to engage public and private sector stakeholders in a strategic planning process that identified opportunities for alternative fuels and vehicle growth, defined requirements for capitalizing on opportunities, and prioritized actions for future investments.

The RICO-II project began with three focus areas (biofuels, electric vehicle, and natural gas) but soon discovered that commitment and momentum was highest among those associated with the development of the San Joaquin Valley Electric Vehicle Partnership (SJVEVP). Over the course of its four employer meetings, the SJVEVP counted with the participation of representatives from 39 companies, 22 public agencies, and 13 community partners. The SJVEVP is focusing its efforts on expanding the EV market, required EV infrastructure, and ensuring that a new generation of employees is being trained to service EVs and EVSE in the San Joaquin Valley.

The project has also been successful in attracting additional investments to support the regional efforts it's launched. The Energy Commission issued the project and additional \$146,999 to support, among other things, the continued coordination of the SJVEVP and implementation of EV modules at high school campuses throughout the region. Nissan also issued \$16,000 to regional partners to supplement the Energy Commission's investment. Nissan's investment will support activities outlined in the Cluster Investment Strategy, including EV market development and a marketing campaign for the SJVEVP. Six new jobs will be dedicated by the San Joaquin Valley Clean Cities Coalition (two) and SJVEVP member Schneider Electric (four) to furthering EV market development activities under the SJVEVP.

Introduction & Selection of RICO-II Industries

The San Joaquin Valley (SJV) is an eight-county region within Central California that consistently has some of the worst air quality in the United States. The region is home to 4 of the nation's top 5 metropolitan areas with the highest levels of year-round particle pollution¹. Residents in the SJV travel more miles per year in their vehicles (5,026) than anywhere else in California². In 2011, the SJV exceeded state 8-hour ozone standards on 131 days; 6 more days than the Greater Los Angeles Air Basin³. As a result of poor air quality, 17.3 percent of the region's total population had been diagnosed with asthma in 2009⁴. In an effort to reduce greenhouse gas emissions, public agencies and private companies have joined forces to collectively advance deployment and adoption of alternative fuels and vehicles in the San Joaquin Valley through the Regional Industry Clusters of Opportunity-II (RICO-II) project.

RICO-II was an initiative of the California Energy Commission (Energy Commission), California Workforce Investment Board (State Board) and the Employment Development Department (EDD), which promoted development of alternative and renewable fuel and vehicle technologies (ARFVTP) in regions throughout California. In the San Joaquin Valley, the RICO-II project has targeted the need for additional market development, infrastructure implementation, and workforce training to supply a growing demand in the region for alternative fuels and vehicles.

The RICO-II project's focus began with three alternative fuel and vehicle sources—biofuels, electric vehicles (EV), and natural gas (NG)—based on growth trends and underlying assets for these industries within the region. In the electric vehicle industry, for example, there is a vast, virtually untapped consumer market. While the region is home to over 4 million residents⁵ only 1,156 rebates from the state's Clean Vehicle Rebate Project had been issued for electric vehicle purchases between March 2010 and June 2014.⁶

Through the RICO-II process, the San Joaquin Valley action team convened businesses and community/public stakeholders in all three alternative fuel and vehicle industries to understand opportunities and challenges facing regional employers in these industries. Ultimately, the San Joaquin Valley action team chose to proceed with development of formal clusters focused on EV and NG industries, due to higher engagement levels from regional businesses. Although biofuels are no longer a primary focus area of the RICO-II project, they could be explored as opportunities emerge in the future.

Description of RICO-II Process

Formation of Action Team

A strategic group of partners participated in the San Joaquin Valley action team. Action Team members included:

¹ American Lung Association, State of the Air, 2014.

² California Department of Transportation, 2011.

³ California Air Resources Board, 2011.

⁴ California Health Interview Survey, 2009.

⁵ U.S. Census Bureau

⁶ Clean Vehicle Rebate Project, California Center for Sustainable Energy, 2014.

- Office of Community and Economic Development at Fresno State (OCED), as the lead convener and facilitator of the action team;
- San Joaquin Valley Clean Cities Coalition (SJVCCC) for its historic contributions to the region's efforts in advancing deployment and adoption of alternative fuels and vehicles;
- San Joaquin Valley Clean Energy Organization (SJVCEO) for its participation in regional renewable energy initiatives;
- Kern Community College District (KCCD) for the workforce training activities conducted by its 21st Century Energy Center;
- Kern Economic Development Corporation for its leadership role in organizing renewable energy interests in Kern County; and,
- San Joaquin Valley Air Pollution Control District (SJV APCD) for its role in incentivizing the adoption of alternative fuels and vehicles in the San Joaquin Valley.

Use of Diagnostic

Members of the Action Team narrowed the scope of the project's technology focus areas by reviewing the findings of the San Joaquin Valley Advanced Transportation Diagnostic Package, prepared by Collaborative Economics in September 2013, and discussing on-the-ground knowledge of trends and opportunities in ARFVT industries. During the initial Action Clinic the Action Team identified Biofuels, Electric Vehicles and Natural Gas as focus areas of the project.

Collaborative Priority-Setting Meetings

To optimize engagement of cluster businesses, the Action Team decided to divide the San Joaquin Valley in three and host an employer meeting in each sub-region. The goal was to host initial employer meetings in sub-regions where the presence of a specific technology was already prevalent. The EV meeting was assigned to the Northern San Joaquin Valley because of the existing EV ecosystem that demonstrates signs of growth, particularly due in part to its proximity to Silicon Valley and the Sacramento Region. The initial Natural Gas employer meeting was assigned to the Southern San Joaquin Valley because of the penetration it had achieved into the sub-region's commercial fleet market, as reported by members of the Action Team. The Central San Joaquin Valley was assigned the initial Biofuels employer meeting because of the presence of various pilot projects and feedstock growers within the sub-region.

Between December 2013 and April 2014, the Action Team hosted three launch meetings for companies and community stakeholders in the Natural Gas (December 12th), Biofuels (February 28th) and Electric Vehicle (April 3rd) clusters, in which businesses identified and prioritized key requirements for their industries to grow, and volunteered to champion these efforts. The Action Team subsequently hosted follow-up phone meetings with the Natural Gas (January 27th) and Electric Vehicle (May 16th) clusters to flesh out goals and identify more specific metrics and action areas. The Biofuels cluster had lower levels of employer commitment emerging from the launch meeting, and was discontinued as an effort of RICO-II.

Electric Vehicle Opportunities & Requirements

During the San Joaquin Valley Electric Vehicle Partnership (SJVEVP) launch meeting, businesses identified a list of growth opportunities within the region, including:

- 1) Improving return on investment/profit for EV buyers;
- 2) Tapping into uninformed existing markets;
- 3) Shifting environmental awareness; and
- 4) Increasing investment in EV charging infrastructure.

Businesses also identified key requirements to capitalize on that growth opportunity in the region, including:

- 1) Developing the market, particularly by promoting incentives, and increasing opportunities to have first-hand experience with EVs;
- 2) Expanding EV charging infrastructure, particularly among employers and major commute/travel corridors; and,
- 3) Enhancing talent, specifically training vehicle salespeople to more effectively promote EVs.

The following groups of industry representatives were interested in committing their time to working on these required action areas:

San Joaquin Valley Electric Vehicle Partnership Launch Meeting

Date: April 3, 2014

Location: San Joaquin Valley Air Pollution Control District (Modesto, CA)

Chaired by: Jeannie Lam, Nissan North America and Terry O'Day, NRG eVgo

Attendees: 35 private company representatives, 12 public agency representatives and 7 community partners in attendance; invited by action team members and a significant push by the co-chairs. Co-chair invites added legitimacy.

Special Notes: Included a showcase event where various electric vehicles and charging stations were on display.

Action Areas	Champions
Market Development	Jeannie Lam (Nissan), Terry O'Day (NRG Energy), Bob Riding (PG&E), Richard Lowenthal (Chargepoint), Becky Haupt (Phil Haupt Electric), Lloyd Pareira (APG Solar), Todd Harris (UC Merced), Karin Groth (UC Merced), John Clements (Consultant), Laura Boné (GreenTech Automotive), Eric Hamm (Razzari Auto Centers), Shyam Nagrani (Motiv Power Systems), Oliver Danner (Electric Car Pledge)
Infrastructure Enhancement	Jeannie Lam (Nissan), Terry O'Day (NRG Energy), Maryline Lewett (Schneider Electric), Robin Harp (SunPower), Melissa Holdaway (City of Riverbank), Erik Mason (Clipper Creek), Becky Haupt (Phil Haupt Electric), Ray Main (Ray Main Sales), Tim Reno (Central Valley Nissan)
Talent	Jeannie Lam (Nissan), Terry O'Day (NRG Energy), Marty Ferdani (Big Valley Ford), Dana Snell (Aeroenvironment), Maryline Lewett (Schneider Electric)

Following the launch meeting, the Action Team hosted a conference call in May and subsequent in-person meetings in June (Fresno), August (Bakersfield), and December (Stockton) 2014. Momentum for the SJVEVP remains very strong among industry and community partners with 46 business stakeholders engaged to some degree as of August 2014, in addition to 38 stakeholders from the public and non-profit sectors.

Since the launch meeting, participants have identified specific goals, progress metrics, key strategies and actions, and a sequence of activities in each action area. The planning process emphasized targeting early wins to demonstrate the worth of the SJVEVP and the effectiveness of public-private collaboration.

Key strategies discussed in each action area included the following:

- 1) For Market development, increasing business-to-business and business-to-consumer activities.
- 2) For infrastructure, establishing a baseline for existing charging infrastructure, promoting the development of new Electric Vehicle Supply Equipment (EVSE) at businesses, and developing and distributing best practice guidelines for EVSE permitting.
- 3) For talent strategies, training sales professions, increasing awareness of existing EV training, upskilling existing electrical workers, and expanding the availability of high school EV exposure.

Through the course of these discussions, a fourth action area was added to reflect the need to promote the existence and value of the SJVEVP through web presence, branding and social media. Immediate actions and early wins were also identified and included items in all 4 areas discussed at this meeting.

The SJVEVP has matured to a point where each action area has leadership, and groups are moving forward their initiatives. Action area leaders include Bill Williams (Market Development), Danny Murdock (Infrastructure), and David Teasdale (Talent). Overarching partnership chairs are Jeannie Lam of Nissan North America and Terry O'Day of NRG eVgo.

Natural Gas Opportunities & Requirements

Opportunities identified at the San Joaquin Valley Natural Gas Partnership (SJVNGP) launch meeting included:

- 1) Expanding markets, particularly into the agricultural industry;
- 2) Obtaining competitive fuel costs;
- 3) Technology innovations, particularly in the areas of delivery, production and engine capacities;
- 4) Public policy advocacy in the area of air quality; and
- 5) Expansion of infrastructure through collaboration.

San Joaquin Valley Natural Gas Partnership Launch Meeting

Date: December 12, 2013

Location: Kern County Superintendent of Schools (Bakersfield, CA)

Chaired by: Steve Anthony, Southern California Gas Company

Attendees: 9 private company representatives, 7 public agency representatives, and 10 community partner representatives; invited by Action Team members

Special Notes: Location was a natural gas fueling site to demonstrate how a private use fueling facility can be situated to offer access to the general public, including private commercial fleets.

Requirements to capitalize on identified opportunities included:

- 1) Increasing fueling station access;
- 2) Increasing workforce training programs; and,
- 3) Supporting inter-regional procurement.

A small group of industry members, interested in committing their time to working on these requirements emerged from the initial meeting. Listed as follows:

Action Areas	Champions
Infrastructure: Distribution & Storage	Steve Anthony, Ron Black, Mike Gomez, Will Gutilla, Blair Larson, Jay Thompson, Sam Townsend, Mike Vogel
Infrastructure: Station Access	Monty Cox, Scott Fieber, Richard Chapman (focus on Tejon Commerce Center)
Talent	John Clements, Jay Thompson, Sam Townsend
Procurement Support	Ron Black (focus on Biomethane), Blair Larson

Following the launch meeting, several stakeholders participated in a follow up conference call to characterize success for the areas of infrastructure development, particularly fuel distribution and storage; local talent pool enhancement; and procurement support.

After the conference call, participation in the SJVNGP diminished. Interest re-emerged in May 2014 from an employer who was interested in leveraging the RICO-II process to organize a Liquefied Natural Gas/Compressed Natural Gas (LNG/CNG) fueling facility in Stanislaus County that could be used by a number of private sector companies, including agricultural companies. While not as active as the SJVEVP, natural gas goals and activities remain a portion of the San Joaquin Valley's cluster investment strategy.

Biofuels Opportunities & Requirements

During the biofuels stakeholder meeting, the group collectively identified a range of opportunities for enhancing biofuels production and adoption in the region, including:

- 1) Expanding markets into military aircrafts/vehicles and commercial fleets;
- 2) Producing low-cost feedstocks; and
- 3) Influencing policies that affect low-carbon and renewable fuel standards.

Requirements to capitalize on these opportunities included:

- 1) Improving integration of the biofuel production value chain, including additional education on biofuels for end-users;

Biofuels Stakeholder Meeting

Date: February 28, 2014

Location: Craig School of Business at Fresno State (Fresno, CA)

Chaired by: Daryl Baltazar, Processes Unlimited (now Stantec) who also serves as the Chair of the San Joaquin Valley Clean Energy Cluster

Attendees: 13 private company representatives, 18 community partners; invited by action team members and walk-ins from the SJV Clean Energy Cluster event

Special Notes: Meeting held in collaboration with San Joaquin Valley Clean Energy Cluster's quarterly event.

- 2) Enhancing workforce programs to produce the skilled labor needed along the entire value chain; and
- 3) Promoting market triggers such as incentives and expedited permitting.

A small group of business participants committed to working further on these requirements, as follows:

<i>Action Areas</i>	<i>Champions</i>
Integrating the Value Chain; Outreach & Education	Jason Brooks, Bill Crooks, Darren Johnson, Richard Koch, Devin Murphy
Talent	Sharon Starcher, Charles Francis, Victor Ansley, Chip Ashley
Public Policy Support	Bill Crooks, Julia Levin

A follow up conference call was scheduled to take place in late March but did not occur due to low response rates from employers. Individual outreach to a handful of employers occurred in April but did not yield any champions. As a result of the low participation from Biofuels stakeholders, the Action Team decided to reduce the focus of the RICO-II project to NG and EV.

Cluster Investment Strategy: San Joaquin Valley Electric Vehicle and Natural Gas Partnerships

The San Joaquin Valley RICO-II investment strategy has been guided by input and commitments to action from advanced transportation businesses, and supported by the Action Team and other economic development and workforce stakeholders in the San Joaquin Valley.

Leveraging business comments and commitments, multiple discussions among the Action Team, and longer-term resource commitments from community organizations such as SJVCCC, SJVCEO and the KCCD, the Action Team developed and refined the Cluster Investment Strategy detailed in the following matrix. As the RICO-II Action Team moves toward implementation, the San Joaquin Valley Electric Vehicle Partnership (SJVEVP) has very high business engagement (including leadership from Nissan North America and NRG eVgo and participation from more than 25 businesses and community organizations) and will host another meeting in spring 2015 to begin implementation of the EV components of the Cluster Investment Strategy. Leadership for the San Joaquin Valley Natural Gas Partnership (SJVNGP) has yet to solidify, though business, utility and community stakeholders remain committed to moving forward with SJVNGP components of the Cluster Investment Strategy.

Electric Vehicle - Infrastructure

Goals / Objectives	Action Steps	Metrics / Measures (Targeted Outcomes)	Timeline	Implementation Commitments / Resources	
				Actual	Potential
Develop an inventory of best practices that have led to public-private partnerships or co-op approach to EV charging infrastructure; and identify primary and secondary EV charging station projects in the San Joaquin Valley	<ul style="list-style-type: none"> Supplemental funding to SJVCEO to assist with identification of priority projects 	<ul style="list-style-type: none"> # of best practice projects identified # of best practice projects that are replicable in SJV 	July 2014-Ongoing	SJVCEO with assistance from SJVCCC and SJV NGP	Additional CEC ARFVTP (AB 118) – Sustainability Funding
	<ul style="list-style-type: none"> Identify and outreach to current EV charging projects to advocate for private-public access to charging facility 	<ul style="list-style-type: none"> # of current project identified # of projects contacted # of projects agreeable to private-public access 	May 2014-Ongoing	SJVCCC with assistance from SJV EVP members	CEC public station development funds
	<ul style="list-style-type: none"> Facilitate public-private partnerships for EVSE funding applications 	<ul style="list-style-type: none"> # of partnerships facilitated # of funding applications submitted # of funding applications awarded 	July 2014-Ongoing	SJVCCC, SJVCEO and SJV EVP	SJV APCD EVSE and CEC funding
	<ul style="list-style-type: none"> Identify incentives and funding programs for priority EV charging station locations 	<ul style="list-style-type: none"> # of priority EV charging projects matched with incentive/funding source 	May 2014-Ongoing	SJVCCC and Action Team	SJV APCD EVSE and CEC funding, CARB incentives, tax credits
	<ul style="list-style-type: none"> Installation of new charging stations in San Joaquin Valley 	<ul style="list-style-type: none"> 1,000 new charging stations 	By January 2016-Ongoing	SJVCCC and SJV EVP	SJV APCD EVSE and CEC funding, CARB incentives, tax credits

Promote deployment of charging infrastructure/Electric Vehicle Supply Equipment (EVSE), particularly at workplace, commercial and multifamily residential facilities	○ Outreach to region's housing developers to encourage residential charging stations	# of housing developers contacted # of housing developers installing EVSE	May 2014-Ongoing	SJVCCC with assistance from SJV EVP and region's housing developers	SJV APCD EVSE funding
	○ Outreach to region's largest employers to encourage workplace charging stations	# of employers contacted # of employers installing EVSE	May 2014-Ongoing	SJVCCC with assistance from SJV EVP and region's largest employers	SJV APCD EVSE funding
	○ Facilitate public-private partnerships for EVSE funding applications	# of partnerships facilitated # of funding applications submitted # of funding applications awarded	July 2014-Ongoing	SJVCCC, SJVCEO and SJV EVP	SJV APCD EVSE and CEC funding
	○ Identify incentives and funding programs for priority EV charging station locations	# of priority EV charging projects matched with incentive/funding source	May 2014-Ongoing	SJVCCC and Action Team	SJV APCD EVSE and CEC funding, CARB incentives, tax credits

Electric Vehicle – Market Development

Goals / Objectives	Action Steps	Metrics / Measures (Targeted Outcomes)	Timeline	Implementation Commitments / Resources	
				Actual	Potential

<p>Increase educational activities and demand for EVs while ensuring alignment with the SJV PEV Readiness Plan</p>	<ul style="list-style-type: none"> ○ Hire 2 staff at SJVCCC to assist SJV EVP in increasing education/outreach activities ○ Continue convening SJV EVP ○ Facilitate ride and drive events in region ○ Conduct outreach to elected officials who can assist with policy/permitting barriers ○ Facilitate dissemination of EV incentives to general public ○ Assist regional EDCs and WIBs in attracting additional EV companies ○ Facilitate regional EV conferences/summits ○ Identify opportunities for workplace and residential charging stations; including top-tier and second-tier projects 	<p># of education/outreach activities coordinated # of additional companies recruited for SJV EVP</p> <p># of additional member companies</p> <p># of ride and drive events # of individuals participating</p> <p># of elected officials contacted # of policy/permitting barriers removed through outreach</p> <p># of people reached with EV incentive messaging</p> <p># of established partnerships # of new EV companies attracted to region through partnership</p> <p># of regional conferences/summits # of participants</p> <p># of EVSE opportunities identified</p>	<p>January 2015-Ongoing</p> <p>January 2015-Ongoing</p> <p>October 2014-Ongoing</p> <p>July 2014-Ongoing</p> <p>October 2014-Ongoing</p> <p>October 2014-Ongoing</p> <p>October 2014; 2/year</p> <p>July 2014-Ongoing</p>	<p>Action Team and SJVCCC</p> <p>SJVCCC with assistance from Action Team and SJV EVP members</p>	<p>Additional CEC ARFVTP (AB 118) – Sustainability Funding</p> <p>Leverage funds from SJV EVP members</p>
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Electric Vehicle – Workforce

Goals / Objectives	Action Steps	Metrics / Measures (Targeted Outcomes)	Timeline	Implementation Commitments / Resources	
				Actual	Potential
Train existing electrical contractors, particularly those who install solar panel units, to install Electric Vehicle Supply Equipment (EVSE) in order to be prepared for increased demand in residential (both single-family and multi-family units) and workplace charging stations; provide industry recognized EVSE certification	<ul style="list-style-type: none"> Outreach to labor, electrical contractors, EVSE companies, EV manufacturers for participation in training modules 	<ul style="list-style-type: none"> # of participating labor organizations and companies 	July-September 2014	Action Team and SJV EVP Chair	Leverage upcoming SJV APCD and CEC funding for public and private EVSE installations
	<ul style="list-style-type: none"> Develop EVSE installation training curriculum 	<ul style="list-style-type: none"> Creation of standardized training curriculum 	July-December 2014	Business, labor, and education partners with SJVCCC as Lead	Leverage existing curriculum from partners
	<ul style="list-style-type: none"> Deliver EVSE installation training modules; with industry-recognized certification issued upon successful completion 	<ul style="list-style-type: none"> # of training modules conducted in each county of San Joaquin Valley # of electricians completing training modules and receiving certification 	January-June 2015	SJVCCC and KCCD as Leads with business, labor and other education partners	Leverage business partnerships for OTJ training; leverage educational partners existing training programs (KCCD ETP-funded program) Additional CEC ARFVTP (AB 118) – Sustainability Funding

<p>Additional training for vehicle dealerships' salesforce on EVs; particularly information on incentives, performance, and charging station availability.</p>	<ul style="list-style-type: none"> ○ Inform dealerships about existing efforts and value proposition ○ Develop/distribute template for EV salesforce training curriculum ○ Deliver manufacturer-agnostic EV salesforce training modules in every county of SJV 	<ul style="list-style-type: none"> ○ # of dealerships contacted # of dealerships that implement training modules for own salesforce # of training modules delivered in SJV # of sales peoples trained # of SJV dealerships represented 	<p>July-December 2014</p> <p>July-December 2014</p> <p>October 2014-June 2015</p>	<p>Action Team and SJV EVP Chair</p> <p>SJV Clean Cities Coalition will monitor and catalog activity</p> <p>SJV EVP with SJV Clean Cities Coalition as Lead</p>	<p>Leverage existing EV salesforce training modules</p> <p>Leverage existing training templates SJV EVP partners</p> <p>Conduct training at SJV EVP partners' facilities; incentives information provided by SJV APCD and CARB</p>
<p>Technical assistance for public and private fleet managers to help them determine what is best vehicle technology for their business circumstances</p>	<ul style="list-style-type: none"> ○ Individualized outreach to fleet managers ○ Regional training sessions for fleet managers 	<ul style="list-style-type: none"> # of fleet managers contacted # of fleet managers who changed fleet options based on technical assistance # of training sessions conducted # of participating fleet managers 	<p>October 2014-June 2015</p>	<p>SJV EVP with SJV Clean Cities Coalition as Lead</p> <p>SJV EVP with SJV Clean Cities Coalition as Lead</p>	<p>Leverage existing efforts of SJV EVP partners</p>
<p>Provide First-Responder EV Training for municipalities, non-profits, and employers</p>	<ul style="list-style-type: none"> ○ Outreach and promotion to fleet managers ○ Delivery of regional training sessions 	<ul style="list-style-type: none"> # of fleet managers contacted # of training sessions conducted # of participating fleet managers 	<p>July-December 2014</p> <p>January-December 2015</p>	<p>KCCD with outreach assistance from SJVCCC and SJV EVP</p>	<p>Leverage KCCD ETP funds</p>

Add EV modules to existing high schools in the San Joaquin Valley with Project Lead the Way programs in order to expose youth to emerging EV careers	○ Outreach to existing PLTW school sites	# of PLTW schools contacted and identified for EV module inclusion	June 2014-August 2014	Action Team with KCCD as Lead	Additional CEC ARFVTP (AB 118) – Talent Pipeline Funding
	○ Assist PLTW school sites in integrating EV modules to existing curriculum	# of PLTW schools that integrate EV modules into curriculum	September 2014-August 2015	Action Team, SJV EVP, Chevron, PLTW schools	Leverage funds from Chevron, PLTW schools and SJV EVP partners
	○ Launch EV modules at participating PLTW schools	# of PLTW schools that offer EV modules at beginning of academic year 2015-2016	September 2015	SJV EVP, Chevron and PLTW schools	

Natural Gas - Infrastructure

Goals / Objectives	Action Steps	Metrics / Measures (Targeted Outcomes)	Timeline	Implementation Commitments / Resources	
				Actual	Potential
Facilitate and support public-private partnerships for development of 5 CNG stations along I-5 and SR-99	<ul style="list-style-type: none"> ○ Outreach to existing development projects (i.e. Grapevine/Tejon Ranch) to encourage installation of NG fueling infrastructure ○ Outreach to other locations along major corridors to explore NG fueling station potential (i.e. Lost Hills, Kettleman City, Santa Nella, Chowchilla, and Lathrop) 	<p># of entities contacted for NG fueling station installation</p> <p># of operating NG fueling stations by 2016</p>	May 2014-December 2016	SJVCCC and SJVCEO with assistance from Action Team and SJV NGP	<p>Leverage funds from SJV NGP members; potential CEC funding</p> <p>Leverage potential local funds from the SJVAPCD public benefit grants program</p>
Create inventory of best practices that have led to public-private partnerships or co-op approach to NG fueling station infrastructure; possible replication in SJV	<ul style="list-style-type: none"> ○ Supplemental funding to San Joaquin Valley Clean Energy Organization (SJVCEO) to assist SJVCCC and SJV EVP with identification of priority projects 	<p># of best practice projects identified</p> <p># of best practice projects that are replicable in SJV</p>	July 2014-Ongoing	SJVCEO with assistance from Action Team and SJV NGP	Additional CEC ARFVTP (AB 118) – Sustainability Funding

Natural Gas – Market Development

Goals / Objectives	Action Steps	Metrics / Measures (Targeted Outcomes)	Timeline	Implementation Commitments / Resources	
				Actual	Potential
Demonstrate value of public access NG fueling stations to private station operators; including those with access to the region’s agricultural and logistics industries	<ul style="list-style-type: none"> Outreach to private NG fueling station operators to demonstrate cost-benefit revenues generated by opening fueling stations up to public access as well; cite examples (i.e. Kern County Superintendent of Schools, SW Transportation-Fresno County, City of Lodi) 	<p># of private station operators contacted</p> <p># of private station operators who opened access to public after outreach</p>	July 2014-Ongoing	SJVCCC and SJVCEO with assistance from SJV NGP members	<p>Additional CEC ARFVTP (AB 118) – Sustainability Funding</p> <p>Leverage potential local funds from the SJVAPCD public benefit grants program</p>

Natural Gas – Workforce

Goals / Objectives	Action Steps	Metrics / Measures (Targeted Outcomes)	Timeline	Implementation Commitments / Resources	
				Actual	Potential
Offer companies, municipalities, non-profits NG technician training for their own employees; begin with KCCD ETP program	<ul style="list-style-type: none"> Pivot existing training programs to make them nimble enough for changes 	<ul style="list-style-type: none"> # of companies participating in training programs # of graduates in training programs 	July-December 2014	KCCD with assistance from Action Team and SJV NGP	Leverage KCCD ETP funds
	<ul style="list-style-type: none"> Identify local incentives and funding programs for NG mechanic training 	<ul style="list-style-type: none"> # of incentives and funding programs identified and submitted 	May 2014-Ongoing	Action Team and SJV NGP	SJV APCD EVSE funding and CARB incentives
Technical assistance for public and private fleet managers to help them determine what is best vehicle technology for their business circumstances	<ul style="list-style-type: none"> Individualized outreach to fleet managers 	<ul style="list-style-type: none"> # of fleet managers contacted # of fleet managers who changed fleet options based on technical assistance 	October 2014-June 2015	SJVCCC in partnership with SJV NGP	Leverage existing efforts of educational partners (i.e. KCCD)
	<ul style="list-style-type: none"> Regional training sessions for fleet managers 	<ul style="list-style-type: none"> # of training sessions conducted # of participating fleet managers 			

Early Wins

- The Energy Commission and State Board issued the San Joaquin Valley RICO-II project an additional \$100,000 to help 26 Project Lead the Way schools in the region develop and implement EV modules into existing curriculum.
- The Energy Commission and State Board issued the San Joaquin Valley RICO-II project an additional \$46,999 to support continued administration and implementation of priorities associated with the SJVEVP and SJVNGP.
- SJVEVP co-chair Nissan issued \$15,000 to SJVEVP member Plug-In America and \$1,000 to SJVCCC to support EV market development activities (including a San Joaquin Valley-specific marketing campaign) in the region. These funds will leverage the Energy Commission's additional investment to sustain SJVEVP and SJVNGP efforts.
- Several SJVEVP members have hosted ride-and-drive events within the region since the launch of the partnership, and leveraged the SJVEVP as a platform to secure participation of member electrical contractors, infrastructure companies, dealerships and community partners.
- Schneider Electric, another SJVEVP member, plans to dedicate four staff to supporting EV market development efforts in the region. Including SJVCCC's 2 additional staff, the SJV RICO-II project will have created 6 additional jobs that support alternative fuel and vehicle deployment and adoption in the San Joaquin Valley.
- Collaboration has been established with RICO-II Action Team members in the Sacramento and Silicon Valley regions.
- A logo for the SJVEVP was adopted by membership with website and social media accounts forthcoming (see Appendix C).
- **INSTALLS**

Seed Implementation

Workplace Electric Vehicle Charging Infrastructure

As a result of discussions held by the SJV RICO Action Team during January 2015, it was determined that Seed Implementation projects would address two priorities in the SJVEVP component of the RICO II Investment Strategy—increasing EV charging infrastructure by identifying additional workplace host sites. As a result, the SJV RICO Action Team selected two workplace host sites strategically located near the region’s main trade corridor (SR-99) and situated in the central and southern sub-regions of the San Joaquin Valley where EV charging infrastructure is most scarce.

Each host site underwent a competitive procurement process that required a minimum of three bids for both the electrical and electric vehicle supply equipment (EVSE) components of the project. Site assessments and quotes were conducted and submitted by electrical contractors and EVSE businesses during March 2015. The following 13 businesses participated in the competitive procurement process:

Electrical

Bakersfield Host Site: A-C Electric, Berg Electric and JE Electric & Construction Services

Fresno Host Site: ABM, Albright Electric, Homerun Electric and JM Electric

EVSE

Bakersfield Host Site: Berg Electric, Blink and Sema Connect

Fresno Host Site: AeroVironment, Charge Point, NRG eVgo and Telefonix

Fresno Area Hispanic Foundation, Downtown Business Hub – Fresno, CA

Location: 1444 Fulton St, Fresno, CA 93721

Units: (4) Level 2

Electrical: ABM

EVSE: NRG eVgo

Cost: \$19,905.26

The Fresno Area Hispanic Foundation’s Downtown Business Hub is a startup business incubator that offers space, services and resources to entrepreneurs and small business owners in the Fresno area. The Seed Implementation project at the Downtown Business Hub will support the City of Fresno’s ongoing efforts to revitalize Downtown Fresno by providing the first EV charging stations in the area. The location is also strategically located within the “Downtown Triangle” whose borders are comprised by SR-99, SR-41 and SR-180.

Installation of the four Level 2 EV charging stations at the Downtown Business Hub were completed and inaugurated on May 13, 2015:

<http://www.fresnobee.com/news/business/article20957874.html>

Kern Community College District, Weill Institute – Bakersfield, CA

Location: 2100 Chester Ave, Bakersfield, CA 93301

Units: (4) Level 2

Electrical: JE Electric & Construction Services

EVSE: Sema Connect
Cost: \$29,518.72

The Kern Community College District's Weill Institute is an academic facility that, among other things, houses the 21st Century Energy Center. The Seed Implementation project at the Weill Institute provides additional EV charging infrastructure in Downtown Bakersfield and is strategically located within proximity to SR-99, SR-58 and SR-178. Installation of the four Level 2 EV charging stations at the Weill Institute is scheduled to be completed by June 2015.

Sustainability Plan

Sustainable Systems Change

The RICO-II process continues to facilitate meaningful forums for public and private sector collaboration in the San Joaquin Valley that will thrive beyond initial project funding. Public sector partners such as workforce and economic development organizations, universities, community colleges, local school districts and governments, metropolitan planning organizations, and the region's air pollution control district have not only realized the benefit of engaging each other but also private businesses and nonprofit organizations in efforts to mitigate the region's poor air quality. The San Joaquin Valley Electric Vehicle and Natural Gas Partnerships that have emerged as a result of the RICO-II process are enabling collective planning and implementation efforts to expand deployment of adoption of alternative fuels and vehicles as an approach to long-term regional air quality improvement.

The Action Team and its SJVEVP and SJVNGP members have also expressed a desire to leverage existing documents that outline priorities and actions for the region's alternative fuels and vehicle sectors. One example is the San Joaquin Valley Plug-in Electric Vehicle Readiness Plan adopted by the San Joaquin Valley Air Pollution Control District in May 2014. This document aligns with several of the focus areas identified by the SJVEVP's membership, such as electrifying commercial and governmental fleets, expanding workplace and multi-unit dwelling charging, developing EVSE installation training for electrical contractors, and increasing the amount of EV and NG signage and parking in collaboration with CalTrans.

Long-term Sustainability and Growth

The SJV RICO Action Team will continue to work with SJVEVP leadership to further the development of its Infrastructure and Market Development Action Teams, while integrating Talent/Workforce components. These workgroups represent the format in which employers will develop and implement actions reflected in the Cluster Investment Strategy. A similar format will be developed with members of the SJVNGP.

Continued Funding for Implementation of Activities

With the value of the RICO process having been successfully demonstrated in the San Joaquin Valley, several funding sources to sustain the activities of the SJVEVP and SJVNGP have emerged from both public and private sources. The Energy Commission, for example, awarded the SJV RICO-II project \$100,000 to address the region's growing EV workforce needs. Funding will support the implementation of EV curriculum modules at 26 Project Lead the Way high school sites in the San Joaquin Valley. High school teachers will be trained by community college faculty, and will produce a long-term network of EV-specific educators in the region. The EV modules that will be created through these funds will also remain at local school sites beyond supplemental funding.

The Energy Commission also awarded the SJV RICO-II project a \$46,999 extension investment to sustain the SJVEVP and SJVNGP and implement the activities outlined in the Cluster Investment Strategy. A portion of funds will help the SJVCCC retain staff (one employee has been retained, one other hired and another part-time employee will be hired in 2015) to assist with continued coordination of the SJVEVP and SJVNGP. SJVCCC will also coordinate outreach to elected officials, local governments, private service station owners, and commercial

developers. SJVCEO will assist the SJVCCC in documenting infrastructure best practices between public and private sectors that will serve as reference points for future infrastructure projects, particularly those along major regional corridors such as Interstate 5 and State Route 99. Both organizations will also promote the availability of alternative fuel vehicle incentives to consumers and fleet managers in the region. A portion of funds will also support the KCCD's 21st Century Energy Center's efforts to provide technical assistance to commercial and governmental fleet managers and outreach to electrical contractors for EVSE installation training.

The SJV RICO-II project's SJVEVP co-chair Nissan has also issued \$15,000 to SJVEVP member Plug-In America and \$1,000 to SJVCCC to support EV market development activities in the San Joaquin Valley. These funds will leverage the Energy Commission's additional investment to sustain SJVEVP and SJVNGP efforts. In addition, Schneider Electric, another SJVEVP member, plans to dedicate four staff to supporting EV market development efforts in the San Joaquin Valley. Including SJVCCC's 2 additional staff, the SJV RICO project will have created 6 additional jobs that support alternative fuel and vehicle deployment and adoption in the San Joaquin Valley.

The Action Team will also continue to submit grant proposals to State and Federal agencies to support the long-term sustainability of its SJVEVP and SJVNGP. For example, the Action Team submitted three concept papers to the U.S. Department of Energy for its Vehicle Technologies Alternative Fuel Vehicle Deployment Initiatives program. It also prepared and submitted a funding proposal for the Energy Commission's Zero Emission Vehicle Readiness Planning program in November 2014.

The Action Team is also in discussions with the Energy Commission to potentially establish an Alternative Fuel Transportation Center in the San Joaquin Valley utilizing a \$1.9 million investment. This prospective AFTC will leverage the efforts of the SJV RICO-II project and explore partnerships with other regional alternative fuels and vehicle initiatives such as the alternative transportation center that is being developed by the Lyles College of Engineering at Fresno State.

Partnerships with other RICO Action Teams will also be sustained beyond initial project funding. The SJV, Sacramento and Silicon Valley RICO-II projects each agreed to dedicate a minimum of \$10,000 from their Energy Commission Sustainability grants to continue regional collaboration activities, particularly around EV initiatives. The SJV and Silicon Valley RICO-II Action Teams, for example, have already exchanged documents and employer contacts for workplace and multi-unit dwelling charging.

Appendix A

San Joaquin Valley Electric Vehicle Partnership

Included below are companies and organizations that participated in May 16, 2014 conference call and April 3, 2014, June 23, 2014, August 26, 2014, and December 8, 2014 meetings.

**Indicates Co-Chair*

+Indicates Action Team Lead

COMPANY	ORGANIZATION
Aera Energy, LLC	American Lung Association
Aerovironment, Inc.	California Center for Sustainable Energy
Adomani	California Energy Commission
Alternative Fuels Advocates, LLC	California Community Colleges
APG Solar	California Plug-In Electric Vehicle Collaborative
Big Valley Ford	California State University, Bakersfield
Border Valley Trading	California State University, Fresno
carbonBLU	California Workforce Investment Board
ChargePoint, Inc.	CALSTART
Chevrolet	Clean Air Advocates
Chevron	Cleantech Institute
Clements School Transportation Consulting	City of Bakersfield
Clipper Creek, Inc.	City of Chowchilla
Collaborative Economics	City of Fresno
Eckhaus Fleet	City of McFarland
Electric Vehicle International	City of Riverbank
Enterprise Rent-A-Car	City of Tracy
FedEx Ground+	City of Visalia
GreenTech Automotive	County of San Joaquin
GS Consulting	Electric Car Pledge
Label Technology, Inc.	Kern Community College District+
Light Moves Consulting	Kern County Economic Development Corp.
Local Motion	Kern County Superintendent of Schools
Motiv Power Systems	Kern Green
Nissan North America*	Local Government Commission
NRG eVgo*	NOVA Workforce
Pacific Gas and Electric	Plug-In America
Phil Haupt Electric, Inc.	San Joaquin County WorkNet
Ray Main Sales	San Joaquin Valley Air Pollution Control District
Razzari Auto Centers	San Joaquin Valley Clean Cities Coalition
REACH Strategies	San Joaquin Valley Clean Energy Organization
Resurgens Renewables	San Joaquin Partnership
SAP Connected Cars Team	The Need Project
Schneider Electric	University of California, Merced
Square D by Schneider Electric	Valley Vision
Sullivan Auto Group	
SunPower	
Telefonix, Inc.+	
UPS	

San Joaquin Valley Natural Gas Partnership

Included below are companies and organizations that participated in December 12, 2013 meeting and January 27, 2014 conference call.

**Indicates Chair*

COMPANY	ORGANIZATION
A-1 Alternative Fuel Systems	California State University, Fresno
Alternative Fuels Advocates, LLC	City of Bakersfield
Atlas Copco Compressors, LLC	City of Visalia
Back2Earth Technologies	CSU Bakersfield SBDC
Border Valley Trading	Golden Empire Transit District
Clean Energy	Kern Community College District
Clements School Transportation Consulting	Kern County Economic Development Corporation
Collaborative Economics	Kern County Superintendent of Schools
Grimmway Farms	San Joaquin Valley Air Pollution Control District
Harvest Power	San Joaquin Valley Clean Cities Coalition
Landi Renzo USA/Baytech Corporation	San Joaquin Valley Clean Energy Organization
Pacific Gas and Electric	
Southern California Gas Company*	

San Joaquin Valley Biofuels Partnership

The RICO-II Action Team decided to incorporate this technology area into the San Joaquin Valley Electric Vehicle and Natural Gas Partnerships, where applicable. Included below are companies and organizations that participated in the February 28, 2014 meeting. No chair was identified.

COMPANY	ORGANIZATION
Chromatin/Sorghum Partners, LLC	Bioenergy Association of California
Collaborative Economics	California State University, Fresno
Community Fuels	County of Kern
Del Monte Foods	Fresno City College
Franzen Hill	Kern Community College District
Green Valley Solutions	Kern County Superintendent of Schools
Mendota Bioenergy, LLC	Minority Business Development Agency
Propel Fuels	San Joaquin Valley Air Pollution Control District
Stantec	San Joaquin Valley Clean Cities Coalition
Sustainable Technologies and Products, LLC	San Joaquin Valley Clean Energy Organization
The Alvarado Group/Highlands	Sierra Club
Western Energy Systems	
West-Star Environmental	

Appendix B

San Joaquin Valley RICO-II Project Acronym List

AB – Assembly Bill
ARFVTP – Alternative
AFTC – Alternative Fuel Transportation Center
CARB – California Air Resources Board
CEC – California Energy Commission
CNG – Compressed Natural Gas
EDC – Economic Development Corporation
EDD – Employment Development Department
ETP – Employee Training Program
EV – Electric Vehicle
EVSE – Electric Vehicle Supply Equipment
KCCD – Kern Community College District
LNG – Liquefied Natural Gas
NG – Natural Gas
OCED – Office of Community and Economic Development at Fresno State
PEV – Plug-In Electric Vehicle
PLTW – Project Lead the Way
RICO – Regional Industry Cluster of Opportunity
SJV – San Joaquin Valley
SJVAPCD – San Joaquin Valley Air Pollution Control District
SJVCEO – San Joaquin Valley Clean Energy Organization
SJVCCC – San Joaquin Valley Clean Cities Coalition
SJVEVP – San Joaquin Valley Electric Vehicle Partnership
SJVNGP – San Joaquin Valley Natural Gas Partnership
WIB – Workforce Investment Board

Appendix C

San Joaquin Valley Electric Vehicle Partnership Logo

