California Energy Commission
Alternative and Renewable Fuel and Vehicle Technology Program
Project Funding Summary
(including all NOPA projects through April 15, 2015)

Organizational Layout:

1. Electric Drive
    a. Charging infrastructure awards ($40,778,502)
    b. Regional readiness awards ($4,997,584)
    c. Medium- and heavy-duty advanced vehicle awards ($60,752,830)
    d. Manufacturing awards ($57,157,760)
    e. Vehicle deployment incentives ($29,082,250)
2. Natural Gas
    a. Vehicle awards
        i. Deployment projects ($64,513,524)
        ii. Demonstration projects ($8,315,371)
    b. Infrastructure awards ($16,086,755)
3. Propane
    a. Vehicle awards ($6,382,000)
4. Biofuels
    a. Production awards
        i. Biomethane awards ($50,965,340)
        ii. Biodiesel awards ($56,660,924)
        iii. Advanced ethanol awards ($21,308,524)
        iv. California Ethanol Producer Incentive Program ($6,000,000)
    b. Infrastructure
        i. Biodiesel awards ($3,982,359)
        ii. E85 awards ($14,564,450)
    c. Demonstration projects ($5,712,140)
    d. Sustainability research ($2,088,716)
5. Hydrogen
    a. Fueling infrastructure awards ($83,467,422)
    b. Fuel standards development ($4,001,990)
    c. Demonstration projects ($8,830,292)
    d. Regional readiness awards ($820,827)
    e. Operation and Maintenance ($1,800,000)
6. Workforce Development
    a. Interagency agreements ($25,218,124)
7. Other Agreements
    a. Technical assistance and analysis ($13,882,463)
    b. Evaluation, measurement, and verification ($1,730,000)
    c. Multi-fuel regional readiness awards ($1,775,720)
    d. Centers ($5,800,000)

1. Electric Drive

a. Charging infrastructure awards ($40,778,502)

Association of Bay Area Governments (ARV-10-032)
The Energy Commission will provide $1,493,165, to the Association of Bay Area Governments (ABAG), as part of the Bay Area Electric Vehicle (EV) Corridor Project. ABAG plans to establish the greater San Francisco Bay Area as an electric vehicle leader by accelerating the deployment of EV-ready infrastructure and EV-friendly policies and incentives. This project will install 423 charge points, including 176 Level 1 chargers, 228 Level 2 chargers, and 19 DC fast chargers. The charging installations will serve neighborhood EVs, legacy EVs that take 110 volt connectors and new EVs that require 240 volt connectors. The DC fast chargers, installed in centrally located, high use locations, will be able to serve up to eight vehicles at a time. Battery electric vehicles are expected to displace over 430 gallons of gasoline and reduce Greenhouse Gas (GHG) emissions by over 4.6 tonnes per vehicle annually. Plug-in Hybrid Electric Vehicles (PHEVs) will annually displace over 280 gallons of gasoline and reduce GHG emissions by 3 tonnes per vehicles. ABAG's corridor project will help realize the petroleum and GHG reduction benefits that EVs offer by substantially increasing charging opportunities in the Bay Area. This project is anticipated to create 6 short-term jobs, and 1 long-term job. (Note: This project has completed. Of the $1,493,165 originally awarded, $1,489,590 was provided by the Energy Commission.)

Total anticipated project match is $2.7 million. ABAG will contract with Clean Fuel Connection, Inc. to manage local charger installation processes on behalf of local jurisdictions and organizations that wish to participate. Additional project partners will include EV Communities Alliance, Ecology Action, the Bay Area Air Quality Management District, the Metropolitan Transportation Commission, Plug-in America, the University of California, Berkeley, the Bay Area Climate Collaborative, Pacific Gas & Electric, and the Clean Cities Coalitions of the Bay Area. The project has also helped to catalyze regional funding commitments of $5 million for EV infrastructure from the Bay Area Air Quality Management District, and $2.4 million from the Metropolitan Transportation Commission, which will fund an additional roll-out of more than 1000 Level 2 charge stations and 50+ DC fast chargers. The project is the first stage in establishing the greater San Francisco Bay Area as the EV Capital of the United States—by accelerating the deployment of EV-ready infrastructure and EV-friendly policies and incentives.

City of Reedley (ARV-10-004)
City of Reedley is awarded $180,400 for the electric charging portion of a multi-alternative fuels infrastructure project. The infrastructure will be located at the Central Valley Transportation Center (CVTC). The CVTC will house, repair, and maintain a green fleet of vehicles. The facility will include a learning center and education center component to train current and future vehicle technicians on the latest technologies. The full project includes E85, Electric, B20 and CNG. Other users will be the City of Reedley, KCUSD, Dinuba USD, Parlier USD, and H&S Trucking. The electric infrastructure portion will be powered by solar panels. The

project is expected to displace a total of more than 1.1 million gallons of petroleum fuel, reduce CO_2 emissions by 8,000 pounds each year, and provide more than 300 direct and indirect jobs in the Central Valley. (The same agreement awarded City of Reedley funding for natural gas infrastructure. This is listed under the Natural Gas – Fueling Infrastructure section.) The infrastructure project is expected to create 16 short-term jobs. Total anticipated project match is anticipated to be $1,271,482. (Note: This project has cancelled. Of the $180,400 originally awarded, no funding was provided by the Energy Commission.)

Clipper Creek (ARV-10-001)
Clipper Creek is awarded $2,300,000 to update over 600 existing EV charging stations to the SAE-J1772 standard. While installing infrastructure with the new SAE-J1772 connector and communications protocol, ClipperCreek will ensure existing EV drivers are not stranded by leaving in-place Inductive and Avcon paddle infrastructure where it is being utilized by current EV drivers. Additionally, ClipperCreek will install meters, as directed by the local utility, so that the infrastructure usage can be monitored and eventually controlled (smart charging) by the local utility. The goal of this project is to provide a low cost and low risk option to upgrading existing electric vehicle infrastructure in California. This will support existing and proposed rollouts of electric and plug-in hybrid electric vehicles. Additional funding is being provided to allow utilities the ability to collect EVSE data and manage load. This will enable Clipper Creek to develop the interface to provide metering data and load management control from electric vehicle supply equipment (EVSE) to the utilities' smart grid. Anticipated project match funds are expected to total roughly $3,577,665. These charging stations will have a positive benefit on electric and plug-in hybrid electric vehicle sales. Annual GHG savings for each electric vehicle is estimated at 9.3 tons of CO_2. The project is expected to create 24 short-term jobs and 2 long-term jobs. (Note: This project has completed. Of the $2,300,000 originally awarded, $2,299,544 was provided by the Energy Commission.)

Coulomb Technologies (ARV-09-007)
Coulomb Technologies has partnered with Clean Fuel Connection and the California Car Initiative (CalCars) to establish 1,667 networked electric vehicle charging stations in the San Francisco, Sacramento and Los Angeles areas. Dubbed CHARGE CALIFORNIA, the Energy Commission will provide $3,417,000 in Alternative and Renewable Fuel and Vehicle Transportation Program funds for the project. The goals of this project include installing charging stations for public and fleet use, and for private consumers who buy electric vehicles. Coulomb's software application services allow consumers to locate unoccupied charging stations near their home or on their route, monitor real-time charging status of their vehicle and manage billing. The system will enable data collection of driver behavior and usage patterns, evaluate overall impacts on the local grid, and assist in planning future infrastructure installations. The U.S. Department of Energy is providing $3,354,000 of American Recovery and Reinvestment Act of 2009 (ARRA) funds. Total anticipated match funding is $10,000,000. Successful completion of this project will displace approximately 500,000 gallons of gasoline per year and cut Greenhouse Gas (GHG) emissions by 2,500 tons per year. The project is expected to create 37 short-term jobs and 19 long-term jobs. (Note: This project has completed. Of the

$3,417,000 originally awarded, $3,417,000 was provided by the Energy Commission.)

Blink Acquisition, formerly Electric Transportation Engineering Corporation (ETEC)/Nissan (ARV-09-005)

Blink Acquisition LLC, formerly Electric Transportation Engineering Corporations (ETEC), in conjunction with Nissan Motor Company, is awarded $8,000,000 to establish 1,000 residential chargers, 1,450 commercial Level 2 chargers, and 60 DC fast chargers for electric vehicles in San Diego County. The project's goal is to support electric vehicles with a widespread network of charging stations. Nissan will deploy 1,000 of its new Leaf electric cars; once the infrastructure and vehicles are in place, ETEC, along with project partner San Diego Gas and Electric Company will collect data on the effectiveness of the technology and the impact that electric vehicles have on the local grid. The program will develop various methods for payment and create revenue systems for commercial and public charging infrastructure. The chargers will support the eventual deployment of up to 5,000 vehicles.

Additional project partners include CB Richard Ellis, Idaho National Laboratory, GridPoint, Oak Ridge National Laboratory, Zipcar, UC Davis Institute of Transportation Studies, the San Diego Association of Governments, and Roush Industries. The U.S. Department of Energy will provide $39,350,127 in funding from the American Recovery and Reinvestment Act of 2009 (ARRA). The 1,000 Nissan Leaf vehicles are expected to save more than 1.7 million gallons of gasoline and reduce greenhouse gas emissions by nearly 5,000 tons of CO_2 per year over the term of the project. The project is expected to spur the deployment of 242,000 Nissan electric cars by 2015, encourage other electric vehicle manufacturers like participate Zipcar, and create an estimated 153 jobs in California. (Note: This project has completed. Of the $8,000,000 originally awarded, $5,533,606 was provided by the Energy Commission.)

EV Connect LLC (ARV-10-006)

EV Connect LLC is awarded $415,185 to install 20 publicly accessible charging stations for electric vehicles at five different public transportation hubs within the area served by Los Angeles County Metropolitan Transportation Authority. The chargers will allow electric vehicle owners to drive to a metro station, park their car, take public transportation, and have their electric car fully charged when they return. The five metro stations chosen for the project include Universal City, epicenter for much of the entertainment industry and local tourism; Union Station, the train depot with connections to Metrolink, Amtrak, Metro Bus, DASH shuttles and other municipal bus lines; El Segundo, a growing community which is the center for Aerospace and the defense industries for the Los Angeles basin with key employers of Boeing and Chevron; Willow, a redevelopment-improving area of North Long Beach, which hosts many high growth small businesses, and the Sierra Madre Villa transit station, a hub that connects travelers to local and regional transit services provided by Metro, Foothill Transit, and Pasadena ARTS buses. The project will not only add charging stations but will serve as a pilot project to test the idea of adding additional electric vehicle infrastructure throughout the metro transit area. With more than 60 million passengers through these five hubs each year, the project could significantly raise awareness of electric vehicles. The project is expected to create 2

short-term jobs and 1 long-term job. Anticipated project match funds total $23,784. (Note: This project has completed. Of the $415,185 originally awarded, $415,185 was provided by the Energy Commission.)

Sacramento Municipal Utility District/Chrysler (ARV-10-041)
Sacramento Municipal Utility District (SMUD), in partnership with Chrysler Group LLC, is awarded $100,000 to demonstrate and test 9 Chrysler Plug-in Hybrid Electric (PHEV) vans and 11 Dodge Ram 1500 PHEV pick-up trucks in their fleet applications. The project includes the development and installation of at least 35 vehicle charging structures at the various fleet facilities and supports the integration of SMUD's Advanced Metering Infrastructure (AMI) system to collect data relevant to the impacts on the electrical grid and the time it takes to charge the vehicles. Total anticipated match funding is $300,054, including $200,000 in American Recovery and Reinvestment Act of 2009 (ARRA) funds. By providing funding for this project, the Energy Commission contributes to the overall cumulative improvements in the State's economy and air quality. The installation of electric charging infrastructure requires the employment of electricians and numerous positions related to the manufacture and sale of batteries and charging components. The expected annual gasoline displacement at 4,550 gallons per year during the life of this project is in accordance with the goals of helping to transform California's transportation system and attain the state's climate change policy objectives.

Sacramento Municipal Utility District/General Motors (ARV-10-034)
The Sacramento Municipal Utility District (SMUD) and its project partners—the California Department of General Services, the City of Sacramento and the Sacramento Metropolitan Air Quality Management District, along with General Motors—are awarded $553,000 to test 34 Chevrolet Volt plug-in hybrid vehicles in their fleets of vehicles. Numerous government offices and departments will use the Volts, allowing a wide range of drivers to experience the hybrid four-passenger sedans. In the process, SMUD will collect data to assess and upgrade the electric vehicle charging system located within its service territory, and will work to standardize the permitting process among local agencies for adding new chargers. The program will also increase public awareness of plug-in hybrid vehicles. Total anticipated match funding is $1,690,073, including $1,121,085 in American Recovery and Reinvestment Act of 2009 (ARRA) funds. The Chevrolet Volt has an all-electric range of 40 miles; over 87 percent of Sacramento-area commuters drive 40 miles or less each day, making the Sacramento area an ideal testing ground for the vehicle. Projected to operate 95 percent of the time in all-electric mode during the demonstration, the small fleet will reduce Greenhouse Gas (GHG) emissions by an estimated 89 metric tons per year and cut gasoline use by 9,600 gallons per year. The project is expected to result in one short-term electrical contractor job, as well as related jobs from the manufacture and sale of batteries and charging components. (Note: This project has completed. Of the $553,000 originally awarded, $553,000 was provided by the Energy Commission.)

Southern California Regional Collaborative (ARV-10-045)
Southern California Regional Collaborative is awarded $840,750 to install or upgrade at least 315 electric vehicle (EV) charge points in fleet operations and municipal sites. These chargers will support new and existing electric vehicles, and will be geographically distributed to ensure that some charging infrastructure is

available across the broad area. The Collaborative consists of 23 public agency partners, including cities, counties, and universities in the greater Los Angeles area. The total anticipated match funding for this project is $840,750.

Southern California has established a regional coalition that ranges from the ocean to the desert and Santa Barbara County through Orange County. It represents a population of approximately 18 million and is one of the most environmentally challenged regions in the nation. EVs in the Southern California market will reduce the region's dependence on petroleum, with reductions in Greenhouse Gas (GHG) emissions and criteria air pollutants, including air toxics. The annual GHG savings for each electric vehicle is estimated at 4.6 tons of CO_2. The chargers will support existing and new EVs expected to enter the market over the next several years. These charging stations will encourage EV sales and given new EV drivers confidence to travel throughout the region. The geographic distribution of project partners will ensure that some fueling infrastructure is available across a broad area. This project will also create hundreds of jobs in the electric transportation field and benefit the entire California-based EV-related industry. Specifically, this project is expected to directly create 28 short-term jobs and 17 long-term jobs. Establishment of the Los Angeles region as an EV-ready area could also attract potential "EV Readiness" federal funding.

University of California, Irvine (ARV-10-046)
University of California, Irvine is awarded $122,500 to install 12 Level 2 electric chargers and 2 DC fast chargers for public use on the University campus, at the South Coast Air Quality Management District office in Diamond Bar and at the Irvine Transportation Center in support of an ongoing electric vehicle car sharing program. This program, the Zero Emission Vehicle Network-Enabled Transport (ZEV-NET) system, is an innovative development in transit services started in 2002. The service enables passengers arriving at the Irvine Transportation Center Rail Station to pick up an electric vehicle, drive to work and plug the car in to a charging station at the worksite. Utilizing an advanced, web-based reservation system, other participants can arrange to share the car during the day for local business trips or personal errands. This successful program has a long waiting list of commuters wishing to participate. Project partners estimate that this project will result in reductions of 4900 metric tons of Greenhouse Gas (GHG) emissions and displacement of 725,000 gallons of gasoline by 2020. It also promotes the use of shared-use vehicles in compliance with the SB 375 objectives for land use planning. Furthermore, the data collected and analyzed from the vehicles and chargers will help to inform future installations of EV infrastructure projects. Current ZEV-NET usage data shows that a significant number of participants carpool from the transit station replacing single occupant commuter vehicles. Economic benefits include the expected creation of 8 short-term jobs for skilled electrical labor and 7 long-term jobs. The project team will provide up to $1,687,500 in match funding.

Department of General Services (ARV-12-011)
The California Department of General Services, Office of Fleet and Asset Management (OFAM) is awarded $41,475 to expand its electric charging network in Sacramento from 24 chargers to 33 chargers. OFAM will install nine ChargePoint, Inc. Level 2 charging stations at the State Garage in Sacramento. OFAM will also procure 10 electric vehicles that will be available to state agencies and employees

for business trips through the State rental pool. This project will broaden the acceptance of electric vehicles by State agencies and the public by showcasing the technology's ability to meet the needs of its users on a daily basis. The project is expected to create one short-term job. The total anticipated match funding for this project is $345,000. This project will assist in reducing the State fleet's petroleum consumption and Greenhouse Gas (GHG) emissions as well as toxic air contaminant emissions associated with internal combustion engines. The project will also get broad exposure for zero emission vehicles to over 100 state agencies that rent vehicles from OFAM. This exposure is expected to showcase that battery-powered vehicles can effectively meet the business needs of state agencies, thereby increasing the demand and ultimate integration of electric vehicles into other agencies' fleets in future years. (Note: This project has completed. Of the $41,475 originally awarded, $39,427 was provided by the Energy Commission.)

OurEvolution Energy & Engineering (ARV-12-012)
OurEvolution Energy & Engineering is awarded $30,124 to install two Level 2 workplace electric vehicle charging station: one adjacent to City Hall in Arcata, California and one in Old Town Eureka, California. This project will serve the existing electric vehicle fleet for a large engineering company and will provide an upgrade to an existing workplace electric vehicle charging station. The charging stations will be used to collect valuable data regarding workplace, fleet and public use charging. The data will be used to support the ongoing collaborative North Coast Plug-in Electric Vehicle Project, an electric vehicle infrastructure planning project whose partners include the City of Arcata, Humboldt State University, the Schatz Energy Research Center, the Redwood Coast Energy Authority and GHD Engineering. The proposed project supports efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions by providing an incentive to electric vehicle owners and those considering alternative fuel vehicles to operate their cars to and from the workplace, thus replacing conventional fueled vehicles and their associated emissions from daily use. The project is expected to create 5 short-term jobs. (Note: This project has completed. Of the $30,124 originally awarded, $30,064 was provided by the Energy Commission.)

Alternative Energy Systems Consulting, Inc. (ARV-12-013)
Alternative Energy Systems, Inc., a California small business enterprise, is awarded $69,446 to install and demonstrate five dual pedestal, RWE Level 2 eStation Smart systems at the University of California, San Diego (UCSD) to expand charging infrastructure for UCSD-owned or leased electric vehicles. The charging stations will also serve UCSD students and the public. UCSD operates more than 800 campus vehicles, of which 40% have been converted to near-zero emission vehicles. It has phased out diesel fuel and converted a significant number of buses, street sweepers, cars, and trucks to Compressed Natural Gas. The project will provide improved Level 2 charging access to UCSD electric vehicles in order to gain operational experience at the fleet level with innovative electric vehicle charging systems. A charging network is vital to the acceptance of electric vehicles by the public. It will reduce UCSD's fleet petroleum consumption and GHG emissions, and measure results. Fueling vehicles with electricity rather than petroleum offers results in decreased criteria pollutants, reduced petroleum consumptions, less GHG emissions, and increased energy security. The total anticipated match funding for

this project is $35,381. (Note: This project has completed. Of the $69,446 originally awarded, $69,401 was provided by the Energy Commission.)

AeroVironment, Inc. (ARV-12-016)
AeroVironment, Inc. is awarded $75,000 to supply and install two Level 2 electric vehicle (EV) charging stations at two YMCA locations in San Diego, CA. These two locations are strategically important to Car2Go, an electric vehicle car share program in San Diego. The Car2Go customers will leave the EV at the charging station, use their Car2Go radio frequency identification key fob to authenticate the charger, and then begin the session. Operational data will be collected from the charging stations and will be analyzed for economic and environmental impacts. AeroVironment will perform the installation, servicing, and maintenance of the electric vehicle supply equipment (EVSE). It has a certified contractor network who will perform the installation, a Customer Relationship Management system that tracks the electric vehicle driver's experience and data back office network services with a 24/7 call center. This project complements state efforts to meet local, state, and federal air quality standards; this project aids state efforts to reduce emissions of criteria pollutants, greenhouse gases, and petroleum and fossil fuel consumption. The project is expected to create 14 short-term jobs and 3 long-term jobs.

AeroVironment, Inc. (ARV-12-017)
AeroVironment, Inc. is awarded $75,000 to install one level 2 electric vehicle supply equipment (EVSE) each at two apartment venues in San Diego, CA. These two locations are strategically important to Car2Go, an electric vehicle (EV) car share program in San Diego. The Car2Go customers will leave the EV at the charging station, use their Car2Go radio frequency identification (RFID) key fob to authenticate the charger, and then begin the session. Operational data will be collected from the charging stations and will be analyzed for economic and environmental impacts. AV will perform the installation, servicing, and maintenance of the EVSE. It has a certified contractor network who will perform the installation, a Customer Relationship Management system that tracks the EV driver's experience, and EV data back office network services with a 24/7 call center. This project complements state efforts to meet local, state, and federal air quality standards; this project aids state efforts to reduce emissions of criteria pollutants, greenhouse gases, and petroleum and fossil fuel consumption. The project is expected to create 14 short-term jobs and 3 long-term jobs.

Joe Carlson Studio, Inc. (ARV-12-019)
Joe Carlson Studio is awarded $5,540 to purchase and install two AeroVironment electric vehicle charging stations in a public parking area of a commercial building located in Compton, California. The charging station will serve three parking spaces, with one ADA accessible. The building serves as a commercial film and photography studio serving primarily the automotive advertising industry in Southern California. Both employees and clients of the business drive electric and plug-in hybrid vehicles. Clients of the tenant include: Honda, Toyota, Mitsubishi, Ford, GM and Nissan. Use of the chargers will be made available free of charge to all employees and clients. This project will have positive environmental impacts because it will reduce the greenhouse gas emissions and petroleum usage. The site is partially powered by solar so each charging station will reduce the CO_2 emissions by approximately 7,000 lbs per year and reduce the gasoline consumption by

approximately 600 gallons per year. This will result in a savings of $2,400 in annual fuel costs to employees and customers. (Note: This project has completed. Of the $5,540 originally awarded, $4,948 was provided by the Energy Commission.)

Alternative Energy Systems Consulting, Inc. (ARV-12-020)
Alternative Energy Services Consulting (AESC), an eligible California small business enterprise, is awarded $75,000 to lead a global collaborative of UC San Diego, San Diego Gas & Electric, ABB/RWE, Mercedes-Benz Research and Development North America (Daimler) and Pacific Northwest National Laboratory (PNNL), in EVSE planning and implementation. The collaborative led by AESC will install and demonstrate Level 2 electric vehicle (EV) changing systems on the University of California, San Diego (UCSD) microgrid to serve a total of forty-one parking spots for public visitors and students, faculty and staff who are using an EV for commuting to UCSD. Specifically, ABB/RWE will install and demonstrate on the UCSD microgrid eight Level 2 eSmartStations with a total of 16 charging outlets. In parallel, UCSD will also be installing 22 ECOtality and 3 ChargePoint Level 2 workplace and public accessible EVSE stations across the main campus. Total anticipated match funding is $39,836. This project will increase competition and innovation by introducing into the California market proven European technology for electric vehicle charging infrastructure that is necessary to generate, store, distribute, and dispense electricity as an alternative transportation fuel. It will integrate data with parallel research on consumer EV charging behavior to various pricing options in the workplace and public charging stations.

AeroVironment, Inc. (ARV-12-023)
AeroVironment, Inc. is awarded $3,707,847 to install 1,425 residential Level 2 EVSE hardware and installation/upgrade services in both single family and multi-unit dwellings throughout the state of California. AeroVironment has designed a streamlined procedure from the first point of customer awareness all the way through post-installation to ensure a positive customer experience. Their program, the Cal Electric Residential Electric Vehicle Supply Equipment (EVSE) Deployment Program, is designed to expand the network of electric vehicle charging infrastructure in California and encourage consumer adoption of electric vehicles. This program offers free charging stations to those customers who meet the program criteria. Chargers will be given to those customers who apply to the program on a first served basis through their EV dealership. Through its Cal Electric program, AeroVironment hopes to encourage consumer electric vehicle (EV) adoption by providing a streamlined solution to purchase and install residential charging equipment. AeroVironment believes a positive customer experience is key to increasing EV demand, and their objective is to make the process as easy and positive as possible, so that the driver can focus on driving their EV and spreading the word. The project is expected to create 14 short-term jobs and 3 long-term jobs.

ChargePoint, Inc. (ARV-12-024)
ChargePoint Inc. is awarded $499,512 to install 206 electric vehicle charging stations at multi-unit dwelling locations in San Diego. The objectives of this project are: to stimulate demand for electric vehicles by focusing on the crucial market of multi-unit dwelling locations and to address the unique challenges of establishing electric vehicle charging stations in a Shared-Use Environment. ChargePoint will collaborate with San Diego Gas and Electric, the City of San Diego, and the San

Diego Association of Governments to identify owners of apartment buildings, condominium associations, and mixed-use projects which have a need for charging stations. Charge Point will also coordinate with local car sharing services to integrate electric vehicle infrastructure with electric vehicle deployment at multi-dwelling unit locations. This project is expected to create 22 short-term jobs and 11 long-term jobs. Total anticipated match is $1.3 million.

Schneider Electric USA, Inc. (ARV-12-039)
Schneider Electric USA, Inc. is awarded $16,000 to install four Level 1 charging outlets and two Level 2 dual-port pedestal charging stations at high use and visible parking areas at the American Red Cross (ARC) facility in Silicon Valley. Emergency preparedness and disaster response classes are held daily, and the site population can be up to 200 individuals on any given day, including the weekends. The project site is located on the same street as the VTA Light Rail tracks and is in the middle of a very busy high technology/Silicon Valley section of San Jose, which has a large and growing number of electric vehicles that are used for commuting. Additionally, the project will provide support for a future electric vehicle fleet, and will be a resource for education on alternative fuel technology. ARC Silicon Valley hosts a number of youth programs and has over 1,000 youth volunteers alone. This project will enjoy a high level of exposure to a broad-cross section of the adult and youth populations. Schneider Electric will partner with the non-profit organization Adopt-a-Charger. Total anticipated match is $29,475.

Schneider Electric USA, Inc. (ARV-12-038)
Schneider Electric USA, Inc. is awarded $71,500 and will partner with San Mateo County Community College District (SMCCCD) to bring electric vehicle charging stations to its three colleges: Skyline College, located in San Bruno CA; College of San Mateo, located in San Mateo CA; and Cañada College located in Redwood City CA. The three colleges have a combined student population of over 25,000 and over 1,500 employees. The project will install three dual-port Level 2 charging stations at each college, with one additional one single-port charging station at Skyline College. This totals 19 new Level 2 charging ports across the three campuses, with a minimum of one ADA compliant per college. Data Collection will be the responsibility of the SMCCCD and performed by each of the three college sites. Key faculty and workforce development staff on all three campuses will prepare the data collection test plan, and incorporate the collection of data and analysis into coursework for students studying in Environmental Science and Technology. This will enable the SMCCCD to collect robust data on project usage, charging behavior and environmental benefits, and to report findings to the Energy Commission and the campus community. Total anticipated match is $67,611.

Los Angeles Department of Water and Power (ARV-12-051)
The Los Angeles Department of Water and Power (LADWP) is awarded $75,000 to install 32 new Level 2 electric vehicle chargers in the “A” level Employee Parking Garage at the John Ferraro Building using the SAE-J1772 compatible connector. These chargers will be available to City of Los Angeles employees that drive battery electric and plug-in electric hybrid vehicles. This is part of the LADWP/DOE Smart Grid Demonstration Program and monitoring of customer behavior will occur for two years following the retrofits. This proposed project complements and does not interfere with efforts to achieve and maintain federal and state ambient air quality

standards and to reduce toxic air contaminants. The project would support the choice of electric and hybrid electric transportation in compliance with statewide policies and goals, including those of the State Implementation Plan for Ozone and regional air quality plans. The LADWP has reached a portfolio of 20% renewable power and continues to expand its renewable generation. The use of electricity is far cleaner than gasoline. The U.S. Department of Energy will contribute $128,500 and the balance of the match, $53,500, will include in-kind services provided by LADWP.

Los Angeles Department of Water and Power (ARV-12-065)
The Los Angeles Department of Water and Power (LADWP) is awarded $75,000 to retrofit 32 Level 2 electric vehicle chargers in the "B" level fleet car garage at the John Ferraro Building using the SAE-J1772 compatible connector. These chargers will be used to charge City of Los Angeles/LADWP plug-in electric vehicles (PEVs) that are dedicated to fleet use. This part of the LADWP/Department of Energy Smart Grid Demonstration Program and monitoring of customer behavior will occur for two years following the retrofits. LADWP currently owns and operates six PEVs and anticipates purchasing a total of 72 EVs and plug-in electric hybrid vehicles in 2013. This proposed project complements and does not interfere with efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants. The project would support the choice of electric and hybrid electric transportation in compliance with statewide policies and goals, including those of the State Implementation Plan for Ozone and regional air quality plans. The LADWP has reached a portfolio of 20% renewable power and continues to expand its renewable generation. The use of electricity is far cleaner than gasoline. The U.S. Department of Energy will contribute $87,500 and the balance of the match, $23,500, will include in-kind services provided by LADWP.

South Coast Air Quality Management District (ARV-12-053)
The South Coast Air Quality Management District (SCAQMD) is awarded $720,000 to deploy a robust DC Fast Charging transportation corridor along major freeways within the South Coast Basin as part of a broader effort to allow electric mobility between Los Angeles and San Diego, Santa Barbara, and Palm Springs. The SCAQMD will install DC Fast Chargers at 17 sites at Ralph's and Albertson's locations closest to the freeways. By selecting supermarkets for project locations, the plan aims to reduce or offset on-peak electricity usage (including demand charge reduction) as data shows that trips to the supermarket are typically taken during off-peak hours. This project is expected to create 8 short-term jobs and 7 long-term jobs. Total anticipated match funding is $600,000.

Alternative Energy Systems Consulting, Inc. (ARV-12-027)
Alternative Energy Systems Consulting (AESC) is awarded $145,554 to install, commission, data collect and performance assessment of three publicly accessible DC fast chargers within UC San Diego's microgrid. AESC is teaming with UC San Diego, the demonstration host, to expand the existing electric vehicle charging infrastructure at UC San Diego and deepening the knowledge base to maximize the benefits from these systems. The UC San Diego campus is an ideal host for this project given its state-of-the-art microgrid and significant deployment of DC source generators, fuel cells, and photovoltaic systems. The DC fast chargers will provide 24/7, year round access to the surrounding areas within a ten-mile radius of the

main campus. The project is expected to create one short-term job. Total anticipate match funding is $208,964.

Green Charge Networks, LLC (ARV-12-052)
Green Charge Networks is awarded $2,087,153 to install, commission, collect data, and assess the performance of smart-grid enabled fast charging with battery storage back-up capability. The 16 sites will be associated with 7-Eleven convenience stores and will connect the area from Santa Barbara to San Diego and to the east, Pomona. The proposed project intends to demonstrate effective energy management of DC fast charging integrated into an existing facility, to minimize peak demand impact and avoid utility service upgrades and provide an economic path for host sites to scale fast charging throughout California. This project is expected to create 28 short-term jobs and 17 long-term jobs.

Towbes Group Inc. (ARV-12-036)
Towbes Group, Inc. is awarded $72,317 to install six electric vehicle charging stations at two worksites in Santa Barbara, California. Towbes Group proposes a project to serve as a pilot program for greater electric vehicle infrastructure investment in the Santa Barbara area. This project will target the usage patterns of PEV drivers, in an attempt to create an efficient charging situation, where a single charge station can service multiple vehicles in the same work-day.

Department of General Services (600-13-005)
The Department of General Services is awarded $2,000,000 to install electric vehicle supply equipment (EVSE) in state facilities in California. The project will identify and prioritize state parking facilities and buildings for installation of plug-in electric vehicle charging infrastructure.

The Vehicle-Grid-Integration Alliance (ARV-13-057)
The Vehicle Grid Integration Alliance is awarded $500,000 to install 25 electric vehicle chargers integrated with advanced battery energy storage and rooftop solar photovoltaic at destination sites in San Francisco.

The EV Alliance (ARV-13-051)
The EV Alliance is awarded $498,475 to install 39 Level 2 electric vehicle chargers at 22 sites in the counties of Ventura, Santa Barbara, and San Luis Obispo.

California EV Alliance (ARV-13-032)
California EV Alliance is awarded $474,052 to install 37 Level 2 dual port electric vehicle chargers at approximately 19 sites in the North and East Bay of the San Francisco Bay Area.

City of Burbank (ARV-13-042)
The City of Burbank is awarded $163,802 to install up to eight Level 2 electric vehicle chargers located curbside at diverse locations along major roadways in the City of Burbank.

County of Riverside (ARV-13-046)

The County of Riverside is awarded $497,357 to install 40 single and dual port Level 2 electric vehicles chargers and four DC fast chargers at workplace, destination, and corridor sites within Riverside County.

The Fremont Chamber of Commerce (ARV-14-015)
The Fremont Chamber of Commerce is awarded $305,352 to build, install, and operate 10 Level 2 and two DC fast charging stations at the Bayside Business Park in Fremont, California.

Silicon Valley Leadership Group Foundation dba Bay Area Climate Collaboration (ARV-13-043)
The Bay Area Climate Collaboration is awarded $491,290 to install 39 Level 2 electric vehicle chargers at locations throughout the Bay Area.

Redwood Coast Energy Authority (ARV-13-029)
Redwood Coast Energy Authority is awarded $293,843 to install 10 publicly-accessible Level 2 electric vehicle chargers at nine destination and workplace sites in the Humboldt County region.

Bay Area Air Quality Management District (ARV-13-039)
Bay Area Air Quality Management District (BAAQMD) is awarded $500,000 to install 12 Level 2 electric vehicle chargers and 10 electric vehicle fast chargers at key destination sites within BAAQMD's region.

South Coast Air Quality Management District (ARV-13-026)
South Coast Air Quality Management District is awarded $500,000 to install six electric vehicle fast chargers in the South Coast Air Basin.

Electric Power Research Institute (ARV-14-004)
Electric Power Research Institute is awarded $469,012 to install plug-in electric vehicle (PEV) chargers at a multi-level parking garage located in the City of Santa Clara that will provide easy access to PEV charging at a high-profile destination site in the Bay Area.

California State University, Fresno Foundation (ARV-13-033)
California State University, Fresno Foundation is awarded $397,074 to deploy four workplace combination Level 2 and two DC fast charge electric vehicle charging stations.

Good Samaritan Hospital (ARV-13-050)
Good Samaritan Hospital is awarded $97,111 to install 24 Level 2 electric vehicle chargers in two sheltered parking locations on opposite ends of their six-acre campus in Los Angeles.

Adopt a Charger (ARV-14-014)
Adopt a Charger is awarded $491,342 to install up to 61 electric vehicle chargers at up to 12 California State Parks.

Los Angeles Department of Water and Power (ARV-13-045)

Los Angeles Department of Water and Power is awarded $500,000 to install 104 Level 2 electric vehicle chargers at key locations.

International Association of Nanotechnology dba US Green Vehicle Council (ARV-14-002)
US Green Vehicle Council is awarded $500,000 to install 10 electric vehicle fast chargers along the I-5 and Highway 99 corridor in 10 cities throughout California.

San Joaquin Valley Unified Air Pollution Control District (ARV-13-037)
San Joaquin Valley Unified Air Pollution Control District is awarded $50,000 to install five Level 2 electric vehicle charging stations at the District's three regional offices in Modesto, Fresno, and Bakersfield, California.

Golden Gate National Parks Conservancy (ARV-13-041)
Golden Gate National Parks Conservancy is awarded $79,955 to install four Level 2 and two Level 1 electric vehicle chargers at two locations in the Golden Gate National Recreation Area.

City of San Diego (ARV-13-040)
The City of San Diego is awarded $499,755 to install 41 single and dual-port Level 2 electric vehicle chargers for a total of 68 charge points, throughout the San Diego Region at libraries, parks and other locations.

County of San Diego (ARV-14-017)
The County of San Diego is awarded $500,000 to install infrastructure for 35 publicly accessible chargers at 10 county facilities.

City of Corona (ARV-14-001)
The City of Corona is awarded $325,632 to install six Level 2 and three DC fast charger plug-in electric vehicle (PEV) chargers throughout the City for destination and public access workplace charging.

Southern California Public Power Authority (ARV-13-038)
Southern California Public Power Authority is awarded $500,000 to install four Level 2 electric vehicle chargers and nine electric vehicle fast chargers in various locations in the Southern California region.

Cal Poly Corporation on behalf of California Polytechnic State University (ARV-13-055)
Cal Poly Corporation is awarded $147,982 to install six Level 2 dual port electric vehicle chargers at two parking facilities at California Polytechnic State University, San Luis Obispo Campus.

CALSTART, Inc. (ARV-13-044)
CALSTART, Inc. is awarded $495,770 to install up to 38 Level 2 dual-port electric vehicle chargers at seven highly visible locations throughout the Disneyland Resort in Anaheim, California.

City of Coronado (ARV-13-035)

City of Coronado is awarded $123,100 to install 10 Level 2 electric vehicle chargers at two locations.

El Dorado County – Air Quality Management District and Facilities Division (ARV-13-047)
El Dorado County is awarded $60,450 to install 10 electric vehicle charging stations. Six charging stations will be installed in Placerville, California and four charging stations will be installed in South Lake Tahoe, California.

Los Angeles County Metropolitan Transportation Authority (ARV-13-054)
The Los Angeles County Metropolitan Transportation Authority is awarded $492,000 to install 20 Level 2 electric vehicle chargers at park and ride locations throughout their transit network.

City of Torrance (ARV-13-036)
City of Torrance is awarded $405,940 to install DC fast chargers at six publicly accessible locations within the City to allow motorists to extend their mileage range.

Clean Fuel Connection, Inc. (ARV-13-022)
Clean Fuel Connection, Inc. is awarded $200,000 to install 50 Level 2 electric vehicle chargers at five Kaiser Permanente locations within California.

American Honda Motor Company, Inc. (ARV-13-058)
American Honda Motor Company, Inc. is awarded $195,185 to install 58 electric vehicle chargers at the Honda national headquarters facility located in Torrance, California.

US Hybrid Corporation (ARV-14-016)
US Hybrid Corporation is awarded $200,000 to install one direct current (DC) fast charger and two Level 2 chargers that incorporate an energy management system, battery storage, renewable electricity production, and vehicle-to-grid capabilities at the US Hybrid Corporation facility.

Bio-Rad Laboratories, Inc. (ARV-13-023)
Bio-Rad Laboratories, Inc. is awarded $117,229 to install 21 single and dual port Level 2 electric vehicle chargers across 11 workplace locations.

State of California, Department of Transportation (ARV-13-048)
The California Department of Transportation (Caltrans) is awarded $200,000 to install 22 Level 2 electric vehicle chargers available for employees and vehicles in the Caltrans-owned fleet at 22 Caltrans facilities throughout California.

Ontario CNG Station Inc (ARV-13-049)
Ontario CNG Station Inc is awarded $150,050 to install two electric vehicle fast chargers at the Ontario fueling station.

Granville Homes (ARV-13-024)
Granville Homes is awarded $25,886 to install three dual-port electric vehicle chargers at the Fulton Village multi-unit dwelling.

County of Sonoma, General Services Department (ARV-14-020)
County of Sonoma is awarded $500,000 to renovate existing electric vehicle charging stations and also deploy new stations in Sonoma County to meet state guidelines.

Mendocino Land Trust, Inc. (ARV-14-048)
Mendocino Land Trust, Inc. is awarded $498,040 to install 20 Level 2 electric vehicle chargers and 20 Level 1 electric vehicle chargers at 10 state park destination sites.

Sacramento Area Council of Governments (ARV-14-023)
Sacramento Area Council of Governments is awarded $498,677 to install 3 DC fast chargers at Nugget Market and Sacramento Natural Foods Co-Op grocery stores in Sacramento.

Woodland Joint Unified School District (ARV-14-033)
Woodland Joint Unified School District is awarded $128,000 to install 16 public-access electric vehicle charging stations. Stations will be placed at six school sites and the District Office.

Corridor Power, Inc. (ARV-14-019)
Corridor Power, Inc. is awarded $499,937 to deploy a fast-charging plaza consisting of ten electric vehicle fast chargers.

County of Los Angeles (ARV-14-031)
County of Los Angeles is awarded $96,307 to install 16 Level 2 electric vehicle charging stations in Los Angeles County targeted for the use of the staff of 700+ and visitors.

United States General Services Administration (600-14-004)
The United States General Services Administration is awarded $600,000 to install a minimum of 50 electric vehicle charging stations in at least 10 existing Federal facilities in California for plug-in electric vehicles.

California Pollution Control Financing (600-14-007)
California Pollution Control Financing is awarded $1,900,000 to develop and administer an Electric Vehicle Charging Station Financing program.

b. Regional readiness awards ($4,997,584)

Bay Area Air Quality Management District (ARV-11-003)
The Bay Area Air Quality Management District is awarded $200,000 for the Monterey Bay Plug-in Electric Vehicle (PEV) Readiness Planning Project, which will cover Monterey, San Benito, and Santa Cruz counties. This funding will be used to help prepare California regions for the rollout of PEVs. Funds will help regions develop PEV strategic plans for PEV electric vehicle supply equipment (EVSE), establish best practices for "PEV-ready" building and public works guidelines, and help to streamline PEV EVSE permitting, installation, and inspection processes. Regions are required to establish a PEV Coordinating Council with a lead agency. The Monterey EV Alliance will serve as the Coordinating Council with its broad range of local agencies and cities. Ecology Action will develop the plan with assistance from Electric Vehicles Communities Alliance. Given its early-adopter community, decentralized pattern of development, tourist attractions and key highway corridors such as Highway 101 and 17, the Monterey region PEV planning effort will greatly assist in the mass adoption of plug-in electric vehicles.

Bay Area Air Quality Management District (ARV-11-005)
The Bay Area Air Quality Management District (BAAQMD) is awarded $200,000 for the Bay Area Regional Plan to Support Plug-in Electric Vehicle (PEV) Readiness, which will encompass the nine county Bay Area and includes the Bay Area Strategic Council (comprised of local agencies, cities, counties, and companies), the Association of Bay Area Governments and the Metropolitan Planning Commission. This funding will be used to help prepare California regions for the rollout of PEVs. Funds will help regions develop PEV strategic plans for PEV electric vehicle supply equipment (EVSE), establish best practices for "PEV-ready" building and public works guidelines, and help to streamline PEV EVSE permitting, installation, and inspection processes. Regions are required to establish a PEV Coordinating Council with a lead agency. BAAQMD will provide $200,000 in match funds. The U.S. Department of Energy will provide $300,000 in match funds. (Note: This project has completed. Of the $200,000 originally awarded, $195,357 was provided by the Energy Commission.)

Coachella Valley Association of Governments (ARV-11-011)
Coachella Valley Association of Governments is awarded $200,000 for the Coachella Valley Plug-in Electric Vehicle/Neighborhood Electric Vehicle Readiness Plan, which will cover the Coachella Valley in Riverside County. The partners include 10 cities such as Palm Springs, Desert Hot Springs, and Indian Wells, the Agua Caliente and Cabazon Indian Tribes, the County of Riverside, Southern California Edison, and the Imperial Irrigation District. This Plan will address the needs of the existing population and the millions that visit this resort region each year from other areas of Southern California. A unique component of this Plan is a Neighborhood Electric Vehicle/Bicycle Parkway which will connect communities across the region. Match funds of $51,514 are from the Coachella Valley Association of Governments.

Redwood Coast Energy Authority (ARV-11-006)

The Redwood Coast Energy Authority is awarded $199,949 to produce a comprehensive Plug-In Electric Vehicle (PEV) Readiness Plan for the North Coast Region, covering Humboldt, Del Norte, and Trinity counties. This project will serve as a model for preparing more rural areas of California for PEVs. Other partners include the Schatz Energy Research Center, the North Coast Unified AQMD, the Humboldt County Association of Governments, PG&E, the cities of Arcata and Eureka, Caltrans District 1, and Humboldt State University. Match funding from partners is $69,225.

Sacramento Area Council of Governments (ARV-11-009)
Using $200,000 in ARFVT Program funds, the Sacramento Area Council of Governments will produce the Capital Area Plug-in Electric Vehicle (PEV) Readiness Program, which will cover the six county Sacramento Association of Governments region, including El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba counties. In-kind match funding of $47,420 is provided by Valley Vision. Partners include Sacramento Municipal Utility District, Pacific Gas and Electric Company, Roseville Electric, UC Davis PH&EV Center, Sacramento Metro Air Quality Management District (AQMD), Sacramento Clean Cities, Yolo-Solano AQMD, the cities of Sacramento, West Sacramento, Citrus Heights, Folsom and Elk Grove. The U.S. Department of Energy is providing $75,000 in match funding. (Note: This project has completed. Of the $200,000 originally awarded, $199,613 was provided by the Energy Commission.)

San Diego Association of Governments (ARV-11-004)
San Diego Association of Governments is awarded $199,379. The San Diego Regional Plug-in Electric Vehicle (PEV) Readiness Project will leverage the efforts of the "EV Project", a national project to deploy Nissan Leaf's and charging infrastructure. Match funding of $50,451 is from the San Diego Association of Governments. Other partners include the California Center for Sustainable Energy, members of 8 local jurisdictions, 3 regional planning agencies, the San Diego Clean Cities, San Diego Gas & Electric, U.C. San Diego, Ecotality and Aerovironment. The U.S. Department of Energy is providing $100,000 in match funding. (Note: This project has completed. Of the $199,379 originally awarded, $199,212 was provided by the Energy Commission.)

San Joaquin Valley Unified Air Pollution Control District (ARV-11-008)
The San Joaquin Valley Unified Air Pollution Control District (APCD) is awarded $200,000 to produce a comprehensive Plug-In Electric Vehicle (PEV) Readiness Plan for the seven-county region of the San Joaquin Valley, aiding a region which has long suffered from some of the State's worst air pollution. Partners include the San Joaquin Council of Governments, the Fresno Council of Government, the Merced County Association of Governments, the Tulare County Association of Governments, the California Center for Sustainable Energy, and Aerovironment. In kind match share is $50,000 from the San Joaquin Valley Unified APCD. The U.S. Department of Energy is providing $75,000 in match funding.

South Coast Association of Governments (ARV-11-007)
South Coast Association of Governments (SCAG) is awarded $200,000 for the Southern California Plug-in Electric Vehicle (PEV) Readiness Plan, which will cover the Southern California Edison service territory and portions of Ventura, Los

Angeles, Riverside, San Bernardino, Imperial and Orange counties. Partners include South Coast Air Quality Management District, Southern California Edison, South Bay Cities Council of Governments, Western Riverside Council of Governments the City and County of Los Angeles and many other cities and counties. This Plan will result in two model sub-regional plans for the South Bay Cities Council of Governments and the Western Riverside Council of Governments that could serve as models for many other areas of the State.

Ventura County Air Pollution Control District (ARV-11-002)
Ventura County Air Pollution Control District (APCD) is awarded $200,000 for the Plug-in Central Coast PEV (Plug-in Electric Vehicle) Readiness Planning Project to cover a three county area: Ventura, Santa Barbara and San Luis Obispo Counties. This funding will be used to help prepare California regions for the rollout of PEVs. Funds will help regions develop PEV strategic plans for PEV electric vehicle supply equipment (EVSE), establish best practices for "PEV-ready" building and public works guidelines, and help to streamline PEV EVSE permitting, installation, and inspection processes. Regions are required to establish a PEV Coordinating Council with a lead agency. $50,000 in match funding will be provided by the three county APCD's and the Community Environmental Council. The U.S. Department of Energy is providing $50,000 in match funding. (Note: This project has completed. Of the $200,000 originally awarded, $200,000 was provided by the Energy Commission.)

City of Mount Shasta (ARV-12-007)
City of Mount Shasta is awarded $200,000 to create a Plug-in Electric Vehicle (PEV) Coordinating Council to develop a comprehensive PEV readiness plan for the Upstate region, which includes Siskiyou, Shasta, and Tehama counties. The regional plan, to be developed within two years, will include planning for electric vehicle charging infrastructure at various sites. These sites include: single- and multi-unit residential dwellings, workplaces, fleets, commercial and public locations, as well as along traffic corridors. The council will coordinate with utilities, automakers, and local governments to provide consumer education and outreach. They will also streamline processes for chagrining infrastructure, such as permitting, installation, and inspection practices.

City of Davis (ARV-13-015)
The City of Davis is awarded $200,000 to develop a comprehensive plan to deploy public charging infrastructure in the most effective way possible to increase both ownership levels and usage of plug-in vehicles in the city. The plan will focus on four areas: 1) the barriers to installation including permitting and other institutional barriers; 2) avoiding a simple "more chargers are better" policy to focus on which charger strategies increase vehicle usage and adoption and maximizing every charger utilization; 3) coordination of stakeholders in the city including user groups, employers, business associations, and the university to disseminate ideas and solicit input on citywide planning and charger usage planning; and 4) coordinate the interoperability of information and equipment including investigation of low cost city-scale options and public chargers that will substitute for home electric vehicle supply equipment installation. The total anticipated match funding is $40,000.

Redwood Coast Energy Authority (ARV-14-046)

Redwood Coast Energy Authority is awarded $300,000 to implement core elements of the North Coast Plug-in Electric Vehicle Readiness Plan, developed under grant agreement ARV-11-006. To facilitate accelerated PEV adoption in the region, a suite of strategies from the North Coast PEV Readiness Plan will be implemented under the guidance of the North Coast PEV Coordinating Council (the project applicant, the Redwood Coast Energy Authority, is the lead agency of the North Coast PEVCC).

San Diego Association of Governments (ARV-14-036)
San Diego Association of Governments is awarded $300,000 to implement recommendations from the *San Diego Regional Plug-in Electric Vehicle (PEV) Readiness Plan*, and further regional deployment of PEVs and infrastructure through a combination of resource development, training, technical assistance, and outreach. The project will include at least eight trainings for municipal staff, 36 one-on-one, in-person consultations with staff and contractors, 36 site visits for multi-unit dwellings and public electric vehicle charging station (EVCS) siting, 18 workplace seminars, and 12 dealer visits. The project also includes documentation and resources that will continue to serve the region. The expected project outcomes include more knowledgeable municipal staff and contractors, shorter, easier installations, and enhanced awareness and increased installations of EVCS at multi-unit dwellings and workplaces within the County of San Diego.

South Bay Cities Council of Governments (ARV-14-035)
South Bay Cities Council of Governments is awarded $199,559 to conduct outreach to multi-unit dwelling (MUD) owners and homeowners' associations (HOAs) with the greatest potential for tenant demand in electric vehicle charging station (EVCS) installation. Siting prioritization will be quantified by: (1) determining EVCS installation cost for different types of MUDs; (2) identifying potential plug-in vehicle (PEV) demand for MUD tenants; and, (3) identifying EVCS supply for MUD tenants. The EVCS installation process activity will seek to gather MUD installation cost information and interview stakeholders involved in MUD EVSC installation process, which includes the MUD owner, tenant, and EVCS installer. This will be accomplished by: (1) categorizing MUDs based on property attributes; (2) visiting three to four MUDs for each category; and, (3) estimating the cost of EVCS installation based on installer bids.

City of Corona (ARV-14-041)
The City of Corona is awarded $275,078 to install signage for electric vehicle charging stations (EVCS) and perform a study of residential EVCS installation processes, distribution system requirements, and feasible rate structures.

City and County of San Francisco (ARV-14-042)
The City and County of San Francisco is awarded $300,000 to identify and evaluation options to accelerate the adoption of PEVs by residents of multifamily buildings in San Francisco through a neighborhood-based approach to charging and e-mobility.

City of Palo Alto (ARV-14-057)
The City of Palo Alto is awarded $53,000 to promote the adoption of electric vehicles through education, electric vehicle charging station siting outreach to over fifty

commercial and multi-family property owners, and two green care show events. The City will use the *Bay Area EV Readiness Plan* with the goal of accelerating the adoption of electric vehicles and increasing the density of fast-charging stations through electric vehicle awareness and education.

City of Palm Springs (Pending)
The City of Palm Springs is awarded $57,500 to promote acceptance and acquisition of electric vehicles (EVs) and zero emission vehicles (ZEVs). The goal of the project will be achieved by installing four interactive kiosks with locations and maps to EV charging infrastructure in the City of Palm Springs and the Coachella Valley and by adding directional and information signage to Palm Springs EV charging stations location in the City; by acquiring remote digital access service for City charging to assist with EV education and awareness; and by updating the City's code to include two codes relating to EV charging from the California Green Building Standards Code of California Regulations.

Solano Transportation Authority (Pending)
Solano Transportation Authority is awarded $300,000 to develop streamlined permitting and inspection processes for plug-in electric vehicle (PEV) charging infrastructure; improve electric vehicle charging station installation processes in residential multi-unit dwellings, public sites, workplaces, and corridors countywide; perform outreach to potential charging infrastructure host sites; coordinate the installation of directional "trailblazer" signage on local streets and roadways and/or signage at public PEV charging stations; conduct PEV awareness activities in Solano County in coordination with the East Bay Clean Cities Coalition; and develop guidelines and resources for the adoption of residential and/or nonresidential voluntary measures in California's Building Codes.

City of Oakland (Pending)
The City of Oakland is awarded $170,324 to support the adoption of the *Green Building Standards Code of California Regulations* in Oakland, San Francisco, and Tiburon. The City will partner with the City and County of San Francisco and the Town of Tiburon. This project will also assess and recommend permitting and inspection best practices for the City of Oakland and Town of Tiburon, as well as outreach and education to the planning and building communities.

City of Mount Shasta (Pending)
The City of Mount Shasta is awarded $300,000 to implement the core elements of the *Upstate Plug-In Electric Vehicle Readiness Plan*, while developing a readiness plan for Glenn and Colusa Counties to broaden the Upstate Region and cover "gaps" along the West Coast Green Highway. The Upstate PEV Coordinating Council (PEVCC) will expand to include Glenn and Colusa Counties and will guide development of the readiness plan for these counties based on the work completed in the *Upstate PEV Readiness Plan*. In addition, the PEVCC will guide implementation of strategies developed in the *Upstate PEV Readiness Plan* to expedite quick PEV adoption throughout the entire region. The Siskiyou County Economic Development Council will act as the project manager and is the lead agency in the PEVCC.

Southern California Association of Governments (Pending)

The Southern California Association of Governments (SCAG) is awarded $47,992 to implement the *Southern California Association of Governments (SCAG) 2012 PEV Readiness Plan*, specific to multi-unit dwellings, by analyzing PEV penetration data, transportation patterns, and land use across the SCAG region, which includes 191 cities. The project will focus on the densest cities in the region, which are Beverly Hills, Culver City, Santa Monica, West Hollywood, and the western portions of Los Angeles.

Tahoe Regional Planning Agency (Pending)
The Tahoe Regional Planning Agency is awarded $200,000 to develop a Tahoe-Truckee PEV Readiness Plan through coordinated engagement with PEV partners and stakeholders in the region, in nearby regions (for example, Sacramento, Reno, Bay Area), and across California. An assessment will be developed to establish the existing conditions and identify the key needs in the Tahoe-Truckee region to prepare for and coordinate PEV infrastructure deployment.

San Joaquin Valley Air Pollution Control District (Pending)
The San Joaquin Valley Air Pollution Control District is awarded $300,000 to implement training, encourage permit streamlining, and conduct outreach activities identified under an existing PEV Readiness Plan.

c. Medium- and heavy-duty advanced vehicle awards ($60,752,830)

Electric Vehicles International (ARV-09-017)

Electric Vehicles International (EVI) is awarded $2,569,367 to design, develop, and deploy a range-extended electric vehicle powertrain for medium-duty truck applications. EVI proposes to build 10 range-extended liquefied natural gas (LNG) medium-duty pickup trucks. The applicant proposes to use Valence lithium-phosphate batteries for a 100-115 mile range. EVI will integrate the new powertrain into an industry standard pickup truck and will deploy prototypes for onsite testing with partners. Project partners include Light Engineering who will provide their SmartTorq motor/generator; Valence Technology who will provide lithium-phosphate batteries to power the proposed vehicle; Altec Industries who will supply equipment and provide engineering support; and Pacific Gas & Electric who will provide utility vehicles from their fleet to be retrofitted with the EV powertrain. Compared to its petroleum-fueled counterpart, each range-extended electric vehicle will use the equivalent of 1,750 gallons less of fuel and save an average of $8,000 on fuel purchases and maintenance annually and release over 38,000 fewer pounds of CO_2 each year. The manufacturing process will immediately create 50 permanent jobs in economically depressed Stockton, while a commercial scale plant is expected to create an additional 375 jobs. Project match funding is anticipated to be $2,834,771.

ISE Corporation (ARV-09-014)

ISE was awarded $888,595 to produce a battery-electric 45-foot transit bus using the NABI "compobus" chassis for the Los Angeles Metropolitan Transportation Authority (LAMTA) Battery Electric Bus Program. ISE will install their electric drive system and lithium ion batteries in place of the engine and fuel storage tank. This is the first battery based technology to meet the 40+ ft. class transit bus requirements. This size class represents two thirds of the transit bus market. If this demonstration is successful, the LAMTA is expected to purchase 30 to 40 buses per year on average. The Air Resources Board and South Coast Air Quality Management District are financial supporters of the LAMTA's Battery Electric Bus Program. Total match funding was anticipated to be $888,595. (Note: ISE Corporation has filed for bankruptcy. Of the $888,595 originally awarded, no funding had been provided by the Energy Commission.)

Kenworth Truck Company (ARV-09-012)

Kenworth Truck Company is awarded $1,458,735 to demonstrate one truck with an advanced class 8 hybrid electric system and an intercooled recuperated (ICR) 350 kW microturbine. The ICR microturbine will be run on natural gas for this demonstration because of its low GHG potential, low cost, and distribution infrastructure. However, the microturbine will be capable of using any fuel including ethanol, LNG, hydrogen, and biodiesel. FedEx will take delivery of the demonstration truck and integrate the vehicle into its ongoing operations starting in 2012. The test vehicle will be equipped with data-logging equipment to record information on the vehicle's operation for analysis. The system will initially be designed for class 8, but can be readily scaled to fit all class 6, 7, and 8 vehicles over a wide range of operation. This project can reduce greenhouse gas emissions by 46 tons and diesel fuel by 13,800 gallons per truck per year. Immediately, this project is expected to create 35 long-term jobs. At full commercialization, this project can create over

6,000 high tech and green tech jobs on a sustainable basis in California by 2025 to 2030. Six hundred California jobs per thousand units are projected just for the microturbine manufacturing and assembly. Project partners include Capstone Turbine Corporation, Brayton Energy LLC, Arvin Meritor, Southern California Gas Company, Clean Energy, FedEx Corporation, and CALSTART. Total match funding is anticipated to be $1,603,325.

Motiv Power Systems Incorporated (ARV-09-015)
Motiv Power Systems, Inc. (Motiv), with project partners Bauer Worldwide Transportation, Inc. (Bauer), and Seeo, Inc. (Seeo), is awarded $1,345,552 to integrate Motiv's customizable electric-drive Power Control System into a prototype class 4 vehicle to demonstrate the viability and benefits of the system's 100-mile all-electric range. Motiv will install its system on a new shuttle bus chassis as a test platform to illustrate the large-scale applicability of the technology. This shuttle will operate along routes at campuses of Bauer's client companies, including Google, Cisco, Facebook, and Yahoo. Upon successful completion of the proposed project, Bauer will employ the vehicle technology in a large-scale roll-out of Motiv's electric-drive vehicle platform, which can be configured with different battery packs and with or without generators on board to meet the specific needs of medium- and heavy-duty vehicle fleets. Over 8 years, its total cost of ownership will be only 55 percent of a traditional diesel shuttle. The vehicle will save 40,000 gallons of diesel and reduce greenhouse gas emissions by 435 tons over that 8-year period. The project will directly add 13 high-tech positions between Motiv, Bauer, and Seeo, with many more jobs possible as the technology develops. Total match funding is anticipated to be $1,345,552. (Note: This project has completed. Of the $1,345,552 originally awarded, $1,345,552 was provided by the Energy Commission.)

Parker Hannifin Corp. (ARV-09-011)
Parker Hannifin is awarded $750,000 to design, develop, and deploy four hydraulic hybrid Class 6 Coca-Cola delivery trucks. Hydraulic hybrids use hydraulic fluid in high pressure tanks to capture the braking energy of the moving vehicle and then reuse this energy at the next restart. These trucks may provide 40% better fuel economy over the conventional delivery trucks. Coca-Cola Enterprises has the largest fleet of hybrid trucks currently deployed with 335 units in fleet operations as of January 1, 2010. Each truck will save about 5,200 gallons of petroleum diesel per year and reduce 82 tons of CO2 emission annually (23 percent GHG reductions per year). Approximately 22 jobs will be maintained or created for assembly. In addition, local maintenance and service support jobs will be created for the hydraulic hybrid units. Manufacturing, maintenance, and service support jobs will be created within each of the companies involved with this project. The project team is providing matching funding totaling $1.25 million. Total anticipated matching funding is $1,250,000.

South Coast Air Quality Management District (ARV-09-003)
The South Coast Air Quality Management District (SCAQMD) is awarded $5,000,000 to manage a project to design, develop and deploy medium-duty plug-in hybrid vehicles (PHEV). The program will develop a fully integrated, production plug-in hybrid system that can be used in Class 2-5 vehicles (those between 8,501 and 19,500 lbs gross vehicle weight). A demonstration fleet of 378 vehicles will be built in a production facility and delivered for nationwide testing in daily long-term fleet use;

107 of these vehicles will be tested by companies throughout the state of California. Vehicles such as trucks, aerial lift utility trucks, work trucks, and shuttle busses will be used and support the commercialization of this technology. PHEV Applications for this project include: Ford F550 Utility "Trouble Trucks", Ford F250 and F350 Trucks, Ford 450 and F550 work trucks with various body configurations, and, Ford F-series or E-series shuttle bus. The program will also include the development and installation of "smart" charging infrastructure to support the vehicles. Project partners include Electric Power Research Institute, Eaton Corporation, Altec Industries, Ford Motor Company, Southern California Edison, and Compact Power, Inc. Fifty different fleets will participate in the project nationwide, including California companies such as Sacramento Municipal Utilities District, Orange County Transit Authority, City of Redding Electric Utilities, Alameda Power & Telecom, Pasadena Water & Power, Riverside Public Utilities, and City of Shasta Lake. It is expected that the project will save, on average, 3.9-7.8 million gallons per year in 2015, and 30.3-60.5 million gallons per year in 2020. The project is expected to create 135 short-term and 65 long-term jobs. Total anticipated match for the project team is $48,097,142.

Terex (ARV-09-016)
Terex is awarded $494,678 to demonstrate the economic and environmental viability of its innovative new Hypower^{TM} Hybrid system retrofitting 12 medium- and heavy-duty PG&E utility service vehicles. The Hypower Hybrid uses stored energy from the system's rechargeable batteries to provide power for aerial boom operation, cabin heating and air conditioning, and worksite lighting. This will virtually eliminate the need for chassis engine idling during these types of operation which typically exceed more than 4 hours per day for the average utility service vehicle. The HyPower^{TM} Hybrid systems will reduce fuel consumption, carbon dioxide, and worksite noise pollution. The fleet of 12 vehicles is expected to reduce fuel consumption by 10,000 gallons annually. Greenhouse gas emissions will be reduced by 110 tons per year. During the term of the project, over 30 jobs are estimated to be created and retained. Total anticipated match funding is $494,702. (Note: This project has been cancelled due to recipient issues. Of the $494,678 originally awarded, no funding was provided by the Energy Commission.)

CALSTART, Inc. (ARV-11-014)
CALSTART, Inc. is awarded funding for the demonstration of ten (10) projects, detailing an ambitious California Commercial-Path Low-Carbon Efficient Alternative-fuel Next-Generation (CLEAN) Truck Demonstration Program. These high-impact, on- and off-road, near commercial projects, were selected to focus on goods movement and public transit applications in consultation with, and support from, California's three highest-need air basins: Bay Area, San Joaquin Valley and South Coast. In total, 9 companies, along with 21 client partners and 12 engine/OEM manufacturing partners are participating in this grant with CALSTART. CALSTART anticipates that 36 short-term jobs and 335 long-term jobs will be created. Project match funds from participating companies and teams are expected to total $14,104,990.

CALSTART: Administration

CALSTART is awarded $899,640 to complete agreements with subgrantees and perform administrative functions for entire block grant as outlined in the SOW and T&C's.

Electric Vehicles International: Range-extended Electric Vehicle Shuttle Bus Demonstration
Electric Vehicles International is awarded $847,805 to build and demonstrate range-extended electric vehicle (REEV) shuttle buses which are powered by electricity and also equipped with range-extending gas generators.

Caterpillar Inc.: Off-road Large Size Excavator
Caterpillar is awarded $2,500,000 to build and demonstrate off-road large-sized (36-ton class) hybrid excavators that capture kinetic and potential energy of the earthmoving implement system and reuse that energy to reduce fuel consumption, noise, and exhaust emissions.

Odyne Systems LLC: Advanced Diesel Plug-in Hybrid Electric Truck
Odyne is awarded $462,600 to build and demonstrate advanced plug-in hybrid electric heavy-duty work trucks in several applications while testing different battery sizes matched to duty cycle.

Motiv Power Systems: Battery-electric Truck Pilot on a Traditional Truck Assembly Line
Motiv is awarded $1,157,704 to build and demonstrate battery-electric trucks with Motiv's all-electric powertrain and wireless real-time data collection.

Ballard Power Systems: Fuel Cell Bus Project
A description of Ballard Power Systems with the funding amount is listed in the Hydrogen – Demonstration Projects section.

Volvo Technology of America, Inc.: Hybrid Wheel Loaders in Landfill Applications
Volvo Technology of America is awarded $1,801,052 to build and demonstrate Hybrid Wheel Loaders in landfill operations.

Proterra, Inc.: The Comparative Analysis of Battery Electric Buses in Varying Transit Applications Project
Proterra is awarded $2,569,000 to build and demonstrate the viability of fast charge battery electric buses (with charge station) in the San Joaquin Valley operating environment to replace conventional diesel buses on a 1 to 1 conversion rate.

Transportation Power, Inc.: Electric Drayage Demonstration (EDD) Project
Transportation Power is awarded $2,296,167 to build and demonstrate the reliability and performance of battery electric Class 8 trucks by placing them in trial service transporting containers at the Ports of Long Beach and Los Angeles.

Volvo Technology of America, Inc.: Demonstrate PHEV Drayage Truck with 10-mile ZE Range
Volvo Technology of America is awarded $2,139,423 to build and demonstrate

the reliability and performance of plug-in hybrid-electric Class 8 trucks by placing them in trial service transporting containers at the Ports of Long Beach and Los Angeles.

Atrisan Vehicle Systems Inc..: GP8 Drayage Truck
Atrisan Vehicle Systems is awarded $908,473 to build and demonstrate the reliability and performance of two GP8 Drayage Truck variants (one all-electric and one range extended series hybrid) by placing them in trial service transporting containers at the Ports of Long Beach and Los Angeles.

Electric Power Research Institute (ARV-11-013)
Electric Power Research Institute (EPRI) is awarded $1,185,118 to administer the project of Odyne Systems LLC, to retrofit five (5) heavy-duty diesel work trucks with plug-in hybrid electric vehicle (PHEV) drive systems. The project will demonstrate the operating performance, fuel savings, and emissions reduction of heavy-duty trucks. Fleet partners include the City of Sacramento, City of Los Angeles, and City of San Francisco. The demonstration project will position Odyne for commercialization of its Plug-in Hybrid Electric Vehicle (PHEV) retrofit system. The project is expected to create 8 long-term jobs. The total anticipated match funding for this project is $671,571.

Electricore, Inc. (ARV-11-012)
Program funds of $2,325,954 were awarded to Electricore, Inc. to demonstrate a battery electric, medium-duty truck to match or surpass the performance of conventional diesel and natural gas vehicles. Fourteen vehicles will be demonstrated at various sites, including Google, the city of Santa Monica, LAX, and other locations throughout California. The project will build upon a recent prototype vehicle that is in use by the city of Santa Monica. As demand increases, the company expects to employ approximately 15 people by 2015, and the ZeroTruck vehicle, which operates 30,000 miles per year, is expected to save approximately $19,000 a year on operations and maintenance cost, compared to a diesel vehicle. The project is expected to create 8 long-term jobs. The total anticipated match funding for this project is $948,424.

Lawrence Berkeley National Laboratory (500-11-025)
Program funds of $1,000,000 were awarded to the U. S. Department of Energy, Lawrence Berkeley National Laboratory, to demonstrate an all-electric non-tactical vehicle fleet at Los Angeles Air Force Base. The project will explore vehicle-to-grid revenue generating capability of such a fleet, by participating as fully as possible in California Independent System Operator's ancillary services markets. The project is expected to create 11 short-term jobs and 17 long-term jobs. The Department of Defense is providing $2.75 million in funding for this project.

South Coast Air Quality Management District (600-12-011)
South Coast Air Quality Management District is awarded $1,600,000 to retrofit five Class 8 heavy-duty electric trucks for use with the proprietary Siemens pantograph system. The project is expected to create 11 short-term jobs and 17 long-term jobs.

Concurrent Technologies Corporation (600-12-016)

Concurrent Technologies Corporation is awarded $2,000,000 to demonstrate vehicle to grid testing with the U.S. Department of Defense in China Lake, California. The demonstration will include converting a portion of the non-tactical fleet to electric drive vehicles and will explore vehicle-to-grid revenue generating capabilities. The project is expected to create 11 short-term jobs and 17 long-term jobs.

Electric Vehicles International (ARV-14-006)
Electric Vehicles International (EVI) is awarded $1,653,000 to electrify 17 pre-2007, Class 6 Navistar VT365 diesel United Parcel Service (UPS) medium-duty delivery trucks statewide and demonstrate the repowered zero-emission vehicles (ZEVs) in daily on-road uses. Data and lessons learned from the project will inform the state and partnering air districts of the substantial environmental benefits of repowering pre-2007 diesel to zero-emission electric trucks, supporting widespread commercialization. The proposed demonstration project will eliminate toxic diesel emissions, provide lasting greenhouse gas reductions for nearly 20 years, and generate data to accelerate further investment and adoption of the technology. The repowered UPS trucks will travel within the South Coast and San Joaquin Valley air basins an average of 75 miles per day. They will be placed in service during the day and charged off-peak at night using smart-charge technology. This project will also stimulate economic development in Stockton, California, a city desperately in need of living-wage jobs. The total anticipated match is $1,713,250.

Motiv Power Systems, Inc. (ARV-13-010)
Motiv Power Systems, Inc. is awarded $1,655,594 to repower and demonstrate seven United Parcel Service (UPS) and United States Postal Service (USPS) medium-duty delivery walk-in vans with Motiv's electric powertrain. The goal of this project is to move large truck fleets beyond electric power pilots and into electric repower mass adoption by providing compelling economic, performance, and reliability data. This project will also demonstrate 100 miles range in typical use, over 50% maintenance cost reduction when compared to non-repowered similar vehicles, and gradability, acceleration, handling that is comparable or better than pre-repowered vehicles. This project will eliminate the tailpipe emissions of 9,600 pounds NO_x and hydrocarbons and 236 pounds of particulate matter into California air, as well as eliminate the net emissions of 160 tons of CO_2 into the atmosphere (based on CA GREET model). The project is expected to directly create or retain 12 positions in California. The total anticipated match is $1,844,400.

National Strategies, LLC (ARV-13-011)
National Strategies, LLC is awarded $1,473,488 to retrofit and demonstrate six existing diesel-powered school buses with an all-electric, battery-powered, zero emission system. The reduced cost of operating electric school buses due to reduced fuel and maintenance costs, coupled with revenue generated by vehicle-to-grid (V2G) services from electricity markets, will create an economic model that demonstrates that electric buses can have similar, and potentially lower, total cost of operation when compared to diesel school buses. When adding the health benefits of reducing exposure of children, drivers, and teachers to diesel emissions, combined with improvements in air quality due to reduced school bus emissions, the case for electric school buses becomes compelling. Theses electric buses will provide an 80-mile range on a single charge and will be equipped with onboard fast chargers. Additionally, because these buses will have V2G capability, they will be

substantially vehicle-to-building ready. This will allow the school buses to provide power to specific buildings or facilities during power outages and/or disaster/emergency response situations. The electric school buses proposed for this program will be able to demonstrate that these buses can provide this type of power for facilities in need. The total anticipated match is $2,360,754.

Lawrence Berkeley National Laboratory (600-13-009)
Program funds of $2,300,000 are awarded to the U.S. Department of Energy, Lawrence Berkeley National Laboratory, to demonstrate vehicle-to-grid revenue generating capability in Northern California.

South Coast Air Quality Management District (600-14-003)
South Coast Air Quality Management District is awarded $1,400,000 to install overhead catenary line infrastructure to demonstrate zero-emission drayage truck operations along the I-710 corridor.

Transportation Power, Inc. (Pending)
Transportation Power, Inc. is awarded funding to cost share the field demonstration of three truck technologies that may become commercially available in California.

Heavy-Duty Electric Yard Tractors
Transportation Power, Inc. is awarded $3,000,000 to take the next steps in refining and demonstrating electric yard tractor technologies, with the goal of establishing new paths-to-market. To achieve these goals, a total of five tractors will be demonstrated, with the tractors distributed among four prominent fleet operators around California. The tractors will feature incremental improvements to the batter-electric drive system, reflecting lessons learned during operation of three existing prototype electric tractors in 2015. Tractors will be demonstrated at IKEA in Tejon, Harris Ranch and Grimmway Farms in the San Joaquin Valley, and Devine Intermodal in the Sacramento area. Total anticipated match is $2,169,116.

Advanced Battery-Electric Port Vehicles
Transportation Power, Inc. is awarded $3,000,000 to refine and demonstrate the electric drayage truck, yard tractor, and reach stacker technologies, with the specific goal of testing a promising new lithium-ion battery technology. Another unique goal of the project is to expand the use of electric port vehicles at the Port of San Diego, one of California's major ports. To achieve these goals, a total of five vehicles will be demonstration—two new Class 8 electric drayage trucks, two new Class 8 electric yard tractors, and one Class 8+ reach stacker. Terminalift will operate the reach stacker, along with an electric drayage truck. The other electric drayage truck will be operated by BAE Systems, and Dole Fresh Fruit Company will operate the two electric yard tractors. All are Port of San Diego tenants, and the vehicle demonstration will be conducted within disadvantaged communities near the Port, providing environmental and economic benefits where they are needed most urgently. Total anticipated match is $2,184,630.

Heavy-Duty Electric Refuse Trucks
Transportation Power, Inc. is awarded $2,884,812 to refine and demonstrate electric truck technologies, with the specific goal of applying TransPower's

technologies to heavy refuse trucks. Furthermore, the project will test a new higher-capacity battery system, which has the potential to improve the operating range of such trucks. This project responds to urgent needs in reducing fuel consumption, emissions, and noise from the thousands of refuse trucks operating in California and across the country. To achieve these goals, three prototype refuse trucks will be demonstrated. Complete drive systems will be installed into the refuse trucks, featuring new electrically driven accessories to operate trash lifting and compacting mechanisms. Two of the trucks will be operated daily by the County of Sacramento within disadvantaged communities, providing environmental and economic benefits where they are needed most urgently. Waste Management is expected to operate the third truck in its Southern California fleet. Total anticipated match is $1,812,451.

Motiv Power Systems (Pending)
Motiv Power Systems is awarded funding to cost share the field demonstration of three truck technologies that may become commercially available in California.

Class C Electric-Quest School Bus Demonstration
Motiv Power Systems is awarded $2,702,223 to demonstrate Class C electric school buses. This project will take place at partner school districts using their existing facilities and current bus routes. The partner school districts are the Los Angeles Unified School District, the Kings Canyon Unified School District in Reedley, and the Colton Joint Unified School District in San Bernardino County. All three sites are school district fleets operating routes in disadvantaged communities in California. Total anticipated match is $1,464,763.

Electric Refuse and Loader Truck Demonstration
Motiv Power Systems is awarded $2,980,875 to demonstrate electric refuse and loader trucks. This project will take place on existing routes for both municipal and private waste fleets in Sacramento. Fleets will be operating all-electric refuse trucks on routes in disadvantaged communities in California. Total anticipated match is $1,605,108.

CALSTART, Inc. (Pending)
CALSTART, Inc. is awarded $2,886,248 for the Los Angeles Department of Transportation (LADOT)—Build Your Dreams (BYD) Battery Transit Bus. This project will manufacture, deliver, demonstrate, and validate four of the world's first long-range, 33-foot battery-electric transit buses build to meet U.S. transit requirements. BYD's battery technology will provide buses a driving range of 165 miles per charge and a 3.5 hour charge time. The buses will be demonstrated on a bus route in downtown Los Angeles that serves inner city disadvantaged communities and is a high-profile rout that traverses the city's downtown business and government center. Total anticipated match is $3,480,464.

d. Manufacturing awards ($57,157,760)

Boulder Electric Vehicles (ARV-10-039)
Boulder Electric Vehicles (BEV) is awarded $3,000,000 to design and construct a 20,000+ square foot manufacturing facility in Los Angeles to produce medium- and heavy-duty all electric drive trucks and buses. In June 2009 BEV released its

prototype all-electric drive truck, which to date has been driven over 10,000 miles in a wide variety of weather conditions and terrains. Due to its unique lightweight design, the BEV prototype is an 11,000 pound gross vehicle weight truck with a cargo capacity of 5,000 pounds. As a zero emissions vehicle, BEV's trucks can travel over 100 miles on a single charge. The key market for these trucks and buses will be the major cities of California as well as major private California fleet operators such as FedEx. Thirty vehicles will be produced during the trial period. Completion of this project will result in the establishment of an energy efficient manufacturing line that produces medium- and heavy-duty all electric drive trucks and buses in Southern California. BEV estimates that it will be able to produce up to 6,000 trucks or 6,000 buses per year with an annual savings of 1.2 billion pounds of CO2 per year based upon figures for direct replacement vehicles for typical diesel-powered trucks. The project will create an estimated 20 jobs during plant facility improvements and 20 jobs when the plant is fully functioning. Total anticipated match is $3,000,000. (Note: This project has completed. Of the $3,000,000 originally awarded, $2,999,839 was provided by the Energy Commission.)

Coulomb Technologies (ARV-10-012)

Coulomb Technologies, a California-based electric vehicle supply equipment manufacturer, is awarded $1,102,985 to develop and manufacture its Charge Point Communication Processor. Designed for installation into existing electric vehicle chargers and into new chargers manufactured by other companies, the processor will link the charging point to the smart grid to offer multiple services. The project should result in a complete smart charger network capable of remotely controlling the charging and discharging of batteries and shifting charging loads away from peak hours. Shifting charging to off-peak periods reduces stress on the grid and allows chargers to take advantage of renewable power, which can reduce the cost of electricity and significantly cut emissions from power plants. Coulomb's smart charge network also will be capable of providing billing, wireless monitoring, and web and cell phone services for consumers. Coulomb's project will integrate hardware and software for charging stations into a smart grid that will help power plants level the load, smoothing out power demand to reduce greenhouse gas emissions and cut the cost of electricity. Additional charging locations will spur the growth of all-electric cars and plug–in hybrids. The project is expected to create 28 short-term jobs and 17 long-term jobs. Total anticipated match is $1,081,984. (Note: This project has completed. Of the $1,102,985 originally awarded, $1,102,985 was provided by the Energy Commission.)

Electric Vehicles International (ARV-10-011)

Electric Vehicles International (EVI) is awarded $3,881,244 to design, develop, and deploy a clean, state-of-the-art range-extended electric vehicle power train technology for medium-duty trucks, using Valence lithium-phosphate batteries for a 100-115 mile range. These vehicles will use a liquefied natural gas (LNG)-powered motor and generator to extend its range. The powertrain will be integrated into 10 standard medium-duty pick-up trucks owned by Pacific Gas & Electric (PG&E). Increasing this award provides EVI with necessary funding to go beyond two prototype vehicles and add eight production vehicles to the project. The production vehicles allow a more robust demonstration of the technology's viability in various applications. Compared to its petroleum-fueled counterpart, each range-extended electric vehicle will use the equivalent of 1,750 gallons less of fuel and save an

average $8,000 on fuel purchases and maintenance annually, and release over 38,000 fewer pounds of CO2 every year. This project will create new 50 green jobs in Stockton, California, one of the nation's hardest hit regions economically with an unemployment rate of over 16 percent. This project will also generate significant sales tax revenue for the state and city/county. Total anticipated match is $2,839,777.

Envia Systems (ARV-09-004)
Under the Advanced Research Projects Agency – Energy (ARPA-E) solicitation for ARRA funding, Envia Systems has been awarded $1,000,000 in Program funds, along with $4,000,000 in federal ARRA funds, to develop high energy density lithium-ion batteries at their existing facility in Hayward. Current lithium-ion batteries for electric vehicles possess an energy density ranging from 100-200 watt-hours per kilogram. By developing advanced battery anodes, Envia expects to surpass 400 watt-hours per kilogram. This should, in turn, reduce the cost to produce each battery, resulting in a decreased cost for electric vehicles and/or increased electric range. The project is expected to create 2 short-term jobs and 12 long-term jobs. Including ARRA funding, total anticipated match is expected to be $4,422,332. (Note: This project has completed. Of the $1,000,000 originally awarded, $933,854 was provided by the Energy Commission.)

Green Vehicles (PON-09-605)
Green Vehicles is awarded $2,052,560, with project team match funds of $2,878,611, to upgrade its existing facility in Salinas. The goal of the project is to validate vehicle, component, process, and equipment improvements before installing a 2,000 vehicle per year commercial production line for the Triac, Green Vehicle's three-wheeled battery-electric freeway commuter car. The improvements will be evaluated on a pilot assembly line that allows products and the processes by which they are created to be examined. The Triac is currently produced in low quantities at the Salinas facility as part of a commercial trial. Due to the use of proprietary software and controllers, lightweight vehicle construction, and a new, California based battery technology, Green Vehicles anticipates the Triac will be 40.3% more energy efficient than the Nissan Leaf. (Note: Green Vehicles has filed for bankruptcy. Of the $2,052,560 originally awarded, only $168,485 has been provided by the Energy Commission.)

Leyden Energy, Inc. (ARV-10-015)
Leyden Energy, a research, development, and manufacturing company based in Alameda County, is awarded $2,962,743 to establish a facility in Fremont to develop and test a new, advanced lithium ion battery technology, and design and verify a pilot production line that will be capable of producing 10 electric vehicle batteries each month by the end of the project. Leyden's patented technology makes their batteries tolerant of high temperatures and high levels of abuse, and flexible enough to incorporate all current lithium ion battery chemistries, which will allow integration of higher performing components as they develop. Leyden is striving to be cost-competitive with overseas battery manufacturers. Leyden Energy estimates this project will create 1 short-term and 6 long-term technical and production jobs immediately, with another 500 being added at its Fremont headquarters and a future commercial-scale production facility planned for Salinas. Each battery pack that goes into a light-duty electric vehicle is expected to reduce petroleum use by 575

gallons per year and reduce the resulting greenhouse gas emissions by 72 percent. Equal project team match funding will be provided. (Note: Leyden Energy, Inc. entered into a General Assignment for the Benefit of Creditors and subsequently sold company assets necessary for the successful completion of the agreement. Of the $2,962,743 originally awarded, $2,055,073 has been provided by the Energy Commission.)

Mission Motor Company (ARV-10-021)
Mission Motors, a high performance electric motorcycle and electric powertrain technology company based in San Francisco, will advance its battery module and motor control systems from the working prototype phase to a final product ready for commercial production. The manufacturing assembly lines that will be designed and validated during the course of the project will be capable of producing 30,000 battery packs and motor control systems per year by 2015. Mission Motor's electric powertrain's scalability allows the powertrain to be applied broadly: in cars, motorcycles, scooters, buses, and outdoor power equipment. Mission Motor has signed contracts or is developing strategic partnerships with large vehicle manufacturers or fleet owners in each of those areas. This project is estimated to create three short-term jobs, with the possibility of 240 green-collar manufacturing and assembly jobs by 2015. If used in a motorcycle, each powertrain will reduce greenhouse gas emissions by an estimated 72 percent and save 70 gallons of petroleum each year. If used in a light duty passenger vehicle, the powertrain will displace 575 gallons of petroleum yearly. Mission Motor is committed to sustainability in operations, full-cycle sustainability in product design and manufacturing, and social sustainability in the relationships between the company, employees, and the local community. Project team match funds are $637,166. (Note: This project has completed. Of the $505,381 originally awarded, $493,859 was provided by the Energy Commission.)

Quallion (ARV-10-010)
Quallion**,** a California based Lithium-ion (Li-ion) battery manufacturer, is awarded $6,914,072 to develop a pilot scale, automated manufacturing line capable of producing 10,000 1kWh Li-ion modules. The battery module for transportation is the single most expensive component in an electric vehicle, up to 50% of the purchase price. Quallion is automating the module building process to mass produce battery modules that can be produced with a lower price point and in large volumes making them less costly for use in transportation applications. Quallion is also designing a common base module structure to promote standardization in module size, module design, battery size, or battery design. Once deployed, each battery module can reduce carbon emissions by 68 percent per vehicle. The project will generate 29 temporary and 13 permanent jobs. Total anticipated match is $6,936,448.

Quantum Fuel Systems Technologies Worldwide, Inc. (ARV-10-009)
Quantum is awarded $1,371,679 to re-tool one of its facilities in Lake Forest, CA to manufacture and test a new combination inverter/charger for plug-in hybrid electric vehicle, hybrid electric vehicle, and electric vehicle applications. Once operational, the facility will be able to produce 36,000 units each year. Quantum (co-founder of Fisker Automotive) developed the Q-Drive, a hybrid powertrain that will be used in the Fisker Karma and Sunset, a pair of highly anticipated plug-in hybrid luxury sedans. While Quantum anticipates supplying the Q-Drive to Fisker for up to 15,500

vehicles each year, it is developing a second generation Q-Drive designed around a new combination inverter/charger that will be more economical and targeted at a wider audience. In order to produce the new Q-Drive, Quantum will use Program funds to upgrade an existing facility with testing equipment, a pilot production line, and ultimately, a high volume production line. This project is estimated to create 30 to 40 direct jobs. Total anticipated match is $1,676,453. (Note: This project has been cancelled. Of the $1,371,679 originally awarded, $849,565 was provided by the Energy Commission.)

TransPower (ARV-10-020)
TransPower, a California company, is awarded $1,000,000 to conduct a study and performance tests relating to the "Feasibility of a Vertically-Integrated Facility for Electric Truck Manufacturing" (VIFET). The VIFET project goal is to establish readiness to construct a new manufacturing facility for large Class 8 electric trucks in Southern California by January 2013. TransPower's unique solution, to be studied and validated, is to co-locate the operations of at least four key companies in the electric truck supply chain, thereby enabling three stages of electric truck manufacturing to be performed and integrated cost-effectively. Those stages include: 1) Component manufacturing (advanced inverters and battery modules); 2) Integration of components into electric drive system "kits" customized for specific vehicle models and applications; and 3) Vehicle component kit installation into mass-produced Class 8 truck models. TransPower is targeting the port drayage market and working with PortTechLA to identify a location for the facility in the San Pedro port region. Other project partners include EPC, a startup firm based in San Diego, who develops and markets advanced power conversion devices with high-power converters, and Navistar, a manufacturer of truck bodies, frames, and engines. Immediately, the project is expected to create 20 short-term and 20 long-term jobs. It is estimated that up to 1,500 new jobs will be created by the establishment of the manufacturing facility and commercialization of the electric truck technology. Total anticipated match is $1,625,761. (Note: This project has completed. Of the $1,000,000 originally awarded, $1,000,000 was provided by the Energy Commission.)

Wrightspeed, Inc. (ARV-10-025)
Wrightspeed, Inc. is awarded $1,197,064 to validate electric drive retrofit kits for use in Class 3 through Class 6 trucks, to ensure that the systems meet specified performance and efficiency levels. Wrightspeed's Digital Drive System (DDS) electric drive retrofit kit replaces the entire drive system and includes a range extending micro-turbine powered generator. The Wrightspeed DDS uses electric-drive power for up to the first 40 miles per day before it switches over to a range-extending micro-turbine generator which will supply the necessary electrical energy to charge the batteries for extended driving range. Wrightspeed expects this project to validate that the DDS results in a 100 percent increase in fuel economy under mixed driving conditions, when compared with the same truck with a diesel engine. Wrightspeed estimates its industry-leading technology will result in 100 percent fuel savings; if a diesel truck gets 10 miles per gallon (mpg), the same truck with a digital drive system would get 20 mpg. When compared to a similar diesel truck, a digital drive system vehicle will reduce greenhouse gas emissions by an estimated 64 percent. The project team will verify the manufacturing, testing and installation of the new technology. 20 short-term and 20 long-term jobs, mostly engineering, will be

created now, while the company's business plan predicts adding 120 more jobs five years into the project. With high market penetration, the technology could eventually create as many as 6,000 jobs, including assembly workers, technical and service staff, and sales and administration people. Total anticipated match is $1,523,531. (Note: This project has completed. Of the $1,197,064 originally awarded, $1,196,717 was provided by the Energy Commission.)

Zero Motorcycles (ARV-10-013)
Zero Motorcycles, an electric vehicle company based in California, is awarded $900,272 to design and bring to pilot production an advanced electric motor and integrated controller for use in next-generation electric vehicles including motorcycles, neighborhood electric vehicles, and all-terrain vehicles. The project team will develop a motor and integrated controller specifically for use in electric vehicles, and design cost-effective, scalable manufacturing processes that will allow the powertrains to be produced for less than $450 each. Zero Motorcycles will benchmark currently available motors ranging from three to ten kilowatts to provide baseline performance requirements for the new design, develop a proof of concept motor and controller that exceeds those benchmarks, manufacture and test prototypes, and manufacture 30 powertrains on the pilot line. The state grant boosts manufacturing jobs in Santa Cruz County, which had an unemployment rate of 15 percent in early 2010. The new project is expected to create 7 short-term and 12 long-term jobs, with additional hiring expected if the more efficient design performs as expected and manufacturing scales up. Each powertrain that replaces a traditional gasoline-powered motorcycle engine will cut greenhouse gas emissions by 72 percent, gasoline use by 70 gallons per year and tailpipe emissions by 100 percent. Total anticipated match is $938,000, with the City of Santa Cruz contributing $415,000 in loans and assistance. (Note: This project has completed. Of the $900,272 originally awarded, $900,272 was provided by the Energy Commission.)

Quallion LLC (ARV-12-010)
Quallion LLC is awarded $2,230,595 to expand its manufacturing capacity for high volume integration of battery management system (BMS) electronics. Quallion will acquire new electronics assembly and test equipment, modify and expand its existing facilities, and optimize the process of battery electronics integration. This project will increase manufacturing volumes at reduced unit costs, improve the safety of the manufacturing process and finished batteries, and integrate advanced BMS technologies to improve the performance of vehicle batteries. The project is expected to result in 13 direct jobs in the inspection, processing, testing, and assembly of electronics and batteries. Additionally, the project will create 40 indirect jobs and 30 short-term construction jobs. Total anticipated match is $2,235,863.

Tesla Motors, Inc. (ARV-12-008)
Tesla Motors, a California based corporation with headquarters in Palo Alto and a large manufacturing facility in Fremont, California, is awarded $10,000,000 to facilitate the expansion of Tesla Motors' factory in Fremont, California to enable the production of the world's first pure-electric, all-wheel-drive crossover utility vehicle, the Tesla Model X. It is anticipated that Model X vehicles will be produced in quantities of 10,000 to 15,000 vehicles per year, starting in 2014. This level of

production will directly create over 500 additional jobs at Tesla facilities in California. Tesla Motors is providing $50,200,000 in match funding.

Zero Motorcycles, Inc. (ARV-12-006)
Program funds of $1,815,123 were awarded to Zero Motorcycles to expand the company's full electric motorcycle production capacity and scale with systematic redesign and manufacturing line improvements. The project will advance the manufacturing techniques used to produce electric motorcycles, and it is a unique opportunity to expand green-tech manufacturing on the Central Coast. Zero Motorcycles estimates they can quadruple their manufacturing capacity with Energy Commission funding and have matched the grant with $1.8 million of their own. At least 7 short-term and a dozen direct jobs will be created, adding to the 80 individuals Zero Motorcycles currently employs. (Note: This project has completed. Of the $1,815,123 originally awarded, $1,815,046 was provided by the Energy Commission.)

Wrightspeed, Inc. (ARV-13-001)
Wrightspeed is awarded $5,789,452 to expand and improve its existing manufacturing facility including partial conversion of current space to accommodate the company's manufacturing line requirements. The manufacturing facility produces range-extended electric drive retrofit kits. The kits will be used to convert the powertrains of medium-duty trucks for significantly increased fuel efficiency. This facility will directly support the creation of 30 jobs and additional jobs created from the component supply chain. These direct jobs will include project management, engineering, skilled technical labor, and associated support activities. Total anticipated match funding is $17,789,455.

Motiv Power Systems, Inc. (ARV-12-032)
Motiv Power Systems is awarded $2,379,050 to create and bring into operation a pilot production line capable of assembling 240 of the Motiv electric Powertrain Control Systems (ePCS) per year. The Motiv ePCS includes hardware and software necessary to build an electric truck on a traditional chassis and is compatible with any battery and motor technologies. The primary site for this project will be located in San Jose, CA in partnership with Airtronics. Customers include truck builders like Detroit Chassis who builds for private and municipal truck and shuttle fleets like Bauer's Transportation. This project is expected to create three temporary jobs and 34 permanent jobs, including engineers, technicians, and clerical staff.

Trexa LLC (ARV-13-005)
Trexa is awarded $2,447,653 to build out and validate a pilot production assembly line to manufacture a cost-competitive, all-electric vehicle platform which will be integrated into a variety of non-road and fleet applications. This project will enable specialty vehicle developers to design and build custom vehicles for their fleets, specifically using the Trexa electric drive platform. The goal of this project is to develop a sustainable, zero-carbon transportation platform available for multiple uses, in order to expand the number of battery electric vehicles available for fleets, public agencies, businesses, and citizens and accelerate the adoption of electric vehicles in California. It is anticipated that Trexa will have the capacity to produce their electric vehicle platform in quantities of 100 units per month, starting in mid-2014. Located in San Pedro, CA at the Port of Los Angeles, this project will be part

of Port Tech Los Angeles, a business incubator focused on clean technology at the ports in southern California. The project is expected to immediately and directly support 26 jobs. In addition, it will create 50 indirect jobs during the project and over 100 new jobs once the facility is fully staffed and operational. Total anticipated match is $2,447,653.

Proterra (ARV-14-044)
Proterra is awarded $3,000,000 to design, develop, and operate a state-of-the-art manufacturing line for battery, all electric, zero-emission, public transit buses in the City of Industry in San Gabriel Valley, California. The project will provide a high-tech manufacturing plant in the heart of Los Angeles, the largest bus market in the United States. Total anticipated match is $5,411,352.

Transportation Power, Inc. (ARV-14-045)
Transpower is awarded $2,999,880 to manufacture electric vehicle components for Class 8 trucks in Poway, California. Manufactured components will include an inverter-charger unit, battery management system, automated manual transmission, and power control and accessory subsystem. Total anticipated match is $3,520,077.

Efficient Drivetrains, Inc. (ARV-14-047)
Efficient Drivetrains, Inc. is awarded $2,990,900 to purchase equipment and modify a manufacturing facility in Milpitas, California. The equipment and modifications will allow for the production of powertrain components for hybrid and batter-electric vehicles, as well as the conversion of conventional vehicles into hybrid and battery-electric vehicles. Total anticipated match is $3,858,702.

Zero Motorcycles (Pending)
Zero Motorcycles is awarded $1,009,220 to systematically expand full electric motorcycle production capacity in California through several model year cycles and scale redesign and manufacturing line improvements. These improvements will include an expansion of Zero's manufacturing footprint as well as an increase in the production efficiency via strategic redesign of its manufacturing and engineering processes. Total anticipated match is $3,071,230.

e. Vehicle deployment incentives ($29,082,250)

California Air Resources Board – Clean Vehicle Rebate Program (600-10-005)
The Energy Commission provided $2,000,000 to supplement the ARB's vehicle incentives under the Clean Vehicle Rebate Project (CVRP). The CVRP provides incentives for freeway-capable plug-in electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles. As manufacturers' options and consumer interest in these vehicles increased, so has the need for vehicle incentives. The ARB initially allocated $9,000,000 in Air Quality Improvement Program funds for this purpose; however, this is insufficient for near-term demand. The additional funding from the Energy Commission will provide incentives for 400 additional vehicles.

California Air Resources Board – Hybrid Truck and Bus Voucher Incentive Program (600-10-010)
The Energy Commission provided $4,000,000 to supplement the ARB's vehicle incentives under the Hybrid Truck and Bus Voucher Incentive Program (HVIP). The HVIP provides incentives for medium- and heavy-duty vehicles that utilize hybrid technology, such as hybrid-electric or hybrid-hydraulic. The incentive amount available through the HVIP increases based on the vehicles' gross weight. Funding is also available for medium- and heavy-duty vehicles that operate strictly on electricity; however, the incentive amount for these vehicles is not proportional to their higher costs. The Energy Commission's funds will provide for a higher incentive for pure-electric vehicles, which will increase their immediate market viability.

Department of General Services (600-09-001)
The Energy Commission provided $612,500 to the Department of General Services to retrofit 50 hybrid electric vehicles into plug-in hybrid electric vehicles as part of a pilot program. This contract has completed. (Note: This project has completed. Of the $612,500 originally awarded, $582,250 was provided by the Energy Commission.)

California Air Resources Board – Clean Vehicle Rebate Program (600-12-004)
The Energy Commission will provide $17,500,000 to supplement the ARB's vehicle incentives under the Clean Vehicle Rebate Project (CVRP). The CVRP provides incentives for freeway-capable plug-in electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles. As manufacturers' options and consumer interest in these vehicles increased, so has the need for vehicle incentives.

California Air Resources Board – Clean Vehicle Rebate Program (600-14-001)
The Energy Commission will provide $5,000,000 to supplement the ARB's vehicle incentives under the Clean Vehicle Rebate Project (CVRP). The CVRP provides incentives for freeway-capable plug-in electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles. As manufacturers' options and consumer interest in these vehicles increased, so has the need for vehicle incentives.

2. Natural Gas

a. Vehicle awards

i. Deployment projects ($64,513,524)

San Bernardino Associated Governments (ARV-09-001)
San Bernardino Associated Governments (SANBAG), a council of 24 city governments and San Bernardino County which serves as the area's transportation planning agency, is awarded $9,308,000 of ARFVTP funding and will partner with Ryder Truck Transport Services, Inc. to purchase and deploy 202 heavy-duty natural gas trucks. The U.S. Department of Energy's American Recovery and Reinvestment Act of 2009 (ARRA) funds will provide $9,950,708 for the construction of two liquefied natural gas refueling stations and truck purchases. The LNG-powered trucks will displace over 2 million gallons of petroleum-based diesel fuel per year, reducing greenhouse gas emissions by 20 to 30 percent and cutting area emissions by more than 7,600 tons of CO2 per year. The project will provide work for 123 short-term construction workers and create 213 long-term California maintenance and service support jobs. Training for the maintenance and service support will be provided by Cummins Engine Company. Total anticipated match funding is $27,013,445. (Note: This project has completed. Of the $9,308,000 originally awarded, $9,308,000 was provided by the Energy Commission.)

South Coast Air Quality Management District (ARV-09-002)
The South Coast Air Quality Management District is awarded $5,142,000 to assist the Ports of Los Angeles and Long Beach in replacing 180 old existing diesel-fueled trucks with versions powered by cleaner-burning liquid natural gas (LNG). The 180 trucks are owned and operated by individuals and companies currently performing drayage at the two ports. The average heavy-duty vehicle at the port facilities is 12 years old and travels approximately 67,000 miles every year of its lifetime. Without this project, these drayage trucks would continue operating in the greater Los Angeles area for many more years before they must be retired under fleet rules set by the California Air Resources Board. By replacing 180 existing diesel trucks with cleaner liquefied natural gas (LNG) burning ones, the ports of Los Angeles and Long Beach will displace an estimated 8,200 gallons of diesel per truck each year; that amounts to nearly 1.5 million gallons of diesel fuel saved annually. Assuming that each replacement truck is driven 112 miles daily, 5 days a week, the change out will reduce greenhouse gas emissions by an estimated 168 tons of CO2 each year. The project will also reduce pollution from carbon monoxide, volatile organic compounds, Nitrogen Oxide and PM 2.5. In the first two years, the project is expected to create 135 short-term jobs and 65 long-term jobs. Total anticipated match funding for this project is $28,848,389. (Note: This project has completed. Of the $5,142,000 originally awarded, $5,051,524 was provided by the Energy Commission.)

Natural Gas Vehicle Buy-Down Program (Various under PON-10-604)

The Energy Commission is administering a vehicle buy-down program to support the deployment of natural gas vehicles. Reservations are being accepted from Original Equipment Manufacturers (OEMs) and their designated dealer distributors for incentives at varying levels depending on the class and fuel type of vehicle, helping to reduce the high initial price of natural gas vehicles. This vehicle buy-down program will assist public and private fleets and individual consumers in making the decision to purchase vehicles powered by non-petroleum, lower-carbon, alternative and renewable fuels.

ii. Demonstration projects ($8,315,371)

Gas Technology Institute (ARV-09-013)
The Gas Technology Institute is awarded $1,777,364 to demonstrate with Cummins Westport, Inc. a unique, low-emission, high efficiency, natural-gas engine designed for regional hauling and heavy vocational truck applications. The advanced ISX11.9 G natural gas engine fills an important market gap – there is currently no such engine option available for long distance class 8 trucking. Swift Transportation will demonstrate one of the engines in a highway tractor for 12 months, logging approximately 2,000 miles per month while hauling loads up to 80,000 lbs. gross vehicle weight. The project will complete all necessary development, testing, certifying, and demonstration needed to commercialize the ISX11.9 G natural gas engine, with a goal of achieving 20 percent market penetration for this class of engine. The new engine should improve fuel economy up to 10 percent from current spark-ignited natural-gas powered engines used in Class 8 trucks. The project will reduce greenhouse gas emissions by 20 to 25 percent and fuel use by at least 20 percent or the equivalent of 10,770 diesel gallons per truck annually. Total anticipated match funding for this project is $3,622,636. (Note: This project has completed. Of the $1,777,364 originally awarded, $1,752,839 was provided by the Energy Commission.)

Gas Technology Institute (ARV-11-029)
The Gas Technology Institute is awarded $4,562,532 to conduct a vehicle demonstration project. This project will create 11 short-term jobs and 17 long-term jobs. Total anticipated match funding for this project is $1,895,535.

Navistar Natural Gas MaxxForce 13
GTI is awarded $2,702,137 to demonstrate a natural gas version of the Navistar MaxxForce 13 diesel engine in California, which will reduce well-to-wheels greenhouse gas emissions by approximately 15% over diesel, using traditional gas fuel sources.

Plug-in LNG Hybrid Heavy-Duty Truck (PLHT)
GTI is awarded $1,632,268 to demonstrate a plug-in liquefied natural gas hybrid truck for drayage applications in California, which will operate in electric mode for approximately 25% of operational time and reduce fuel use by approximately 30%.

South Coast Air Quality Management District (600-13-008)

South Coast Air Quality Management District (SCAQMD) is awarded $2,000,000 for the funding and management of a competitively selected subcontractor to demonstrate prototype heavy-duty natural gas engines and exhaust after-treatment technologies in on-road vehicles suitable for goods movement, refuse, transit, or school bus and drayage truck applications to measure performance and drivability. The goal of this contract is to demonstrate near zero emissions natural gas engine technology in various heavy-duty applications.

b. Infrastructure awards ($16,086,755)

Border Valley Trading (ARV-10-042)
Border Valley Trading (BVT) is awarded $500,000 to construct a public-access liquefied natural gas (LNG) station in Palm Springs to support BVT and Hay Day Farms (HDF) fleet vehicles as well as other regional fleet vehicles. The early conversion of the BVT and HDF Farms diesel fleets to LNG was largely predicated on the availability of LNG fuel at the Sunline facility in Thousand Palms. This facility closed in 2008 effectively removing most of the LNG fueling options from the Coachella Valley. With this Energy Commission grant, BVT will expand the availability of liquefied natural gas to fuel their fleet of 20 natural gas powered trucks and the HDF fleet of 20 natural gas powered trucks. This station will provide nearly 1.7 million gallons of LNG per year; which will displace over 958,900 gallons of diesel. The use of the domestically produced LNG will reduce more than10,843 metric tons of greenhouse gas emissions, 74.5 tons of nitrous oxides emissions, and 1.5 tons of particulate matter per year. Currently, an Ontario LNG site is the easternmost 24-hour, public-access site in California. This project will enable interstate vehicles and goods movement fleets to reliably reach California ports and to possibly link into LNG fueling markets in Phoenix, Arizona. The project is expected to create 20 short-term jobs and 6 long-term jobs in a region that has been negatively impacted by the recession. The total anticipated project match funding is expected to be $2,127,698.

City of Lemoore (ARV-09-019)
The City of Lemoore is awarded $200,000 to develop a compressed natural gas (CNG) fueling station. In the central San Joaquin Valley, the City of Lemoore and the Lemoore School District will partner to develop a CNG fueling station that will be open to the public 24 hours a day and serve both the City and School District's vehicles. The station will be located near Highway 41, which is the main connector between State Highway 99 and Interstate 5, the primary and secondary goods movement corridors though California. Both fast filling and slow filling options will be available. Lemoore plans to replace its existing fleet with natural gas vehicles over the next five years, and wants to produce much of its needed natural gas from the local wastewater treatment plant. Concerned with severe localized health impact issues made worse by pollution from existing diesel school buses, the San Joaquin Valley Air Pollution Control District will provide technical assistance. The proposed project will support the City's CNG school buses and municipal fleet. These buses will reduce GHG emissions by approximately 21 percent over diesel vehicles and will reduce GHG emissions by approximately 32 tons between 2012 and 2020. The City's fleet is expected to displace over 444,680 gallons of petroleum-based diesel fuel between 2012 and 2020. The project will also improve the State's CNG fueling network by providing

a CNG facility near Highway 41. The new fueling station will provide approximately 3 short-term construction jobs. Total anticipated match is $465,405. (Note: This project has completed. Of the $200,000 originally awarded, $200,000 was provided by the Energy Commission.)

Sacramento Regional Transit District (ARV-09-018)
The Sacramento Regional Transit District is awarded $500,000 to install three 1,500 standard cubic feet per minute compressed natural gas (CNG) dispensers at their bus maintenance facility to support 40 buses. There is a projected 150 percent increase in future transit service needs and these dispensers are needed to accommodate growth in bus services. The fueling station will also be available to Twin Rivers Unified School District and neighboring transit agencies. The Transit District will oversee this CNG project, own and operate the station, and secure partnerships with nearby transit agencies to use the station. The CNG buses supported by this station will displace over 2.6 million gallons of petroleum-based diesel fuel per year, in the process producing 21 percent fewer emissions than similar diesel vehicles and reducing emissions by more than 7,600 tons of CO_2 per year. The project will provide 38 short-term jobs. The total anticipated match funding for the project is $4,200,000. (Note: This project has completed. Of the $500,000 originally awarded, $500,000 was provided by the Energy Commission.)

San Diego Metropolitan Transit System (ARV-10-018)
The San Diego Metropolitan Transit System is awarded $186,148 to install compressed natural gas fueling compressors at its South Bay Maintenance Facility to enable more rapid refueling of its bus fleet. San Diego MTS will purchase and install larger, higher capacity fueling compressors that will more than double throughput from 1,900 to 5,520 standard cubic feet per minute. This increased capacity will support fleet expansion from 50 to 158 compressed natural gas buses with an additional 40 planned in the near future. Because CNG has 21 percent fewer emissions than diesel, San Diego's nearly 200 CNG buses will reduce greenhouse gases by an estimated 3,800 metric tons of CO_2 a year, compared to similar diesel-powered vehicles. Natural gas will displace 1.5 million gallons of diesel fuel each year. This project will create 41 short-term jobs and 4 long-term jobs. The Federal Transit Administration will provide $1,176,000 in match funding for the San Diego project. (Note: This project has completed. Of the $186,148 originally awarded, $186,148 was provided by the Energy Commission.)

City of Reedley (ARV-10-004)
City of Reedley is awarded $300,000 to install a compressed natural gas fueling station as the first phase of its Central Valley Transportation Center. The project is expected to displace a total of more than 1.1 million gallons of petroleum fuel, reduce CO_2 emissions by 8,000 pounds each year, and provide more than 300 direct and indirect jobs in the Central Valley. Working with the Kings Canyon Unified School District, Reedley is building a state-of-the-art, Leadership in Energy and Environmental Design (LEED) facility that will house, repair and maintain a fleet of green vehicles. The facility will be open to the public and will eventually provide compressed natural gas, biodiesel, E-85 dispensers and electric charging stations. The project puts Fresno County on the cutting edge of

changing transportation technology. The project is expected to yield 16 short-term and 1 long-term direct jobs and 156 indirect jobs in the Central Valley. (Note: This project has cancelled. Of the $300,000 originally awarded, no funding was provided by the Energy Commission.)

(The same agreement awarded City of Reedley funding for electric drive infrastructure. This is listed under the Electric Drive – Charging Infrastructure Awards section. Total anticipated project match is anticipated to be $1,271,482.)

South Coast Air Quality Management District (ARV-10-035)
The South Coast Air Quality Management District (SCAQMD), in partnership with Earth Energy Fuels, is awarded $300,000 to install a compressed natural gas (CNG) fueling station at an existing gas station in Ontario, California. Approximately 2,130 vehicles run on CNG in the Ontario area, and the number is expected to double within the next two years. Fuel demand in the area already exceeds availability, and the station will be built so that an additional 10 dispensers can be added later to meet increased demand. The station will serve several existing CNG fleets, including Yellow Cab Company, Bell Cab, Clean Street and Supershuttle. This new station should displace 375,000 gallons of petroleum in its first year; within the next two years it should be able to displace 2.1 million gallons of petroleum annually, according to SCAQMD estimates. It will reduce greenhouse gas emissions by 84,044 metric tons of CO2 over the life of the project. The station is expected to fulfill 25 percent of the existing demand in the area within 12 months of the installation, and meet 50 percent of the total demand within the area by the end of the second year. The project will generate an estimated 8 short-term and 7 long-term jobs within the first two years, creating additional jobs in the future for maintenance, repair, fuel handling and safety inspection. The total anticipated project match is $7,059,353.

South Coast Air Quality Management District (ARV-10-054)
The South Coast Air Quality Management District (SCAQMD), in partnership with Earth Clean Energy, is awarded $2,600,000 to install 9 publically accessible natural gas fueling stations throughout the South Coast Air Basin. Several fleets have committed to using these stations, including a shuttle service company, a chauffeur town car company, a taxi company, and Kenworth heavy-duty goods movement trucks. The estimated throughput for these nine stations is expected to reach 2.74 million gasoline gallon equivalents (GGE) in the first year alone, with the throughput total reaching approximately 20.5 million GGEs after just five years. With these estimates, the total GHG emission reduction is anticipated to reach 63,790 tons after five years of operation. Most fleet stations are located in geographically and social-economically diverse areas, therefore providing lower priced, clean burning fuel to transit agencies and public consumers with natural gas vehicles. It is anticipated that a total of 32 short-term jobs and 28 long-term, green jobs will be created and/or sustained through this project, providing a tangible and immediate economic stimulus in the state. Total anticipated match funding for the project will be $1,447,466.

USA Waste (ARV-10-050)
USA Waste of California is awarded $489,040 to upgrade a liquefied natural gas (LNG) fueling station in the city of Corona in Riverside County to increase the

capacity of LNG output and to provide compressed natural gas (CNG) dispensing capabilities. This station supports a waste hauler fleet of 100 plus trucks and will add capacity for public vehicles along the regional goods movement corridor Interstate 1-5 and California Highway 91. With these upgrades, the LNG fuel output is expected to rise by 50%. LNG fuel reduces greenhouse gas emissions by approximately 15% when compared to diesel. This project will create 21 short-term jobs. The total anticipated project match funding is $489,044. (Note: This project has completed. Of the $489,040 originally awarded, $489,040 was provided by the Energy Commission.)

City of Riverside (ARV-11-031)
The City of Riverside is awarded $200,000 to build a 24 hour, 7-days a week, public-accessible compressed natural gas (CNG) station at the Water Quality Control Plant in Riverside, California. This new City of Riverside CNG station location will provide fast-fill fueling to the ever-expanding CNG vehicle fleets in the Riverside area, not only city fleet vehicles, but local school districts, buses, taxis, airport shuttles, commuter buses, street sweepers, refuse trucks, service and delivery vans, freight and trucking companies, as well as private light duty vehicles. This station will be located six miles off the 60 freeway and ½ mile off Van Buren Boulevard which is a major Riverside County corridor. Total anticipated match funding for this project is $600,000.

South Coast Air Quality Management District (ARV-11-025)
The Energy Commission awarded $217,000 to the South Coast Air Quality District for a compressed natural gas station, located in the city of Murrieta. The goal of this project is to implement a 24-hour, 7-days a week, publicly-accessible compressed natural gas (CNG) fueling station in the Riverside-area along the Interstate 15 and 215 freeways. The objectives of this project are to support fuel requirements of the existing and planned expansion of the Southern California Gas Company's CNG vehicle fleet. Other fleets in the region that will have access to this proposed C-N-G station are: the City of Lake Elsinore, the Murrieta Unified School District, the Riverside Transit Authority, and Caltrans. The total anticipated match funding is $661,200.

Sysco Food Services of Los Angeles, Inc. (ARV-11-033)
Sysco Food Services of Los Angeles is awarded $600,000 for the construction of a liquefied natural gas (LNG) fueling station in Riverside, California. This project will provide 24-hour, public access to LNG fueling in the Inland Empire, along the Interstate 215 freeway. In Riverside County, there are no LNG fueling stations, which create an enormous barrier for the expansion of LNG vehicles that are used for goods movement that haul cargo along this corridor every day between Southern California and Las Vegas. This station will serve an important economic function for a region that has been impacted by the recession through the creation of 8 short-term and 7 long-term jobs, related to the infrastructure, and $83,000 dollars in annual excise tax revenues. Additionally, it is projected that 812,500 gallons of imported diesel fuel per year will be displaced, along with a reduction of 2,400 metric tons of Greenhouse Gas Emissions per year from transportation in California. The total anticipated match funding is $1,158,886.

Bear Valley Unified School District (ARV-11-023)

Bear Valley Unified School District (BVUSD) is awarded $300,000 to install a new compressed natural gas (CNG) fueling station to service the district's existing natural-gas fueled school buses and to allow the district to acquire more natural-gas fueled buses. Currently BVUSD has one Bluebird, full-sized school bus. The District intends to purchase 9 additional CNG buses as funds become available. The District's CNG bus is currently refueling at Rim of the World School District, requiring a 68-mile round trip to refuel. By installing its own fueling station, BVUSD will be able to save money on the time spent traveling to refuel and on the cost of the fuel. Fueling will be done overnight and the vehicles will be full the next day. The proposed system also has a fast-fill option for other school district buses traveling into the valley or for mid-day fills. Bear Valley Unified School District is based in Big Bear Lake, in San Bernardino County. The project is anticipated to create 40 short-term jobs and 5 long-term jobs. Total anticipated match funding is $220,837. (Note: This project has completed. Of the $300,000 originally awarded, $300,000 was provided by the Energy Commission.)

Blackhawk Logistics (ARV-12-028)
Blackhawk Logistics is awarded $600,000 to develop and construct a publicly accessible liquefied natural gas (LNG) station to fuel HayDay Farm's existing fleet of 20 extremely high mileage LNG-powered goods movement vehicles, in addition to other retail fleet users. This project will make natural gas fuel accessible to confirmed goods movement trucks operating in the Blythe region and along one of the busiest stretches of highway in the nation: the I-10 connection between California and Arizona. Once established, this station will close an existing gap in clean fuel infrastructure in this region. The closest public access fueling stations to Blythe are currently 100 miles away in El Centro, California, and 120 miles away in Palm Springs, California. Therefore, this public access station will fill an important gap in natural gas availability for natural gas vehicle users looking to travel lengthy distances along the I-10 and/or through the Imperial Valley. This project will displace displace 758,275 gallons of annual diesel use and displace 4,798 metric tons of GHG emissions from 2013-2015. The Mojave Desert Air Quality Management District is providing $310,451 in match funding. The project is anticipated to create 18 short-term jobs and 2 long-term jobs. Total anticipated match is $1,125,000. (Note: This project has been cancelled. Of the $600,000 originally awarded, no funding was provided by the Energy Commission.)

Atlas Disposal Industries (ARV-11-028)
Atlas Disposal Industries is awarded $300,000 to establish a new compressed natural gas (CNG)/renewable natural gas (RNG) fueling station to support private, public, and school fleet operations. The new fueling station will be located at the Sacramento Area Transfer Station and Sacramento BioRefinery #1 (SBR1), a large commercial-scale, high-solids anaerobic digestion system currently under construction in California. The station will include a fast-fill fueling system and five slow-fill fueling systems capable of refueling 10 fleet vehicles overnight. The completed fueling station will be fully powered using a portion of the green electricity produced at SBR1, making it the first CNG/RNG Fueling Station in California to both dispense renewable fuels and rely entirely upon renewable fuels for its own operation. When Phase-I construction is

complete, the facility will divert 25 tons-per-day (TPD) of source-separated food waste away from area landfills and convert it into: a) 566,000 diesel gallon equivalents (DGEs) of RNG per year; b) 569,000 kilowatt hours (kWh) of electricity per year to power the proposed fueling station (this system will be grid-connected in a SMUD net metering agreement); c) 190,000 therms of heat per year for use at SBR1; d) 8,000 tons per year (TPY) of high-nutrient fertilizer; e) 7,500 tons per year of compost; and f) 5,450,000 gallons per year of reclaimed water. This project is estimated to create 11 short-term jobs in the Sacramento area. Total anticipated match is $1,728,800. (Note: This project has completed. Of the $300,000 originally awarded, $300,000 was provided by the Energy Commission.)

Waste Management of California, Inc. (ARV-12-060)
Waste Management of California, Inc. is awarded $300,000 to construct and operate a slow-fill, compressed natural gas (CNG) fueling station to support its existing private fleet of natural gas powered solid waste collection vehicles in Oceanside, California. Waste Management will construct, own, and operate the CNG fueling station at the Waste Management of North County Fleet Maintenance and Administration Facility in San Diego County, at which Waste Management supports and maintains trash-hauling trucks serving Oceanside and Camp Pendleton. This project is projected to displace 382,200 gallons of imported diesel fuel per year and reduce transportation related greenhouse gas emissions by over 1,373 metric tons per year in the basin. This project is estimated to create 8 short-term jobs and 7 long-term jobs. Total anticipated match is $1.7 million.

Arcadia Unified School District (ARV-12-003)
Arcadia Unified School District (USD) is awarded $300,000 to install a new compressed natural gas (CNG) fueling system for use by the district's fleet vehicles and by CNG busses and vehicles visiting from other school districts. The new CNG system will provide both time-fill and fast-fill fueling options. Arcadia USD is located in the San Gabriel Valley approximately 18 miles from downtown Los Angeles. The District has 11 schools that serve 10,000 students. The District's fleet of 20 buses transports approximately 460 students daily from home to school (including to day care). In addition, the fleet provides 965 field and extra-curricular trips annually. Currently there are nine CNG buses in the District fleet of 20. The District plans to replace approximately six additional existing diesel buses with CNG buses in the future as funding becomes available. This project is estimated to create 17 short-term jobs. The total anticipated match funding is $279,837. (Note: This project has completed. Of the $300,000 originally awarded, $300,000 was provided by the Energy Commission.)

Calexico Unified School District (ARV-12-002)
Calexico Unified School District (USD) is awarded $83,329 to refurbish and upgrade the district's publicly accessible compressed natural gas (CNG) station by replacing the non-functioning compressor with two upgraded compressors. This station will provide critical fueling access for Calexico USD's three existing CNG school buses and other vehicles, in addition to existing CNG school buses from other Imperial County school districts, CNG vehicles owned by other local

agencies, and CNG retail fueling for regional users. At this time, there are no functioning CNG stations in the Imperial Valley, and multiple school districts, agencies, and other users are turning away from domestically-produced, low-carbon CNG due to the unreliability of the existing fueling network in Imperial County. This station refurbishment project will enable local school bus fleets to continue using CNG instead of returning to diesel and will support increased commercialization of CNG with the introduction of dependable refueling access. The new CNG system will provide both time-fill and fast-fill fueling options. By 2015, the station's displacement of diesel and gasoline usage is expected to reduce Greenhouse Gas Emissions by 163 tons per year and reduce NOx emission by 1.7 tons per year, providing health benefits to students, as well as to the general public. This project is estimated to create 8 short-term jobs and 7 long-term jobs.

Southern California Gas Company (ARV-12-004)
Southern California Gas Company is awarded $216,000 to design, construct, and operate a public compressed natural gas (CNG) fueling station at the Gas Company's existing Lancaster field office in northern Los Angeles County. The fast-fill type CNG station will have both publicly accessible and dedicated fleet components separated by a facility gate. The proposed station will provide a long term CNG fueling commitment to the region along the Route 14 corridor in the Mojave Desert. The Lancaster CNG station is part of a larger SoCalGas undertaking to strategically expand CNG service throughout southern California, including construction or expansion of seven other stations, and a commitment to purchase 1,000 dedicated CNG vehicles company-wide over the next several years. This proposed project location offers an important addition to the state's CNG fueling infrastructure network. Station throughput is estimated to displace 28,200 gasoline gallon equivalent (GGE) per year within the first year of operation, with an associated reduction in greenhouse gases of approximately 76 tons per year. Southern California Gas Company projects station throughput to reach nearly 70,000 GGE per year through 2015 with modest marketing and outreach; this throughput level reduces greenhouse bases by approximately 187 tons per year. The maximum station throughput design limit is over one million GGE per year; the Southern California Gas Company marketing team will implement a strong local effort to build load at this station to reach this maximum. This project is estimated to create 8 short-term jobs. Total anticipated match is $650,000. (Note: This project has completed. Of the 216,000 originally awarded, $216,000 was provided by the Energy Commission.)

CR&R, Inc. (ARV-12-005)
CR&R, Inc. is awarded $300,000 to design, construct, and operate a private compressed natural gas (CNG) refueling station at CR&R's Material Recovery and Transfer Station in the city of Perris, Riverside County. The station will be co-located with a digester biomethane production facility, which is partially funded through another ARFVTP grant agreement. CR&R has obtained a contract with Southern California Gas Company to provide pipeline quality natural gas to the refueling station until the renewable biomethane facility is operational. The slow-fill type CNG station will be accessible to fleet vehicles and capable of fueling up to 50 trucks simultaneously with 40 diesel gallon equivalents over a nine hour period overnight. Currently, CR&R has 18 solid

waste collection trucks and seven street sweepers in its Perris fleet that run on CNG and plans to convert an additional 100 diesel vehicles to CNG by 2020. This project is estimated to create 9 short-term jobs and 1 long-term job. Total anticipated match funding is $831,140. (Note: This project has completed. Of the $300,000 originally awarded, $300,000 was provided by the Energy Commission.)

Valley Garbage and Rubbish Company, Inc. (ARV-12-009)
Valley Garbage and Rubbish Company is awarded $300,000 to construct a compressed natural gas (CNG) fueling station to support its existing and rapidly expanding private fleet of CNG powered solid waste collection vehicles in the city of Santa Maria. This critical infrastructure project will provide solutions to overcome the significant refueling barrier that has hindered the development and widespread use of natural gas as a transportation fuel in the Santa Barbara region. The fueling station will also provide a public-access and convenient source of fuel to other local goods movement and regional goods movement fleets that travel along the heavily trafficked Highway 101 transportation corridor. This station will support the pollution emission reductions and displace large volumes of petroleum with low-carbon fueling operations. Provide an annual displacement of over 245,700 gallons of diesel use with 100% domestically produced low-carbon natural gas as well as more than 2,419 metric tons of greenhouse gas emissions, more than 19.1 tons of NOx emissions, and 0.378 tons of PM. Total anticipated match funding is $1,025,350. Valley Garbage and Rubbish Company, Inc. is the primary applicant of the proposed CNG fueling station. They own and operate a fleet of 27 waste collection vehicles in the city of Santa Maria. Valley Garbage has chosen to partner with ET Environmental as a subcontractor on this new Santa Maria fueling station. Valley Garbage has partnered with ET Environmental on dozens of similar successful CNG projects across California. These projects include CNG stations and upgrade projects in the cities of San Gabriel, Corona, and Long Beach. This project is estimated to create 136 short-term jobs.

City of Monterey Park (ARV-12-014)
The City of Monterey Park is awarded $300,000 to upgrade the city's existing, outdated compressed natural gas fueling system to provide sufficient fuel for the general public and the City's transit system (i.e., 8 mid-sized buses) and an expanding Public Works fleet. The primary activities in the proposed project include the procurement and installation of the CNG fueling equipment. Meanwhile, operational data from the station will be collected to analyze for economic and environmental impacts. The fueling system will be located at the City Yard, which is located close to Atlantic Times Square—a new mixed-use complex that includes 200,000 square feet of retail shops, restaurants, AMC-14 theaters and 24 Hour Fitness and 210 luxury condos. This project will complement the California Air Resources Board (ARB) Fleet Rule that requires the City's local bus service to meet NOx and PM standards. The City has opted to replace diesel buses with CNG-fueled vehicles in order to meet this requirement. The estimated NOx and PM2.5 reduction will be 5,661 pounds per year. Successful completion of the project will displace about 500 gallons of petroleum fuel per day. Additionally the project will help to achieve carbon emissions targets that are set in the City's Climate Action Plan and aid in

compliance with air quality regulations through the conversion of conventional fuel vehicles with CNG-fuel counterparts. This project is estimated to create 8 short-term jobs and 7 long-term jobs. The total anticipated match funding is $475,634.

Santa Ynez Band of Chumash Indians (ARV-12-018)
The Santa Ynez Band of Chumash Indians is awarded $300,000 to construct a public, fast-fill compressed natural gas (CNG) station in the place of an existing tribally-owned gas station. This fueling station will provide a reliable CNG fueling source for local fleet vehicles and the general public as well as extend the network of CNG stations along the Highway 101 corridor. The project will remove the existing underground gasoline storage tanks and install two 150+ Standard Cubic Feet per Minute (SCFM) compressor skids and at least two separate CNG dispensing units. The resulting capacity of the station will displace up to 400,000 gallons of gasoline equivalent (GGE) per year. The carbon intensity of CNG is 67.70 gCO_2e/MJ, which is less than that of gasoline and diesel. The completed station is expected to offset an equal amount of gasoline and diesel with CNG and reduce GHG emissions by up to 585,000 kg in CO_2e per year. This project is estimated to create 7 short-term jobs and 3 long-term jobs. Total anticipated match is $900,000. (Note: This project has been cancelled. Of the $300,000 originally awarded, no funding was provided by the Energy Commission.)

Los Angeles Unified School District (ARV-12-041)
The Los Angeles Unified School District (LAUSD) is awarded $300,000 to install 30 single slow-fill, compressed natural gas (CNG) dispensing units at the San Julian Bus Lot. The installation is part of CNG infrastructure, which will consist of a compression facility, 21 dual slow-fill dispensing units, 33 single slow-fill dispensing units, and one fast-fill dispensing unit. Currently, there are no dedicated CNG fueling stations in the downtown area for the school district, thereby limiting the school district's ability to replace its existing diesel fleet with CNG vehicles. The South Coast Air Quality Management District will be significantly expanding its school bus replacement, therefore increasing CNG infrastructure and dispensing units at the school district will accelerate the conversion of 92 diesel buses into CNG buses, which service public schools within the downtown area of the school district. As the school district's bus fleet is replaced, it is estimated that it will reduce greenhouse gas (GHG) emissions by more than 600 metric tons per year and eliminate emissions of more than 1,400 pounds of particulate matter per year, thereby reduce the harmful effects of diesel emissions for the students. This project is estimated to create 8 short-term jobs and 7 long-term jobs.

Walnut Valley Unified School District (ARV-12-040)
Walnut Valley Unified School District is awarded $278,261 to upgrade and expand their existing compressed natural gas (CNG) station with two new compressors to fuel 16 buses simultaneously. This will provide the school district with the capability of refueling their existing fleet of CNG buses and to continue replacing their older diesel buses with lower emission CNG buses. Since natural gas is a much cheaper fuel than diesel, the District will save $49,500 per year after 11 more buses are replaced within the next two years, and the emissions

will be reduced by 14 tons CO_{2e} annually. This project is estimated to create 8 short-term jobs and 7 long-term jobs. Total anticipated match is $40,000.

Bonita Unified School District (ARV-12-042)
Bonita Unified School District (BUSD) is awarded $300,000 to install a new compressed natural gas (CNG) fueling station in the existing school bus parking lot, which will both time-fill and fast-fill CNG fueling needs for school buses and maintenance vehicles. BUSD has an existing fleet of 11 CNG school buses that currently travel 18 miles round trip, two to three times per week to fuel at a public station. The one hour fueling trip adds emissions, about 16,000 vehicle miles traveled (VMT), and labor cost. By fueling on site, the District reduces CO_2 emissions, travel time by 1100 hours and fuel cost by more than $4,400. Although fast fill is possible for urgent need, all the school buses refuel at night on a time-fill basis while they are parked in their normal parking stalls. This system will produce about 28 diesel gallon equivalents (dge) an hour to handle the anticipated future load of about 61,200 dge per year at capacity. This infrastructure project will reduce about 35 tons of greenhouse gases (GHG) annually by eliminating travel to public fueling stations. A notable benefit is the increased use of cleaner alternative fuels as new CNG buses replace higher emitting diesel fuel vehicles. The additional 5 buses that the district plans to acquire will provide further greenhouse gas emission reductions of 200 tons per year compared to the diesel buses currently being used. Additionally, the District will have fully fueled buses each morning with therefore, more capability to meet unanticipated bussing requirements. This project is estimated to create 8 short-term jobs and 7 long-term jobs. Total anticipated match is $210,962.

Upland Unified School District (ARV-12-037)
The Energy Commission is awarding $278,889 to upgrade and expand an existing compressed natural gas (CNG) station for the Upland Unified School District. This project will replace an old compressor system with a new Ingersoll Rand dual compressor and add a new dryer and 5 dual time fill posts with ten refueling hoses and nozzles to allow the school district to replace more diesel buses with new CNG buses. Upland Unified School District is a K-12 school district located in San Bernardino County, serving the community of Upland, California. The school district currently operates 19 school buses utilized for sports activities, field trips, and student transportations; three of these buses run on CNG. By funding the upgrade of the district's CNG fueling station, this grant will help to replace more of the district's diesel fleet with CNG buses. The upgrade of the station will allow as many as 12 additional buses to be fueled overnight, potentially replacing about 150 diesel gallon equivalents of fuel per day. The district plans to acquire these 12 additional CNG buses over the next two years. This project is estimated to create 8 short-term jobs and 7 long-term jobs.

Paso Robles Waste & Recycle (ARV-12-029)
Paso Robles Waste & Recycle (PRW&R) is awarded $300,000 to build a new, state-of-the-art CNG refueling station in Paso Robles, California to service a new fleet of CNG waste haulers as well as provide public fast-fill fueling capabilities. Constructing a fueling station will allow PRW&R to convert their fleet to CNG and will also provide North San Luis Obispo County and the Paso Robles area

access to CNG fuel. Paso Robles is situated directly between San Francisco and Los Angeles, at the intersection of Highway 101 and Highway 46. PRW&R will initially purchase five CNG waste vehicles with plans to deploy four more CNG trucks over a three-year period that will fuel at this station. Two subsidiaries, Paso Robles County Disposal and Paso Robles Roll-Off, will initially purchase one vehicle each for a total of seven CNG vehicles. The successful installation of one CNG fueling station will fuel and initial seven CNG waste haulers; each hauler uses an average of 7,200 diesel gallon equivalents (DGEs) of fuel per year. A total of 50,400 DGEs of fuel will be displaced annually by the project's initial seven haulers. Additionally, the seven CNG waste haulers will reduce CO_2 by 115.085 tons per year, $PM_{2.5}$ by 0.017 tons per year, and NO_x by 1.321 tons per year. The implementation of this project will support the creation and retention of an estimated 31 short-term jobs and 5 long-term jobs. The total anticipated match funding is $300,000.

Lompoc Unified School District (ARV-12-025)
Lompoc Unified School District (LUSD) is awarded $300,000 to install a new compressed natural gas (CNG) fueling station to service its fleet of CNG school buses and student transport vehicles, as well as provide public fast-fill fueling capabilities. Currently, LUSD has ten CNG, Type A school buses but no reliable way to fuel them. LUSD would like to expand their CNG fleet and offer public refueling with a new CNG station. The construction of this new station will fuel LUSD's bus fleet, which it utilizes to transport students to and from school who depend on public transportation. These requested station funds will enable Lompoc Unified School District to greatly improve the health conditions of its student ridership, while also reducing the district's consumption of and dependence on foreign sources of oil. This station will also create an estimated five temporary jobs.

Harvest Power Tulare, LLC (ARV-12-063)
Harvest Power Tulare, LLC is awarded $300,000 to build, own, and operate a compressed natural gas (CNG) fueling station. This CNG station will be supplied primarily with biomethane, or renewable natural gas, generated from an on-site anaerobic digester. This fuel will have a near zero carbon intensity and will be one of the first commercial "digester-to-pump" stations in the United States. The goal of this project is to validate Anaerobic Digester-to-Fueling Station as a viable and replicable model to boost California's quantity of domestic renewable transportation fuel. The proposed project is an integral component of the larger goal of commercializing renewable CNG. The objectives of this project are to design, build, own, and operate a digester-to-pump renewable natural gas (RNG) fueling station. Some metrics of success will be: developing sufficient demand among the customer base, confirming organic feedstocks meet necessary CNG specifications, and providing the economic model is robust enough to stimulate commercialization. This project will reduce 5,800 metric tons of CO_{2e} per year. This project is estimated to create 28 short-term jobs and 8 long-term jobs. Total anticipated match funding is $1,027,590.

FirstCNG, LLC (ARV-12-058)
FirstCNG is awarded $300,000 to construct a compressed natural gas fueling station to support fuel requirements of local taxis, commercial services, vans,

trucks, and transport vehicles in Lake Forest, California. The facility will have four 3600psi dispenser hoses. Primary facility users will be area taxi and shuttle fleets, and general public work vans, pickups, and commuter vehicles. This project is project to displace 202,500 gallons of imported diesel fuel per year and reduce transportation related greenhouse gas emissions by over 725 metric tons per year in California. This project is estimated to create 7 short-term jobs and 1 long-term job. Total anticipated match is $945,000.

Lodi Unified School District (ARV-12-054)
Lodi Unified School District is awarded $300,000 to construct, operate, and own a new compressed natural gas (CNG) station for time-fill and fast-fill fueling. To date, with the assistance of the Energy Commission, Lodi Unified School District has purchased 15 heavy duty CNG Thomas Safe-t-Liner school buses. The district intends to purchase 12 additional CNG buses with upcoming available funds through the San Joaquin Council of Governments Congestive Mitigation Air Quality program (CMAQ) bringing the total to 27 CNG-powered school buses. The 27 CNG-powered school buses will decrease the demand for diesel fuel and support Air Quality standards to help reduce air toxic contaminant emissions from heavy duty diesel engines. By installing the fueling station, the District will be able to save money on the time spent traveling to refuel and the cost of fuel. The proposed system will also have a fast-fill option for other public entities needing immediate fuel. This project is estimated to create 8 short-term jobs and 7 long-term jobs. The total anticipated match funding is $808,468.

City of Sacramento (ARV-12-047)
The City of Sacramento is awarded $600,000 to upgrade its existing liquefied natural gas (LNG) infrastructure that is over a decade old and inadequate to serve as the fuel source at the City of Sacramento's Meadowview Corporate Yard where the city operates a majority of its solid waste fleet. The City of Sacramento will issue a bid for a minimum of 30% renewable LNG content with the intention of pursuing a supply of 100% renewable LNG once that fuel is available at a competitive price. The proposed station will fuel the City of Sacramento's 93 LNG refuse trucks, which consume approximately 1 million gallons of LNG annually. Current infrastructure is old and insufficient to sustain the city's LNG fleet. This project is estimated to create 8 short-term jobs and 7 long-term jobs. The total anticipated match funding is $600,000.

County of Santa Clara (ARV-12-043)
The County of Santa Clara is awarded $300,000 to purchase and install a compressed natural gas (CNG) station in San Jose. The station would be publicly accessible 24/7 and supply sufficient fuel for the daily operation of the County's expanding CNG fleet as well as public use. Currently, there are only five CNG stations in the San Jose region to serve its 1.7 million residents. The limited CNG availability in the region is creating station "access anxiety" and preventing greater adoption of CNG vehicles by public agencies, companies and private citizens. Various county departments are eager to adopt CNG vehicles but are unwilling to do so without a county-owned and managed station to rely upon. By providing efficient and reliable access to CNG, the County of Santa Clara will accelerate the CNG vehicle adoption and reduce vehicle-related greenhouse gas emissions. The project's goals are to increase availability of

CNG fueling station in the San Jose area, reduce County fleet operating costs, facilitate new CNG bus and vehicle purchases by the County and reduce vehicle-related greenhouse gas emissions. As greater numbers of CNG vehicles are being purchased and utilized, the proposed CNG station will expect to have a throughput of 600 GGE per day by year 5 and up to 4,000 GGE per day by year 10. The project's efforts to increase numbers of CNG-fueled vehicles will also lead to reduced vehicles emissions, which will positively impact the health of the community. This project is estimated to create 8 short-term jobs and 7 long-term jobs. The total anticipated match is $714,000.

City of Santa Clarita (ARV-12-046)
The City of Santa Clarita is awarded $300,000 to install a compressed natural gas (CNG) fueling station to be self-serve, commercial, and fast-fill capable of fueling up to four vehicles simultaneously. Currently the City owns and operates the only public CNG station in the region. Since its construction in 2006, public usage has increased significantly. Much of its growth has been driven by the private sector, which has significantly expanded their CNG-powered fleets. Over the past six years, private trash haulers have purchased and placed into operation 16 CNG-powered refuse trucks. Additionally the local school districts, Sherriff department, and private security firms have added CNG-powered vehicles to their fleet, all of which use the City-owned public CNG fueling station. The new CNG station will promote the use of alternative fuels, reduce local and regional congestion, and ensure good stewardship of public funds. It is estimated that the proposed Vista Canyon station will have an average monthly throughput of 5,000 GGE during the first year of operation. Based on the estimated throughput levels for the proposed project, the City of Santa Clarita can expect to displace approximately 60,000 gallons of petroleum fuel in year one, 120,000 gallons in year two, and approximately 225,000 gallons per year by year three of the project. This project is estimated to create 7 short-term jobs and 1 long-term job. The total anticipated match is $900,000.

Murrieta Valley Unified School District (ARV-12-045)
Murrieta Valley Unified School District (MVUSD) is awarded $300,000 to build a compressed natural gas (CNG) station consisting of two 60 scfm compressors that will be owned and operated on MVUSD property. This project is the first phase of a CNG fueling system that will ultimately fuel approximately 60 CNG regular education and special needs school buses. Ten of the buses have been approved for acquisition by the South Coast Air Quality Management District under AB 932 and nine will be purchased under the Mobile Source Air Pollution Reduction Review Committee Buy Down program. The first vehicles will arrive in July 2013. By the second full year of operation, the CNG fueling system is projected to displace the equivalent of 44,600 diesel gallons of fuel annually. The total anticipated match is $85,000.

Waste Management Collection and Recycling, Inc. (ARV-12-050)
Waste Management Collection and Recycling, Inc. is awarded $300,000 to upgrade the company's public access compressed natural gas (CNG) fueling station at its Moreno Valley location, in order to support its existing and rapidly expanding fleet of CNG powered solid waste collection vehicles in the City of Moreno Valley, as well as numerous other fleets in the Inland Empire of

California such as Ryder Truck Rental, Fresh and Easy, Riverside Transit Agency, and others that use the station on a daily basis. With support from the Energy Commission, Waste Management will upgrade the existing CNG station located in the northwestern portion of Riverside County, a location that is easily accessible via Interstate 215 and State Route 60. At this location, Waste Management currently supports and maintains a large fleet of 140 diesel and natural gas trash-hauling trucks serving the Inland Empire, of which 108 are natural gas. By the end of 2020, Waste Management seeks to replace 100% of the remaining diesel trucks at its Moreno Valley location with CNG. The proposed upgrades to the Moreno Valley CNG station operated by Waste Management is expected to displace a cumulative total of 9,455,400 gallons of diesel use, as well as reduce 33,961 metric tons of GHG emissions by 2020. This project is estimated to create 8 short-term jobs and 7 long-term jobs. The total anticipated match is $398,564.

Waste Management of Alameda County, Inc. (ARV-13-003)
Waste Management of Alameda County, Inc. is awarded $568,150 to develop a liquefied natural gas (LNG) and liquefied-to-compressed natural gas (LCNG) fueling station to support its existing and rapidly expanding fleet of natural gas solid waste transfer vehicles in Alameda County. With support from the Energy Commission, Waste Management will construct, own, and operate an LNG/LCNG fueling station at its Davis Street Resources Recovery Complex in the City of San Leandro. At this location, Waste Management currently maintains a large fleet of 69 trash-hauling trucks, including 22 dedicated CNG transfer tractors, six dual-fuel LNG vehicles, and 41 diesel transfer tractors. Waste Management expects to purchase at least 15 new CNG-powered vehicles by 2015, and to replace 100% of its Davis Street fleet by 2020. The proposed station will provide for the annual station throughput and corresponding displacement of 958,090 gallons of diesel fuel with domestically produced, low-carbon natural gas in the station's first year of operation and more than 1,537,401 gallons of diesel fuel at full build-out by 2020. The station will also provide for the total cumulative reduction of 26,729 metric tons of greenhouse gas emissions at full build-out by 2020. The total anticipated match is $852,225.

City of Anaheim (ARV-12-048)
The City of Anaheim is awarded $292,760 to replace its existing compressed natural gas (CNG) refueling station with upgraded fast-fill equipment, in order to fully support the City's existing 47-vehicle CNG fleet and provide fueling capacity for planned fleet growth for the next five years. Besides providing faster service for heavy-duty fleet vehicles, the increased station's capacity will reduce greenhouse gas and criteria pollutant emissions by increasing the displacement of petroleum-derived fuels with natural gas. The upgraded station will deliver 31,500 gasoline gallon equivalents (GGE) per month of CNG throughput, displacing 378,000 GGE of diesel fuel annually. The carbon intensity of CNG is 67.70 gCO_2e/MJ, which is less than that of gasoline and diesel. The resulting CNG station is expected to reduce greenhouse gas emissions by 1,267 tons per year. This project is estimated to create 3 short-term jobs. The total anticipated match is $342,972.

California Clean Fuels (ARV-12-049)

California Clean Fuels (CCF) is awarded $83,000 to upgrade its existing Bellflower, California, 24-hour, 7-day per week public access compressed natural gas (CNG) station. The upgrade will provide a significant improvement in CCF's ability to service increasing numbers of heavy-duty fleet vehicles that travel nearby transportation corridors. Specifically, the upgrade project will greatly improve refueling turn-around time, enhancing the speed at which fueling support can be provided to CCF's growing customer base, which includes fleets of regionally operated CNG light-, medium- and heavy-duty vehicles, as school districts, transit fleets, distribution companies and waste collection operators continue to implement fleet conversion to CNG. This upgrade will also reduce greenhouse gas and criteria pollutant emissions by increasing the displacement of diesel fuels with natural gas. Specifically, diesel fuel displacement will increase at this station by 414,000 gasoline gallon equivalents (GGE) per year, resulting in an associated reduction in CO_2 emissions of 1,388 tons per year. The carbon intensity of CNG is 67.70 gCO_2e/MJ, which is 30% less than that of gasoline and diesel. The resulting increase in capacity of this station is expected to reduce greenhouse gas emissions by 1,388 tons per year. Estimated NO_x and PM reductions resulting from this station upgrade are 10.9 and 0.44 tons per year, respectively. The project will create 1 short-term job. The total anticipated match is $91,543.

Poway Unified School District (ARV-12-044)

Poway Unified School District (PUSD) is awarded $299,157 to replace two compressed natural gas station compressors and control panel to provide reliable refueling of the Districts' thirty-five natural gas school buses and re-open services for public natural gas vehicle refueling. PUSD began operating as a private and public CNG refueling facility in 1992 with ten home to school buses and has since then grown to thirty-one daily route home to school buses and three special needs transportation school buses. Both compressors require daily maintenance and frequently one of two compressors is down for repair. Out of necessity to provide consistent and reliable home to school transportation for students of the District, the decision was made to eliminate public fueling in an effort to extend the life of the compressors. The infrastructure in San Diego County is minimal at best. PUSD was one of only three public fueling stations in San Diego County. PUSD will reopen their CNG fueling station as a public refueling station, continue to fuel CNG vehicles at their own CNG facility, and expand the PUSD fleet of CNG vehicles. This project is estimated to create 5 short-term jobs and 3 long-term jobs.

Alameda County Industries, LLC (ARV-12-056)

Alameda County Industries, LLC is awarded $300,000 to install a new compressed natural gas (CNG) fleet fueling station that will support its current and expanding fleet of CNG refuse trucks. Alameda County Industries will own and operate the CNG station. This station will achieve the following goals and objectives: 1) increase the use of CNG in an existing California fleet; 2) fill a critical gap in infrastructure to make it possible for a CNG fleet to expand; 3) significantly reduce harmful emissions; 4) reduce the use of diesel in the refuse industry; and 5) cost-effectively use Program funds. Once operational, the station is expected to displace over 179,000 gallons of diesel fuel annually and significantly reduce harmful emissions. The total anticipated match is $652,664.

Garden City Sanitation, Inc. (ARV-12-055)

Garden City Sanitation is awarded $300,000 to install a new compressed natural gas (CNG) fleet fueling station in San Jose, California that will support its expanding fleet of CNG refuse trucks. This station will achieve the following goals and objectives: 1) increase the use of CNG in an existing California fleet; 2) fill a critical gap in infrastructure to make it possible for a CNG fleet to expand; 3) significantly reduce harmful emissions; 4) reduce the use of diesel in the refuse industry; 5) dispense over 350,000 DEG of CNG per year; and 5) cost-effectively use Program funds. Once operational, the station is expected to displace over 350,000 gallons of diesel fuel annually and significantly reduce harmful emissions. This project is estimated to create 8 short-term jobs and 7 long-term jobs. The total anticipated match is $750,522.

Pearson Fuel Depot, LLC (ARV-13-002)
Pearson Fuel Depot, LLC is awarded $300,000 to design, install, and operate a compressed natural gas (CNG) fueling system at the Pearson Fuel Depot in San Diego. CNG has been offered at the site in the past, but the maintenance-plagued system was removed recently by its Owner/Operator, leaving open space on the fueling island and on the site for a replacement system. Because the Fuel Depot location provided CNG to customers for over 9 years, it is a known entity for fleets and individuals in the adjacent area, as well as for drivers using the main highways of Interstate 8, Interstate 5, and Interstate 805, which is proximal and convenient to the confluence of those main transportation thoroughfares. There is a growing population of CNG vehicles in the San Diego area, and being close to many companies and the major transportation corridors provides a reliable and strategic location for a backup and destination station for the 'goods movement' industry. There are no other CNG fueling stations in this area, which constitutes a major gap in CNG availability for the entire greater San Diego area. Pearson's goal is to eventually dispense at least 25,000 gasoline gallon equivalents per month through the new CNG station. The total anticipated match is $332,544.

Chula Vista Elementary School District (ARV-13-004)
Chula Vista Elementary School District (CVESD) is awarded $299,157 to upgrade its compressed natural gas (CNG) infrastructure. New and upgraded components will increase the station's efficiency and CVESD seeks to reduce greenhouse gasses by displacing petroleum fueled vehicles with cleaner CNG vehicles. The District's CNG station now serves the District's 21 buses, several local districts totaling 20 buses, AT&T's 15 trucks, West Air Gas' 6 trucks, the US Navy's 6 vehicles, several vehicles of the Department of General Services, and several vehicles of the California Conservation Corp. The District's CNG station is situated in close proximity to both the I-805 and I-5 corridors near the Mexican border; all auto and truck traffic would have access to the station dispensers. The number of CNG vehicles used in the community has increased 33% over the last five years. If that trend continues, an average increase of 33,200 gallons of fossil fuels will be displaced per year over the next five years. Additionally, the City of Chula Vista has had a program in place that harvests renewable natural gas from its landfill. Plans are in place to begin supplying renewable natural gas to CNG stations in the near future. Continued operation of the District's CNG facility as a result of the repairs and upgrades included in this project will make it possible for the District to be supplied from the City's Renewable Natural Gas

Program in the future. The total anticipated match is $10,000.

City of Visalia (ARV-13-025)
The City of Visalia is awarded $300,000 to upgrade the Visalia, California, CNG fueling station. The current station, while dependable, cannot adequately meet the increasing demand of the City refuse trucking, transit fleet, and expanding public and private fleets. The project includes additional time-fill stations for refuse truck refueling, upgrades to the hoses, valves and control system to improve flow rates, a new compressor, and dispenser upgrades to increase fleet card acceptance and improved consumer fueling experience. The station provides fuel for all City CNG vehicles, Tulare County Transit, AT&T, KART, general public and local fleets, and provides backup fueling for the school district. The project will also provide the throughput necessary for the city to replace or purchase 5 refuse trucks, 3 trolleys and 4 40-foot buses, resulting in displacement of an additional 25,000 gallons of diesel each year. The total anticipated match is $500,000.

Los Angeles Department of Water and Power (ARV-13-014)
The Los Angeles Department of Water and Power (LADWP) is awarded $300,000 to install a compressed natural gas (CNG) fueling station at its Western District Yard. It is located centrally to the downtown Los Angeles area, and will be available to provide fueling for LADWP's 430 CNG-fueled vehicles, and specifically for 100 vehicles dedicated to the site. The vehicles range in size from light to medium duty sedans all the way up to large, heavy-duty, maintenance trucks. In addition, the fueling station will be available to other City of Los Angeles Departments, such as General Services. The quantity of petroleum displaced by installing this CNG fueling station is approximately 51,541.49 gasoline gallon equivalents. The total anticipated match is $1,300,000.

Oceanside Unified School District (ARV-13-006)
Oceanside Unified School District (USD) is awarded $299,157 to replace two compressed natural gas (CNG) compressors. Oceanside USD has a total of 29 CNG school buses that use approximately 89,000 diesel gallon equivalents per year that meets the transportation needs of 201 students. The original CNG facility was built in 2001 and the compressors are no longer operational. This vital CNG facility is currently only operational using a rented, temporary CNG station. This station replacement will enable Oceanside USD to confidently provide consistent and reliable home to school transportation for students of the District. No match is required for this project.

Kings Canyon Unified School District (ARV-13-009)
Kings Canyon Unified School District (USD) is awarded $300,000 to replace its compressed natural gas (CNG) fueling equipment. Kings Canyon USD currently owns and operates the CNG fueling station that is being proposed to be renovated with this project. The school district serves a student population of 9,200 students in two high schools, 1 continuation school, 3 middle schools, 3 K-8 schools, 8 elementary schools, and also serves the Fresno County Office of Education operated Special Education schools in Parlier, Centerville, and Reedley. Kings Canyon USD plans to purchase two CNG-powered Honda

sedan vehicles. The current CNG station was constructed in 1996 and a public dispenser was added in 2001. Due to increased use since it was constructed, several parts of the station need to be upgraded and replaced. The Kings Canyon USD will displace 79,969 gallons of diesel fuel and 1,300 gallons of gas with the proposed project. The total anticipated match is $69,728.

3. Propane

a. Vehicle awards ($6,382,000)

Propane Bus Buy-Down Program (Various under PON-10-604)
The Energy Commission is administering a vehicle buy-down program to support the deployment of propane buses. Reservations are being accepted from Original Equipment Manufacturers (OEMs) and their designated dealer distributors for incentives at varying levels depending on the class and fuel type of vehicle, helping to reduce the high initial price of propane vehicles. This vehicle buy-down program will assist public and private fleets and individual consumers in making the decision to purchase vehicles powered by non-petroleum, lower-carbon, alternative and renewable fuels.

Propane Non-Bus Vehicle Buy-Down Program (Various under PON-10-604)
The Energy Commission is administering a vehicle buy-down program to support the deployment of propane non-bus vehicles. Reservations are being accepted from Original Equipment Manufacturers (OEMs) and their designated dealer distributors for incentives at varying levels depending on the class and fuel type of vehicle, helping to reduce the high initial price of propane vehicles. This vehicle buy-down program will assist public and private fleets and individual consumers in making the decision to purchase vehicles powered by non-petroleum, lower-carbon, alternative and renewable fuels.

4. Biofuels

a. Production awards

i. Biomethane awards ($50,965,340)

Biostar Systems, LLC (ARV-10-049)
Biostar Systems is awarded $3,372,314 to convert up to 141,000 gallons per day of combined animal and food waste into 240,000 cubic feet biogas or 148,000 cubic feet of pipeline quality biomethane at the Sonoma Valley County Sanitation District. The feedstock used for this project will be dairy waste (75,000 gallons per day (gpd)) and food processor waste (66,000 gpd). Biomethane produced will be compressed and injected directly into an existing PG&E pipeline and used to fuel 33 of Sonoma County Transit fleet buses daily. Excess gas will be distributed to public compressed natural gas stations in the state. The biomethane produced by the digestion of the waste will reduce greenhouse gas emissions by approximately 35,200 tons per year. Furthermore, this facility will reduce waste transportation costs for Sonoma County's food industry by an estimated $120,000 per year. The reduced hauling distance will conserve approximately 80,000 gallons per year of diesel fuel or 10,964,301 scf, the equivalent of 800 tons per year of carbon dioxide. The project is estimated to create approximately 70 short-term jobs and 16 long-term jobs over the life of the project, including manufacturing and construction jobs. Total anticipated match is $3,372,314. (Note: This project has been cancelled due to recipient issues. Of the $3,372,314 originally awarded, no funding was provided by the Energy Commission.)

City of San Jose (ARV-10-016)
The City of San Jose is awarded $1,900,000 to demonstrate a gasification technology that uses recycled feedstocks such as urban wood waste, yard waste, and biosolids at the Santa Clara Water Pollution Control Plant in San Jose. The proposed facility will use gasification to produce biogas, which will undergo a proprietary methanation process to increase the biomethane content of the biogas. If the project proves feasible and replicable, cities all over the world will have a new, more efficient method of turning wood waste and biosolids into a high-quality renewable fuel. In addition, it could provide substantial cost savings. San Jose also could save $450,000 a year in transportation fuel costs by using the natural gas produced by the project in its city-owned vehicles. Municipal wood waste and biosolids will no longer have to be landfilled, generating additional savings. San Jose may also be able to sell excess heat and electricity created by the project. A commercial scale implementation of the project could reduce San Jose's greenhouse gas emissions by more than 1,600 tons of CO2 annually. Project partners include Harvest Power, Inc., Agnion Technologies GmbH, and the San Jose/Santa Clara Water Pollution Control District. This is a pilot project what will be producing a nominal amount of fuel for testing purposes. The project is estimated to create 4 short-term and 6 long-term jobs. Total anticipated match is $4,775,426.

Clean World Partners, LLC (ARV-10-026)
Clean World Partners is awarded $1,315,800 to study the feasibility of, and then design, build, and manage a biomethane production facility to be located at the Sacramento Recycling and Transfer station in Sacramento, CA. The Recycling and Transfer Station will use an anaerobic digester system known as Anaerobic Phased Solids (APS) that uses less energy to operate than other systems. The innovative design has fewer moving parts, is highly scalable, uses commercially available components and minimizes pre-treatment time of the feedstock. The Sacramento facility will serve as a model to other landfill operations around the country. This project is expected to produce 71,324,285 standard cubic feet (SCF) of compressed natural gas (CNG) from locally produced food and green waste, displacing 584,000 gallons of gasoline annually. Fuel produced from this project will be sold to the Yolo County Transit District CNG bus fleet, meeting over two-thirds of their annual demand. This natural gas will displace 584,000 gallons of gasoline annually and reduce greenhouse gas emissions by 85 percent when compared to diesel. In addition to producing energy, the project will keep 36,500 tons of organic waste out of local landfills each year. Project participants include UC Davis' Dr. Ruihong Zhang, PhD, Onsite Power Systems, Inc., Sacramento Municipal Utility District, BLT Enterprises, Innovative Technical Solutions, Inc., Environmental Management Corporation, CALSTART, HDR, and Gas Technology Institute. This was a feasibility study that had produced a nominal amount of biomethane for testing purposes. The project is anticipated to create 3 short-term jobs. Total anticipated match is $1,448,569. (Note: This project has completed. Of the $1,315,800 originally awarded, $1,315,800 was provided by the Energy Commission.)

CR&R Incorporated (ARV-10-052)
CR&R is awarded $4,520,501 to process 50,000 tons per year of mixed municipal waste at CR&R's Perris Material Recovery and Transfer Station in Riverside County. This facility will process mixed municipal solid waste (MSW) from the City of Los Angeles using a wet separation technology from Arrow Ecology to separate recyclable materials from non-recyclable inert waste. Biodegradable materials will then be pumped into a two-stage anaerobic digestion system to produce biogas. Purac technology will clean the biogas, which will then be injected in the Sempra natural gas pipeline where it is used by Shell Energy North America for transportation fuel. The waste will be separated to produce a biologically rich feedstock for two-stage anaerobic digestion. CR&R estimates that the project will displace the equivalent of 865,000 gallons of diesel, enough to power 60 to 80 heavy-duty waste hauler trucks reducing an estimated 57,740 tons of carbon dioxide between 2013 and 2020. CR&R currently operates a fleet of roughly 100 liquefied natural gas trucks out of its San Juan Capistrano facility. The project is estimated to create 62 construction jobs and eight permanent facility/operation jobs. Total anticipated match is $15,216,499.

Sacramento Municipal Utility District (ARV-10-003)
Sacramento Municipal Utility District (SMUD) is awarded $1,830,132 to optimize and demonstrate that a patented additive process developed at Argonne National Labs can increase the productivity of anaerobic digestion up to five times and reduce the amount of CO_2 produced simultaneously. The process adds

magnesium silicate minerals to anaerobic digesters to convert CO_2 emitted during the digestion process into calcium carbonate. The minerals react chemically with the waste sludge and the CO_2 is chemically bonded to the rocks, essentially sequestering the CO_2 and producing a negative Carbon Intensity value. The process improves the rate and volume of biogas production and increases the biomethane content of the biogas, which boosts its energy content. At the same time, the process reduces impurities in the gas produced and creates carbonate byproducts, like material for roadways. When compared to standard anaerobic digestion, this technology produces less greenhouse gases, ammonia, and particulate emissions. The process will capture nutrients for reuse and reduce the need for inorganic fertilizers. It will also reuse recycled water, reduce the contamination of groundwater and surface water, and cut the amount of solid waste that is sent to landfills. Clean Energy will transfer and distribute the biomethane produced for transportation use through their existing fueling facilities. Energy benefits include the generation of high-quality renewable fuel through a net-energy producing process that creates surplus energy as electricity and heat, helping to reduce reliance on imported oil. If the improved process was adopted at all wastewater treatment plants in California, the gas produced could displace 870 million gallons of diesel fuel—or 29 percent of all diesel consumed in the state each year. This would eliminate more than 7.3 million tons of CO_2 annually. The project is estimated to create 10 short-term jobs and 112 long-term jobs. Total anticipated match is $1,870,825.

G4 Insights (ARV-10-023)

G4 Insights is awarded $1,229,966 to test and refine their thermo-chemical process technology for converting forest biomass to pipeline quality biomethane for transportation end uses. The conversion process being tested requires no process water and uses wood waste, either green or dry, as its sole feedstock. Water is generated in the process and is recycled and reused. A full-scale plant would run on one megawatt of electricity, but the excess energy produced from the wood would allow the facility to export over 15 megawatts and the excess heat produced would warm the plant and its offices. The project will be located in Placer County, where G4 and Placer County will test the biomethane's performance in one of Placer County's CNG vehicles. They will also assess the feasibility of serving over 50 CNG vehicles operating in the county, including 12 CNG buses. If successful, G4's conversion technology could provide a cost-effective technology for converting woody biomass into transportation-grade biogas throughout the state. Project participants include renewable energy consultants TSS Consultants, international design company WorleyParsons, and the County of Placer. Based on current estimates of California's woody biomass supply, the project team estimates that their technology could produce enough biomethane to displace 8 percent of gasoline and diesel use in the state even as it reduces the state's danger of wildfire. G4 projects 541 full-time jobs for four plants, with a total direct and indirect economic benefit of $707 million and $24 million in state and local tax revenues by 2020. The project is estimated to create 11 short-term jobs and 8 long-term jobs. Total anticipated match is $1,232,257.

High Mountain Fuels, LLC (ARV-10-051)

High Mountain Fuels is awarded $11,020,419 to construct a bio-LNG fueling facility at the Simi-Valley Landfill in Ventura County. The proposed project will use pressure swing adsorption technology which will reduce greenhouse gas emissions for bio-LNG to 85 percent below the diesel baseline, rather than the 73 percent reduction for standard process LNG from landfill gas. The project is expected to produce about 750 million cubic feet of biomethane per year for 6 million gallons of LNG annually, displacing 3.43 million diesel gallons equivalent. The LNG produced will be used to fuel 500 waste hauling trucks. The project is estimated to create 299 jobs in construction, production, engineering, management, and transportation. Project partners include Waste Management Inc. and The Linde Group. Total anticipated match is $11,020,419. (Note: This project has been cancelled due to recipient issues. Of the $11,020,419 originally awarded, no funding was provided by the Energy Commission.)

Northstate Rendering (ARV-10-040)

Northstate Rendering is awarded $5,456,150 to construct an anaerobic digestion facility in Oroville, California that can accommodate animal and slaughterhouse remains. The facility will produce biogas that will be upgraded to a renewable natural gas (RNG) standard for use as a vehicle fuel for Northstate Rendering's fleet of delivery trucks. The company will process waste that is often ignored in food production processes: dead dairy cows, slaughterhouse waste, and food processing waste. These materials have significant biogas production potential when anaerobically digested. To complement the biomethane production facility, an onsite fueling station will feed the RNG to a fleet of 14 trucks used to haul waste products which will be retrofitted with compressed natural gas (CNG) fueling systems. Any surplus biomethane will be injected into the natural gas pipeline at the facility to supply CNG fueling stations throughout California. When the facility becomes operational, over 370,000 gallons of diesel will be displaced, 15,000 tons of CO_2 emissions will be reduced, and the feedstock that would normally end up in the landfill will be used to create a vehicle fuel. This project will promote broader adoption of waste-to-fuel systems by creating an integrated waste-to-vehicle fuel system to produce California-sourced fuel. The biomethane produced will reduce greenhouse gas emissions by approximately 80 percent. The project is estimated to create 27 short-term and 12 long-term, permanent jobs and retain two jobs in Butte County where the unemployment rate is 13.4 percent. Total anticipated match is $5,740,950.

Pixley Biogas, LLC (ARV-10-053)

Pixley Biogas is awarded $4,672,798 to construct a biogas facility adjacent to the existing Calgren Renewable Fuels ethanol production facility in Pixley, California. The biogas facility will use anaerobic digestion of cow manure from three local dairies to produce biogas daily. The biogas produced will then be used to offset the total natural gas consumption at the Calgren facility, which would cause an immediate drop of 5.74 percent in the greenhouse gas intensity of the ethanol produced on a Well-to-Wheels basis. The carbon dioxide reductions of the reduced natural gas consumption, combined with the avoided manure emissions, are estimated to be over 31,000 metric tons per year, the rough equivalent of removing 6,300 cars from the road. The biogas produced from the Pixley project will result in an estimated net greenhouse gas reduction of 5.74 percent. Pixley Biogas will reclaim and process approximately 185 million gallons of the water

used to flush the stalls through separation equipment to remove at least 50 percent of the manure solids, resulting in a liquid that is suitable for on-farm recycling. Compounds, such as hydrogen sulfide and volatile organic compounds will be reduced, helping improve air quality. This project will serve as a model for adopting advanced manure handling systems to other dairy farmers. The project is estimated to create 46 jobs during construction and two full-time permanent jobs once the facility is operational; the project will also retain 18 jobs at its partner business, Calgren Renewables. Total anticipated match is $4,910,925.

Clean World Partners, LLC (ARV-11-021)
Clean World Partners, in collaboration with Atlas Disposal Industries, Carson Development, Otto Construction Company, Sacramento Municipal Utility District, and the County of Sacramento, is awarded $6,000,000 to scale-up the existing 25-ton-per-day (TPD) Phase-I Sacramento BioRefinery #1 (SBR1) at the County of Sacramento South Area Transfer Station to a larger system capable of diverting 100 TPD (36,500 tons per year) of source-separated food waste away from area landfills and converting it via anaerobic digestion into 566,000 diesel gallon equivalents (DGE) of renewable natural gas (RNG) per year. The scaled-up SBR1 Project will be the largest commercial-scale, high solids anaerobic digestion system in California, and the first to produce renewable vehicle fuel. When phase II is complete, Clean World Partners will produce enough RNG to run the full Atlas fleet of 20 waste hauling trucks (6 days per week), with an additional 237,500 DGE of RNG per year made available to other local fleets. This project is critical to extending the life of the Sacramento landfill, reducing greenhouse gas emissions, achieving low-carbon fuel standards, and generating bio-energy and bio-based agricultural products for the state of California. The project is estimated to reduce the demand for petroleum by 1,550 DGE per day. The project is estimated to create 27 short-term jobs in Marysville, California, where fabrication will occur, and constructions jobs in Sacramento, California; the project will also create 12 long-term operations jobs in Sacramento, California. Total anticipated match is $7,364,012.

Harvest Power Tulare, LLC (ARV-12-064)
Harvest Power Tulare, LLC is awarded $4,787,694 to validate direct “digester-to-pump” biomethane as a viable and replicable model to boost California’s quantity of renewable transportation fuel. The objectives of this project are to: process 40,000 tons per year of mixed organic feedstock material; convert the feedstock through high solids anaerobic digestion to 83,000 MMBTUs of renewable natural gas gross production, with net production available for sale of 660,000 gasoline gallon equivalent (GGE); construct and operate an on-site CNG fueling station; confirm economic and technical assumptions of the project to stimulate replication. The project is estimated to create 117 jobs (82 short-term and 35 long-term). Total anticipated match is $8,958,143.

Environ Strategy Consultants, Inc. (ARV-12-021)
Environ is awarded to $1,211,370 to show that pre-landfilled solid food waste derived from commercial and industrial sources can be used to produce biomethane gas in existing anaerobic digesters and converted to compressed natural gas (CNG) vehicle fuel for heavy duty trucks. The location of the project

is at the Inland Empire Utilities Agency (IEUA) Regional Plant Number 5 (RP-5) solid handling facility (SHF) in Chino, California. The project will utilize the existing equipment at the RP-5 facility along with new equipment for processing solid food waste and converting the biogas into a CNG fuel for use in solid waste collection vehicles. The pilot system will create 750 to 1,000 diesel gallons equivalent of CNG fuel that could fuel 5 to 10 solid waste collection vehicles. Successful commercialization of the RP-5 facility will result in the diversion of 100,000 tons per year of commercial and industrial solid food waste from landfills to the renewable energy facility and generate transportation fuel as CNG for as many as 40 to 50 solid waste collection trucks. The initial stage of the proposed project is to process 300 tons of food waste per day. Project calculations show that amount of food waste would be capable of generating 900,000 cubic feet of biogas per day, the equivalent of 329,950 MMBTU per year. If converted to CNG for use in transportation, this would be the equivalent of 1.76 million gallons of diesel fuel per year. The use of that amount of biofuel generated from the site would eliminate 39,998,966 pounds of CO_2 in vehicle emissions per year.The project is estimated to create 17 short-term jobs, and seven full-time, high-level operating technician positions. Total anticipated match is $1,211,370.

Blue Line Transfer, Inc. (ARV-12-031)
Blue Line Transfer is awarded $2,590,929 to produce compressed natural gas (CNG) for transportation fuel from the biomethane generated by the anaerobic digestion of the food waste and green waste portion of municipal solid waste from the cities of South San Francisco, Brisbane, Millbrae, and the County of San Mateo. The anaerobic digestion facility will convert 9,000 tons per year of food waste and green waste into biomethane that would be cleaned and compressed to produce CNG for the South San Francisco Scavenger Co., Inc. CNG refuse and recycling collection vehicle fleet. This type of project that converts food and green waste into a low carbon CNG fuel for the collection vehicle fleet that collects the organic municipal solid waste has never been done, a first of its kind in the state. This stage two demonstration facility is expected to produce 56,000 diesel equivalent gallons per year, enough to fuel five CNG-fueled collection vehicles. The carbon intensity for this CNG fuel is expected to be 36g CO2/MJ; a 62% reduction compared to ultra low sulfur diesel (95g CO_2e/MJ). A larger stage three commercial facility of 20,000 tons per year facility is expected to produce 112,000 diesel equivalent gallons per year, enough fuel for 9 CNG-fueled collection vehicles, with a lower carbon intensity of 23g CO_2e/MJ. The proposed project can be replicated throughout California, based upon its modular design and small footprint, where it could be co-located at other existing permitted MSW processing and transfer stations. The project is estimated to create 20 short-term construction positions, two full-time operating positions, and is anticipated to create 16 positions after commercialization. Total anticipated match is $2,590,929.

Recology, Inc. (Pending)
Recology, Inc. is awarded $5,000,000 to site, build, and operate a 65,500 ton-per-year anaerobic digester at the company's Hay Road facility in Vacaville, California. The proposed facility will divert approximately 250 tons-per-day of organic waste to produce more than 1.1 million diesel gallon equivalents (dge) of negative carbon intensity renewable natural gas (-15g CO_2e/MJ) that will fuel

Recology's existing 84 compressed natural gas fleet vehicles and support the conversion of 51 additional Recology vehicles, further reducing petroleum dependence while eliminating a significant source of GHG emissions. Excess landfill gas that is currently being flared will also be cleaned up by the facility, producing an additional 0.3 dge of renewable natural gas for a total of 1.4 million dge each year. When fully operational, the facility will also provide valuable liquid and solid organic material for the adjacent Jepson Prairie Organics compost facility, solving the issue of effluent management. The facility will support up to 12 full-time, permanent jobs in organics processing and diversion, and approximately 133 construction jobs over a one-year period. Finally, the proposed facility will reduce odor, protect groundwater, and eliminate particulate matter in an area receiving a CalEnviroScreen score of 16.63. Project partners include Organic Waste Systems and the City and County of San Francisco. Total anticipated match is $15,453, 835.

City of San Mateo (ARV-14-028)
The City of San Mateo is awarded $2,450,000 to sustainably and cost-effectively produce low carbon vehicle fuel from the unused digester gas that is generated at the City of San Mateo's wastewater treatment plant (WWTP). To achieve this, the digester gas will be treated using a unique system to create biomethane that meets the SAEJ1616 vehicle standards, and then will be compressed and stored at a pressure suitable for rapid fueling of vehicles designed to operate on compressed natural gas (CNG). Approximately 100 cubic feet per minute of unused wastewater generated digester gas is available to sustainably produce up to 160,000 diesel gallon equivalents (dge) of biofuel per year. The target market for replicating the project is the 150 public agencies in California that produce digester gas at a WWTP. Total anticipated match is $2,468,941.

City of Napa (ARV-14-037)
The City of Napa is awarded $3,000,000 to produce renewable compressed natural gas (RNG) for transportation fuel from the biomethane generated by the dry fermentation anaerobic digestion (AD) technology of the pre-landfilled organic portion of municipal solid waste from the Napa area. The AD facility will convert 25,000 tons per year of food waste, green waste, and manures into biomethane that would be cleaned and compressed to produce 328,000 diesel gallon equivalents (dge) per year for the Napa Recycling & Waste Services' compressed natural gas collection fleet of 35 vehicles. The carbon intensity of the RNG fuel has been calculated to be -48 gCO_2e/MJ. With the success of this project, this type of community-scale distributed renewable transportation production facility can be commercialized at the size of 25,000 tons per year to serve up to 100 communities of 100,000 people to meet the goals of AB 32. This is a closed looped system where the vehicle that collects the organic waste gets fueled by the AD of the same organic wastes which also fuels the rest of the fleet with carbon negative fuel. Total anticipated match is $9,691,741.

Colony Energy Partners Tulare LLC (ARV-14-029)
Colony Energy Partners Tulare LLC is awarded $5,000,000 to develop a commercial-scale anaerobic digester to process locally-collected, vacuum-scraped dairy manure, food and agricultural processing residuals, restaurant and cafeteria food scraps, restaurant grease trap residuals, and organic municipal

solid waste. The project will use a gas conditioner to produce 400 million cubic feet per year of pipeline-grade biomethane, or approximately 2.87 million diesel gallon equivalents. The Colony Endeavor Facility is strategically located on an industrial 18-acre parcel that is adjacent to the City of Tulare Industrial Wastewater Treatment Plant in San Joaquin Valley. Total anticipated match is $5,443,232.

ii. Biodiesel awards ($56,660,924)

Agricultural Waste Solutions, Moreno Valley (ARV-10-043)
Agricultural Waste Solutions, in partnership with Scott Brothers Dairy Farms, is awarded $658,220 to assemble, operate and test a modular, skid-mounted demonstration pilot plant for the conversion of dairy waste to renewable diesel. The project will use a proprietary solids separation process, combined with gasification of the solids and Fischer-Tropsch conversion of the resulting syngas to renewable diesel. At commercial scale, the technology could produce 6.8 million gallons of renewable diesel per year from the 35,000 dairy cows in Western Riverside County Agricultural Coalition. At commercial scale, the diversion of manure from the 35,000 cows would result in reductions of 851,050 tons per year CO_{2e} of methane and 720,666 tons per year CO_{2e} of nitrous oxide. The project is estimated to create 11 short-term and 11 long-term jobs. Total anticipated match is $1,014,537.

Biodiesel Industries (ARV-10-024)
Biodiesel Industries is awarded $886,815 to demonstrate an automated control system that includes a portable biodiesel production unit, an anaerobic digester, a microturbine, a greenhouse, and tanks for growing algae. Water and glycerin from biodiesel production will feed the digester. Biomethane from the digester will be burned in the microturbine to produce heat and power. Power from the microturbine will be used to produce biodiesel. Effluent from the digester will feed algae. Oil from the algae will be converted to biodiesel. The project will take place at the Naval Base Ventura County at Port Hueneme. Biodiesel Industries estimates a full-scale production plant using this technology could reduce greenhouse gas emissions by more than 23,000 tons of CO2 a year over a normal biofuel plant and could be a net producer of energy. The plant could produce 3 million gallons of biodiesel, 3,000 megawatts of renewable electricity, and 47 mega joules of renewable heat. This project is estimated to create 12 short-term and nine long-term jobs. In full production, the system could create 3 million gallons of biodiesel and create 58 permanent jobs. Project partners include Aerojet, the United States Navy, Great Valley Center, UC Davis, Cal Poly San Luis Obispo, and JAL Engineering. Total anticipated match is $1,573,526.

California Polytechnic State University, San Luis Obispo (ARV-10-027)
Cal Poly San Luis Obispo is awarded $250,000 to demonstrate a new technology that turns oil-rich algae into biofuel while also treating wastewater. The University's system, called Reclamation of Nutrients, Energy, and Water (RNEW^{TM}), will be installed at the City of San Luis Obispo's water reclamation facility. The system is the pilot development stage of new techniques of raising and cultivating algae that has been refined in the lab. Nine 30-square meter raceway ponds will be constructed at the wastewater treatment plant. Algae will be grown in the ponds using nutrients from the waste, supplemented with carbon

dioxide from cylinders. The CO2 greatly increases the growth of the algae, which maximizes the production of lipids, or oils, and improves the quality of the wastewater as the plants assimilate nitrogen and phosphorous. The algae will be separated from the water using a simple, low-cost settling process. A full-scale system would use carbon dioxide from flue gas, so that the greenhouse gas contribution would be negative. A lifecycle analysis will evaluate total energy, carbon, and water use. The system has already proven efficient enough to create 1,200 gallons of biofuel a year from each acre of algae and work to develop new strains of algae should increase productivity even more. The City of Fresno has already offered its wastewater facility as the site for scaling up the RNEW^{TM} technology. According to Cal Poly San Luis Obispo, a 400-hectare system, would have a negative greenhouse gas contribution, which means it would absorb carbon dioxide. Their analysis shows that a 400-hectare system would require 52 full-time operators. This project is estimated to create three long-term jobs. Total anticipated match is $442,000.

East Bay Municipal Utility District (ARV-10-022)

East Bay Municipal Utility District (EBMUD) is awarded $1,000,000 to develop a process to convert fats, oil, and grease (FOG) to biodiesel at wastewater treatment plants. EBMUD will construct a FOG receiving station with two 30,000-gallon tanks, and will investigate, test, and demonstrate cost-effective methods to harvest brown grease from FOG and to reduce the sulfur content of the biodiesel oil. If successful, the technology will produce 300,000 gallons of biodiesel per year, which EBMUD would use in their diesel trucks. Biodiesel reduces greenhouse gas emissions by 88 percent when made from these feedstocks—providing an important air quality improvement. The project is estimated to create one short-term job, and using an estimate of 3-5 employees per one million gallons of biodiesel produced, a potential of 60 million gallons per year would create 150-300 permanent jobs. Total anticipated match is $1,574,834.

Solazyme (ARV-10-047)

Solazyme is awarded $1,472,638 to design and configure a pilot scale oil production facility plant in South San Francisco that is modeled after a converted corn ethanol plant. Solazyme's innovative heterotrophic algae growth process uses fermentation equipment similar, but not identical, to corn ethanol facilities to renewably produce oils that can be refined into a multitude of products including clean fuels and chemicals. The objective of the project is to advance the commercialization of large scale algal oil production by demonstrating the feasibility of converting an existing, idled ethanol facility for use in the production of higher value, low carbon oils. The renewable oil will be refined to renewable diesel meeting American Society for testing and materials (ATSM) specifications for D975, and this material, produced from California feedstocks, will be tested for its impact on engine performance and emissions. Solazyme's advanced biofuels reduce lifecycle greenhouse gas emissions by 66-93% when compared to conventional petroleum-based fuels. These fuels meet the ultra low sulfur diesel standard for California, and also have lower emissions of criteria air pollutants, including NO_x. The project is estimated to create 21 short-term and 18 long-term jobs. Total anticipated match is $2,745,935.

SacPort Biofuels Corporation (ARV-11-019)

SacPort Biofuels Corporation is awarded $5,000,000 to develop, build, validate, and test a pilot facility at the Port of West Sacramento to demonstrate biomass to liquid Fischer-Tropsch (FT) diesel from a local renewable green waste feedstock. The primary feedstock for this proposed project will be waste-based biomass, but this project can also accommodate other types of feedstock such as contaminated green waste, railroad ties, construction and demolition waste, and plastics that would otherwise likely end up in a landfill. This biomass diesel will vastly reduce greenhouse gas emissions by 138% when compared to U.S. average for low sulfur diesel, virtually eliminate sulfur oxide emissions, and enable the use of post-combustion nitrogen oxide abatement systems. The project is estimated to create 20 permanent jobs and an additional 30 during construction. Anticipated project match funds total $12,824,809.

Springboard Biodiesel, LLC (ARV-11-016)
Springboard Biodiesel is awarded $758,200 to develop, build, test and operate a pilot, small scale, production and fueling facility in Chico, California. This project will respond to Chico's need for biodiesel fueling stations, by producing renewable biodiesel fuel through Springboard Biodiesel's Closed Local Loop System (CLL). Springboard Biodiesel's CLL system will produce up to 1,000 gallons per day of biodiesel from multiple feed stocks, including chicken fat, beef tallow, and used cooking oil. Springboard will test and ASTM-certify (American Society for testing and materials) the fuel and sell it locally within a 20 mile radius. The goal of this project is to prove the commercial viability of a low cost, small scale, easily deployed biodiesel production facility. The project is estimated to create 15 short-term and 9 long-term jobs. Anticipated project match funds total $1,145,072.

New Leaf Biofuels (ARV-11-015)
New Leaf Biofuels, a small biodiesel production company located in the city of San Diego, is awarded $511,934 to more than double their capacity of biodiesel produced from waste cooking oil. Specifically, this grant will support the purchase and installation of new processing equipment that will increase the facility's biodiesel production capacity from one and a half million gallons to five million gallons per year. In addition to increased capacity, the project includes a co-generation system and a high efficiency ethanol recovery process. These features will decrease the carbon intensity of the fuel currently produced at this facility an additional 10 percent, which results in a total of 90 percent lower carbon intensity than that of ultra-low sulfur diesel. The project is estimated to create seven short-term jobs, six permanent jobs, and retain 29 jobs. The total anticipated project match funding is $753,000.

Yokayo Biofuels, Inc. (ARV-11-030)
Yokayo is awarded $1,860,330 to expand their biodiesel production facility. The grant will enable Yokayo Biofuels, Inc. to increase production capacity at their facility near Ukiah, California from 1,400 gallons per day to 2,000 gallons per day, using an enzyme catalyst process. The new process will allow for the use of a lower cost feedstock and will also reduce the energy use, water use and waste associated with the production of each gallon of biodiesel. The project is estimated to create 63 short-term jobs and 9 long-term jobs. Total anticipated

match is $2,909,775. (Note: This project has been cancelled. Of the $1,860,330 originally awarded, no funding was provided by the Energy Commission.)

Buster Biofuels LLC (ARV-12-035)
Buster Biofuels is awarded $2,641,723 to install and operate a commercial-scale biodiesel facility that will produce nearly 5 million gallons of transportation fuel per year through an integrated system of proven and tested technologies to process waste-based feedstocks, primarily used cooking oil. This project will increase the cost efficiency associated with the production, distribution, and use of biodiesel in the San Diego regional market. This project is estimated to divert nearly 5.65 million gallons per year of used cooking oil, while locally producing ASTM-quality biodiesel, displacing petroleum diesel fuel and increasing in-state biofuels production. The production of biodiesel from waste-based feedstock, primarily used cooking oil, receives one of the best scores recorded from the California Air Resources Board for all carbon fuels – 11.76 gCO2e/MJ, compared to 94,71 for production diesel fuel, 19.65 for Renewable Diesel, and an average of 124 for all California fuel sources. The project is estimated to produce 34 full-time contractual jobs and 18 full-time jobs through the operation of the facility. Total anticipated match is $8,296,367.

Eslinger Biodiesel, Inc. (ARV-12-026)
Eslinger Biodiesel is awarded $6,000,000 to build a 45 million gallon, multi-feedstock biodiesel manufacturing facility adjacent to the Kinder Morgan fuel distribution terminal in Fresno. That terminal functions as a pumping station for a vast underground pipeline network that moves fuel throughout California, located near the biofuel end-markets for the Fresno area and beyond. This commercial facility, with pre-and post processing distillation, will be operational within 12 months of funding. The entire production output will be pre-sold through the Kinder Morgan distribution network at competitive prices to local consumer companies that are interested in meeting bio-fuel mandates and obligated to purchase carbon credit off-sets. The project is estimated to create 27 short-term and 12 long-term positions, including technicians, operators, yard workers, process assistants, and administrative positions. Total anticipated match is $13,000,000.

California Institute of Technology (500-11-023)
The California Institute of Technology for the Joint Center for Artificial Photosynthesis (JCAP) is awarded $5,000,000 to incorporate research results from labs investigating aspects of artificial photosynthesis, and in turn provide metrics and benchmarking of catalysts in system performance to the scientific community. JCAP will replicate the natural photosynthesis process using non-organic materials to develop a solar fuels generator that will produce hydrocarbon fuels from sunlight, carbon dioxide, and water. The scalable and cost-effective solar fuels generator will, without use of rare materials or wires, produce fuel from the sun ten times more efficiently than the natural photosynthesis process. The contract will provide funding for the JCAP team to develop, test, and integrate specially designed components, including light absorbers, catalysts, and membranes that will be used in artificial photosynthesis process and solar fuels generator.

Crimson Renewable Energy LP (ARV-13-007)
Crimson Renewable Energy is awarded $5,000,000 to upgrade equipment at their existing facility to increase biodiesel production from 10 million gallons per year to 17 million gallons per year and reduce the carbon intensity of the biodiesel produced to less than 14 grams of CO_2 equivalent per megajoule. Crimson Renewable Energy currently operates the Bakersfield Biodiesel and Glycerin Production Plant, which converts feedstocks such as used cooking oil, animal fats, and waste corn oils from the ethanol production process into biodiesel for the California market. The existing plant faces bottlenecks that prevent it from maximizing its current potential production capacity. The proposed improvements would reduce the carbon intensity of the plant's biodiesel output by increasing the plant's ability to process certain currently available ultra-low carbon intensity (ULCI) feedstocks. The project is estimated to create 35 short-term design and construction jobs, and 6 new, full-time positions. Total anticipated match is $6,017,047.

American Biodiesel, Inc. dba Community Fuels (ARV-13-008)
Community Fuels is awarded $4,904,375 to expand the biodiesel production capacity of Community Fuels' existing commercial biorefinery located at the Port of Stockton. The expansion will leverage the substantial amount of existing infrastructure at the facility and increase its production capacity to at least 15 million gallons per year. The proposed project comprises the design, construction, and commissioning of a parallel transesterification reactor line and related augmentations to equipment for separation and purification of the raw biodiesel product and glycerin co-product. The expanded facility will be able to utilize a range of sustainable feedstocks to produce finished fuels with an aggregate calculated carbon intensity value 29% below the LCFS reference baseline of 83.25 gCO_2e/MJ. Successful implementation of the proposed project will result in the displacement of 14.1 million petroleum diesel gallon equivalents per year and associated reductions in GHG emissions of 45,596 metric tons of CO_2 equivalents per year. Community Fuels expects 11 permanent direct jobs to be created in Stockton, California as a result of the biorefinery expansion. Total anticipated match is $10,537,322.

Crimson Renewable Energy LP (ARV-13-052)
Crimson Renewable Energy is awarded $5,000,000 to upgrade equipment at their existing facility to increase biodiesel production from 17 million gallons per year to 22 million gallons per year with a carbon intensity less than 14 grams of carbon dioxide equivalent per megajoule. Total anticipated match is $7,457,591.

American Biodiesel, Inc. dba Community Fuels (ARV-14-024)
Community Fuels is awarded $4,183,421 to design, construct, and commission an acid-catalyzed esterification system for processing high-free fatty acid (FFA) feedstocks at the company's existing commercial biorefinery at the Port of Stockton. Successful implementation of the proposed project will greatly increase the efficiency with which biodiesel can be produced from high-FFA feedstocks and make it feasible to process a wider range and greater volume of waste greases, agricultural byproducts, and other lower-grade feedstocks with low carbon intensity values. While the system design will emphasize feedstock

flexibility and the ability to process a range of fats and oils, Community Fuels will focus on corn oil derived from the distiller's grains co-product of ethanol production (prior to the drying process). The biodiesel produced from this feedstock has a carbon intensity value of 4 gCO_2e/MJ, which represents a 95.9% reduction in GHG emissions relative to the relevant fossil fuels reference baseline (98.03 gCO_2e/MJ for ultra low sulfur diesel). The biodiesel produced from feedstock processed by the proposed esterification system will result in the displacement of 5.86 million gallons of petroleum per year. The associated reduction in GHG emissions will be 74,125 metric tons of CO_2 equivalents per year. The total reduction in GHG emissions over the projected 20-year lifetime of the system will be 1,482,500 metric tons of CO_2 equivalents. Total anticipated match is $6,742,599.

AltAir Fuels, LLC (ARV-14-022)
AltAir Fuels, LLC is awarded $5,000,000 to support the second phase of an expansion project to increase renewable diesel production capacity from 30 million gallons per year to 40 million gallons per year at an existing facility in Paramount, California. This facility will convert low carbon intensity feedstocks such as waste corn oils, beef tallow, and camelina oil, into clean burning renewable diesel, a drop-in fuel that replaces petroleum diesel. This Phase II expansion will allow for a future expansion to 150 million gallon annual production, scheduled for 2017. The project is the first drop-in liquid fuel funded by the Alternative and Renewable Fuel and Vehicle Technology Program. The average carbon intensity of the fuel produced by AltAir will be 16.1 gCO_2e/MJ, or an 83 percent reduction from the petroleum baseline based on an average of the Low Carbon Fuel Standard certified carbon intensities for the three feedstocks. This phase of the project is expected to reduce greenhouse gas emissions by over 200,000 tons of CO_2 equivalents over the 3-year project term. Over 300 direct and indirect jobs will be supported by this phase of the project, in feedstock productions, materials handling, and biorefinery operations. AltAir Fuels will be contributing over $24 million in match funding.

UrbanX Renewables Group, Inc. (ARV-14-034)
UrbanX Renewables Group, Inc. is awarded $5,000,000 to modify an existing biodiesel production plant to a feedstock flexible renewable diesel biorefinery, increase plant capacity from 2.5 million gallons per year (mgpy) to 10 mgpy, and reduce carbon intensity to 16.4 gCO_2e/MJ. These facility improvements will enable UrbanX to produce a high-demand advanced biofuel in the Los Angeles basin, and area surrounded by several obligated parties including petroleum refineries, terminals, and fuel distributors. Domestic and locally produced renewable diesel is sought after because of its complete drop-in integration into California's transportation fuel supply. When complete, this project will increase annual economic activity at the existing facility by approximately $38 million, create 45 short-term construction jobs, and support 15 additional operational jobs. UrbanX's key subcontractors include UOP-Honeywell, Air Products & Chemicals, Sun Engineering, CMAC Construction, and Arena Engineering & Procurement. Total anticipated match is $6,802,023.

Viridis Fuels, LLC (Pending)

Viridis Fuels, LLC is awarded $3,393,598 to develop, own, and operate a commercial-scale 20 million gallon per year (mgpy) biodiesel production facility on East Bay Municipal Utilities District (EBMUD) owned property near the Port of Oakland. This facility will introduce biodiesel and make it immediately available to the local fleet of trucks operating at the port, thus positively impacting air quality by reducing toxic emissions. Additionally, a built in glycerin refinement capability converting an annual minimum of 2 million gpy of crude glycerin to technical grade for sale, delivers a project with multiple income streams. The project will increase entry-level employment opportunities in emerging green industry and create 45 new jobs below the management/administration/fiscal operations line that include many entry-level positions. Total anticipated match is $7,810,800.

iii. Advanced ethanol awards ($21,308,524)

Great Valley Energy (ARV-10-017)
Great Valley Energy is awarded $1,989,010 to identify technologies and product markets to determine the feasibility of constructing a pilot facility that will produce ethanol and other products from sweet sorghum grown in the San Joaquin Valley. Sweet sorghum is an attractive feedstock as it has the potential to replace declining cotton production, can use abandoned saline soil lands for growth, has low water requirements, and has a lower greenhouse gas emissions than corn ethanol. Additionally, the project provides a positive economic business model and will benefit a distressed economic region. Great Valley Energy estimates the production of 5.4 million gallons of ethanol per year for a commercial scale facility. By 2020 Great Valley Energy estimates it could have 15 small plants dispersed across the Valley, each capable of producing 3.15 million gallons of ethanol a year. The total annual production of more than 47 million gallons would, over an eight-year period, displace more than 7 million barrels of petroleum and reduce greenhouse gases by the equivalent of 1.6 million tons of CO_2. The project is estimated to create 20 jobs in the San Joaquin Valley. Project participants include KTC Tilby, Lang Technologies, Jojack, Inc., Tapis Energy Group, Lyles Construction Group, California Biomass Collaborative, and Pederson Farms of Kings County. This project is estimated to create 11 short-term jobs. Total anticipated funding is $1,999,790. (Note: This project has completed. Of the $1,989,010 originally awarded, $1,911,282 was provided by the Energy Commission.)

Mendota Advanced Bioenergy Beet Cooperative (ARV-10-028)
Mendota Advanced Bioenergy Beet Cooperative is awarded $1,499,000 to integrate four different technologies in one facility to produce advanced ethanol, renewable biomethane, compost and fertilizer, and green e-electricity with sugar beets and almond prunings as primary feedstocks. The Mendota Advanced Bioenergy Beet Cooperative (MABBC) projects to convert 840,000 tons per year of locally-sourced sugar beets, 80,000 tons of almond pruning's and other agricultural waste, into 33.5 million gallons of advanced ethanol; 6.3 megawatts of certified clean electricity; 1.6 million standard cubic feet of renewable biomethane for conversion into compressed natural gas, and high-nutrient compost and liquid fertilizer. It will also provide nearly 119 million additional gallons of water each year to be used for farming and landscaping. The ethanol

and CNG produced would replace 23 million gallons of gasoline and diesel fuel each year, cutting greenhouse gas emissions from petroleum by 45 percent for ethanol and 86 percent for CNG. MABBC estimates that the project will produce 15 short term jobs, 102 long-term jobs, and $90 million in revenues per year. Total anticipated match is $1,553,461. (Note: This project has completed. Of the $1,499,000 originally awarded, $1,498,842 was provided by the Energy Commission.)

EdeniQ Inc. (ARV-11-018)
EdeniQ, Inc. is awarded $3,900,000 to develop a low-cost, low carbon intensity technology for the conversion of cellulosic biomass to ethanol, based on innovative process integrating mechanical pretreatment, advanced enzymes and improved yeasts. The project team has constructed a 2 ton per day biorefinery at EdeniQ's Visalia, California Research and Development center, comprising novel cellulosic feedstock processing, saccharification (conversion of biomass to intermediate cellulosic sugars), and fermentation to produce cellulosic ethanol. The biorefinery was constructed and is being started up on corn stover under a $25 million program funded in part by the U.S. Department of Energy. This project will extend the program to demonstrate this transformational technology on California-relevant feedstocks. EdeniQ will produce at least 70 gallons of ethanol per ton of biomass. Each gallon of ethanol will displace approximately 0.65 gallons of petroleum and will reduce greenhouse gas production by 70% to 90% compared to the displaced petroleum. Cellulosic feedstocks will displace corn and other starch feedstocks and thereby reduce the potential impact of corn-based ethanol production on food prices. The project is estimated to create 12 short-term and 4 long-term jobs; the project will also preserve jobs of 30 employees. Total anticipated match is $10,082,341.

Mendota Bioenergy, LLC (MBLLC) (ARV-12-033)
Mendota Bioenergy is awarded $4,998,399 to design, construct, and operate an Advanced Biorefinery Center-Mendota Integrated Demonstration Plants (IDP), located at the Red Rock Ranch in Five Points, California. When fully operational in 2013, the proposed 1/40th-scale demonstration project will: 1) demonstrate a first-in-the-world, "All Beets All the Time" 12-month harvest plan for 10,000 tons of high-yield, carbon-optimized energy beets; 2) use advanced enzyme and microbial conversion processes to produce 300,000 gallons of 190-proof advanced biofuel ethanol; 3) use spent stillage from the ethanol production process and glycerin from the biodiesel production process as feedstock in the production of BioCNG and fertilizer through anaerobic digestion; 4) produce 11,588 gallons of biodiesel for blending at B20 with regular diesel for use in energy beet cultivation, harvest and transport equipment; 5) simulate the proposed production system using lifecycle analysis (LCA) tools to support decision making for process design, co-product development, and future commercial scale-up in the $175-million Advanced Biorefinery Center-Mendota (ABC-M). This project will displace approximately 28,475,204 gallons of refined petroleum products (gasoline and diesel fuels). The project is expected to create 15 temporary construction, engineering, and design jobs and as many as 102 permanent positions in biorefinery, feedstock, and farm operations. Total anticipated project match is $6,537,973.

GFP Ethanol, LLC d/b/a/ Calgren Renewable Fuels (ARV-14-021)
Calgren Renewable Fuels is awarded $3,000,000 to implement a transformative feedstock development and technology investment initiative that will assist the state in producing advanced biofuels to meet both the renewable fuel and greenhouse gas reduction goals stipulated under the federal Renewable Fuel Standard and the state Low Carbon Fuel Standard. The proposed project includes the following objectives: implementation of the California In-State Sorghum (CISS) program that combines research, market development, and education to support the development of sorghum as a reliable and robust feedstock for the low-carbon California ethanol industry; and acquisition and processing of approximately 91,700 tons of low carbon grain sorghum over 36 months to support production of nearly 9 million gallons of sorghum ethanol with an Air Resources Board carbon intensity pathway of 65.04 gCO_2e/MJ. CISS includes the establishment of a Sorghum-Ethanol Technical Advisory Group (SETAG) led by the University of California Kearney Agricultural Research Center, a robust research program by CSU Fresno's Center for Irrigation Technology to conduct sorghum growth trials and proposed alternatives to implement water use reduction efforts in the emerging California sorghum industry, and an ambitious outreach, education, and sales program by Chromatin to develop sorghum production by California's agricultural community. The program supports the permanent transition of in-state ethanol production away from corn and towards non-corn, lower carbon ethanol produced from sustainable feedstock grown in state. The program will reduce the carbon intensity of transportation fuels in the state and will commercialize supply relationships and processes to support ongoing production of even lower carbon fuels in California. Key elements of the program are the result of collaboration of California's three largest ethanol producers and will be implemented in collaboration with the California Energy Commission and the California Air Resources Board. Total anticipated match is $18,340,000.

Pacific Ethanol Development, LLC (ARV-14-026)
Pacific Ethanol Development, LLC is awarded $3,000,000 to implement a transformative feedstock development and technology investment initiative that will assist the state in producing advanced biofuels to meet both the renewable fuel and greenhouse gas reduction goals stipulated under the federal Renewable Fuel Standard and the state Low Carbon Fuel Standard. The proposed project includes the following objectives: install and operate new advanced grinding technologies to support dramatically expanded utilization of sorghum, increased production efficiency, and reduced carbon intensity by more than 14 percent from the ethanol baseline pathway; implement the California In-State Sorghum (CISS) program that combines research, market development, and education to support the development of sorghum as a reliable and robust feedstock for the low-carbon California ethanol industry; and acquire and process approximately 91,700 tons of low carbon grain sorghum over 36 months to support production of nearly 9 million gallons of sorghum ethanol. The project supports the resumption of operations at Pacific Ethanol's 40 million gallon per year Madera Ethanol Facility with new sorghum processing that could ultimately support the facilities full production capacity. Total anticipated match is $19,880,000.

Aemetis, Inc. (ARV-14-027)

Aemetis, Inc. is awarded $3,000,000 for the proposed Aemetis Low-Carbon Sorghum Ethanol Project. This project includes the California In-State Sorghum (CISS) Program, a collaboratively developed feedstock development program that will support a lasting expansion in California's ability to locally source and provide reliable and robust non-corn feedstock supplies for the production of low-carbon ethanol that meets the renewable fuel and green house gas reduction goals stipulated under the federal Renewable Fuel Standard and the state Low Carbon Fuel Standard. CISS will include a market development, education, and research program to support the transformation of California's ethanol industry to non-corn, lower-carbon, advanced biofuel feedstocks. CISS includes: 1) an ambitious outreach and education program by partners Chromatin and JD Heiskell to California's agricultural community to support the development of a long-term, in-state sorghum supply; 2) a robust research program to conduct sorghum growth trials; 3) carbon intensity evaluations; and 4) the proposal of alternatives to implement water-use reduction efforts in the emerging California sorghum industry. Aemetis will be: installing and operating a new Grain Truck Receiving System to support the expanded utilization of grain sorghum, from both local and imported sources, thereby reducing the carbon intensity of its finished ethanol by more than 10 percent, from 80.7 gCO_2e/MJ to 70.25 gCO_2e/MJ; and acquiring and processing approximately 82,200 tons of low-carbon grain sorghum over 36 months to support production of more than 7,900,000 gallons of sorghum ethanol. Total anticipated match is $16,440,000.

iv. California Ethanol Producer Incentive Program (600-09-017)

The California Ethanol Producer Incentive Program (CEPIP) was provided a total of $6,000,000 to support production facilities that have a minimum production of 10 million gallons per year of ethanol per facility. Temporary financial assistance, pending funding availability, may be available during periods of difficult economic operating conditions and would be repayable under favorable market conditions. CEPIP requires compliance with Biorefinery Operational Enhancement Goals designed to reduce carbon intensity of the fuel they produce by at least 10 percent or displace at least 20 percent of their existing feedstock with alternative feedstock. A portion of the funds ($196,620) was retained by the California Alternative Energy and Advanced Transportation Financing Authority to support administration of the CEPIP.

AE Advanced Fuels Keyes, Inc. (ARV-10-031)

AE Advanced Fuels Keyes, LLC ($1,803,380) has the maximum capacity to produce 60 million gallons of ethanol per year, and is operating at full capacity. This project is estimated to create 420 short-term and 96 long-term jobs.

Calgren Renewable Fuels, LLC (ARV-10-033)

Calgren Renewable Fuels, LLC ($2,000,000) has the maximum capacity to produce 58 million gallons of ethanol per year, and is operating at full capacity. This project is estimated to create 35 long-term jobs.

Pacific Ethanol Stockton, LLC (ARV-10-030)

Pacific Ethanol Stockton, LLC ($2,000,000) has the maximum capacity to produce 40 million gallons of ethanol per year, and is operating at full capacity. This project is estimated to create 36 long-term jobs.

b. Infrastructure awards

i. Biodiesel awards ($3,982,359)

American Biodiesel, Inc, dba Community Fuels (ARV-10-037)
American Biodiesel, Inc, dba Community Fuels is awarded $1,999,379 to construct a new biodiesel terminal at the Port of Stockton. Currently operating a 10 million gallon per year biodiesel production plant at the Port, Community Fuels will supplement their own production by importing biodiesel feedstocks into California. They will then certify the fuel for quality, re-process as needed and sell the finished biodiesel in California. The new biodiesel terminal installation will support the sale and distribution of up to 73 million gallons of fuel annually. The Port's trucking, rail and deepwater ship transport facilities will benefit from the Community Fuels biodiesel production facility. California's weakest link for using biodiesel and other bio-oils is lack of bulk storage and blending facilities. Lack of biodiesel terminals significantly raises the cost to transport, store, blend and ultimately retail biodiesel fuel. This project provides one terminal blending facility and will leverage the existing diesel distribution infrastructure and expertise of petroleum distributors to increase biodiesel blends throughout California. This project is expected to lower the retail price of biodiesel by reducing storage and distributing expenses. At full capacity, the terminal could dispense up to 73 million gallons per year of biodiesel, representing 67 million equivalent gallons of diesel displacement, and corresponding annual reductions of 410,000 tons of greenhouse gas emissions and 217 metric tons of air pollution. This project is anticipated to create two short-term and three long-term jobs. Total anticipated match is $4,980,735.

RTC Fuels (ARV-10-008)
RTC Fuels is awarded $1,790,000 to build two new biodiesel blending terminals—one in Southern California and one in Northern California—that will be able to dispense up to 1.8 million gallons of the biofuel a year. In Sacramento, RTC is partnering with InterState Oil Company at the former McClellan Air Force Base, where it will dispense up to one million biodiesel gallons annually to serve San Francisco, San Jose, Sacramento, and Stockton metropolitan areas. The second site will be in Carson, California. RTC will work with SoCo Group Inc. and will dispense up to 800,000 gallons annually to serve Ventura, Los Angeles, Orange, Riverside, San Bernardino, Imperial, and San Diego counties. Biodiesel blends of 5 percent, 20 percent, and up to 99 percent will be distributed from the two terminals, displacing up to 1.2 million equivalent gallons of diesel each year and cutting greenhouse gas emissions by more than 7,400 tons annually. The project is estimated to create and support 26 construction, fuel terminal contractor, and equipment manufacturing jobs. This project is also estimated to create six long-term jobs. California is dedicated to using biofuels to help reduce petroleum dependence and cut air pollution, but the weakest link for supplying biodiesel and other sustainable bio-oils is the lack of terminal locations, bulk storage and blending facilities. As these new facilities are added to existing fuel

terminals, for the first time 70 percent of the state will be able to take advantage of the cleaner biodiesel option. The project participants are providing a minimum of $1,143,336 match funding. **(**Note: This project has completed. Of the $1,790,000 originally awarded, $1,788,551 was provided by the Energy Commission.)

Western States Oil Company (ARV-10-019)
Western States Oil Company is awarded $69,223 to retrofit an existing premium gasoline retail tank and dispenser into a wholesale biodiesel tank and dispenser. The site is immediately adjacent to the Kinder Morgan Pipeline Terminal in San Jose. This site is projected to dispense 5.25 million gallons of locally produced biodiesel into the Bay Area market. By displacing petroleum-based diesel, the 5.25 million gallons of biodiesel will reduce greenhouse gas emissions by an estimated 32,000 tons of CO_2 each year. The existing, above-ground, 8,000 gallon tank will be taken out of retail service and fitted with a high-speed pump and a dispenser designed for wholesale sales. The simple conversion will allow delivery trucks leaving the pipeline terminal to easily access the biofuel. The wholesale tank will hold 99 percent biodiesel (B99), which will be mixed in the truck or trailer truck to make blends of 5 percent, 20 percent, and up to 99 percent biodiesel. The Kinder Morgan pipeline terminal serves the southern part of the San Francisco Bay Area, making Western State Oil Company's new biofuel terminal strategically located to service such areas as San Jose, Sunnyvale, Palo Alto, Fremont, and Hayward. The project will support five short-term and two long-term jobs. The project participant is providing a minimum of $186,650 match funding. (Note: This project has completed. Of the $69,223 originally awarded, $69,154 was provided by the Energy Commission.)

Whole Energy Pacifica, LLC (ARV-11-026)
Whole Energy Pacifica, LLC, is awarded $125,274 to add biodiesel blending capabilities to Whole Energy Pacifica's biodiesel loading rack in Richmond, California. Currently, Whole Energy Pacifica markets biodiesel to wholesale distributors in the Bay Area at the Amtecol terminal facility in Richmond, California. The Energy Commission's funding will support an upgrade of Whole Energy Pacifica's current facility, to provide accurate inline blending. An inline-blender is a nozzle within a nozzle, each one connected to separate tanks containing the fuels to be blended. They are blended in-stream—no stir-mixing is required. This upgrade consists of a skid-mounted blending system that takes diesel from a fuel truck, proportionately and uniformly blends biodiesel to the desired percentage, and then the blended product is reloaded into the tanker truck. Whole Energy Pacifica expects that achieving precise proportional blending capabilities will expand biodiesel adoption in the Bay Area and triple sales volume of the biodiesel portion to more than 1,000,000 gallons per year. Located two miles from the large Chevron refinery, which supplies much of the diesel to the Bay Area and beyond but does not have biodiesel or blending services available, the Whole Energy Pacifica blending facility is convenient for bulk fuel suppliers to acquire blended diesel. An increase in biodiesel use represents a corresponding decrease in diesel fuel. This project is estimated to create four short-term jobs and one long-term job. Total anticipated match funding is $153,000.

ii. E85 station awards ($14,564,450)

Department of General Services (ARV-09-006)
The Department of General Services (DGS) in partnership with Propel is awarded $4,000,000 to build seventy-five (75) publically accessible E85 stations throughout California. Propel Fuels has conducted an extensive market analysis to determine the best locations for these stations that takes into account census demographic data, alternative-fuel vehicle registration data, socio-economic segmentation data, as well as traffic pattern analyses and customer intercept research. These stations are expected to displace 24,255,000 gallons of petroleum per year, and will reduce green house gas emissions by 187,000 metric tons annually. This project will create an estimated 27 short-term and 74 long-term jobs. Program funding will be matched with $19,071,787 in anticipated project match funding. (Note: This project has completed. Of the $4,000,000 originally awarded, $2,114,450 was provided by the Energy Commission.)

Propel Fuels, Inc. (ARV-10-002)
Propel Fuels, Inc., under their "California Low Carbon Fuel Infrastructure Investment Initiative", is awarded $1,000,000 with $2,009,222 in match funding identified. The project will fund construction of ten (10) publicly accessible E-85 stations to displace 3,234,000 gallons of petroleum annually at existing gas stations. Locations were selected from data provided by the Department of General Services, Caltrans, and the United States Postal Service and provide the most visibility and accessibility with the highest concentration of flex fuel vehicles. E85 stations will be located in areas that will help meet economic, educational, and social equity objectives aligned with the enterprise zones, the California Conservation Corps, and a Clean Drive Program initiative. This project will create an estimated 27 short-term and 74 long-term jobs.

Propel Fuels, Inc. (ARV-11-024)
Propel Fuels, Inc. is awarded $10,100,000 with $23,890,950 in match funding identified. The project will fund construction of 101 publicly accessible E85 stations throughout California. Successful completion of this agreement will result in an expanded E85 infrastructure network, providing greater access to low-carbon fuel for Flex Fuel Vehicle fleets and private vehicle owners throughout California. Supporting the deployment of E85 infrastructure will help California reach the carbon-reduction goals of the Low Carbon Fuel Standard, reduce criteria and toxic air pollutants levels under AB 118's Air Quality Improvement Program, and will allow for greater access to the low-carbon fuels called for in the investment plans of the Alternative and Renewable Fuel and Vehicle Technology Program. California's expanded E85 network will also help the state meet its portion of the volume targets of the federal Renewable Fuel Standard through sales of ethanol above existing conventional fuel blend limitations, as well as by building a platform for advanced biofuels as they become available in the marketplace. This project will create an estimated 27 short-term and 74 long-term jobs.

RTC Fuels, LLC dba Pearson Fuels (ARV-12-015)
Pearson Fuels is awarded $1,350,000 to retrofit E85 infrastructure into 19 retail fuel stations throughout California. This funding will be used to offset equipment

costs and material costs to strategically position retail E85 dispensers in areas of greatest Flex Fuel Vehicle (FFV) population. These 19 retail stations will be located through the State of California, sited primarily in locations determined to have a proportionately higher concentration of FFVs, proximity to major thoroughfares, and where the best opportunity for high station E85 fuel throughput exists. The expected fuel throughput for each station with one E85 dispenser is estimated to be approximately 1,700 gallons per day, or 51,000 gallons per month. Pearson Fuels will collect applicable data on all of the sites for at least six months. These stations will be a model to the traditional fossil fueling industry so that the traditional fuel suppliers will recognize that E85 is a viable alternative fuel, thereby reducing the amount of funding E85 will need from government sources in the future. This project is estimated to create 26 short-term jobs and six long-term jobs. Total anticipated match is $1,710,000.

c. Demonstration projects ($5,712,140)

Cummins, Incorporated (ARV-10-044)
Cummins, Incorporated (Cummins) is awarded $2,712,140 to develop and demonstrate a medium-duty hybrid truck engine optimized for E85 ethanol fuel with the primary goal of significantly reducing greenhouse gas emissions while matching performance, economy and fuel cost of a diesel counterpart vehicle. In order to deliver this level of greenhouse gas reduction, Cummins will employ three primary technology components. These include adapting a medium-duty engine specifically to use E85 fuel, reducing the engine size from 6.7L to 4.5L as a means to increase fuel efficiency, and developing an integrated start/stop system to improve fuel economy by eliminating engine idling. Cummins plans to develop a 4.5L engine leveraging on-going work from existing Cummins programs. The 4.5L alcohol fueled engine provides sufficient torque and power for a medium-duty application in Class 6 even without the electric motor associated with the hybrid system. This project is estimated to create seven short-term jobs. Total anticipated match is $2,712,140.

North American Repower, LLC (Pending)
North American Repower, LLC is awarded $3,000,000 demonstrate the Sectran Security Plug-In Hybrid Electric Vehicle(PHEV)-Renewal Natural Gas Truck Demonstration Project. In collaboration with Sectran Security, Efficient Drivetrains Incorporated, McLaren Performance Technologies, and Clean Energy Fuels Corporation, North American Repower will convert six diesel-powered, Class-5 (26,000-lb. gross vehicle weight range) Sectran armored vehicles into near-zero-emission PHEVs that run on electricity and renewable natural gas. Sectran will operate these modernized trucks within disadvantaged communities in the South Coast Air Quality Management District (SCAQMD) of Los Angeles. The project team seeks to demonstrate that these converted trucks will reduce emissions, improve fuel economy, and make a powerful business case for retrofit conversion of existing diesel fleets as a cost-competitive approach to dramatically reducing petroleum fuel consumption and harmful diesel and greenhouse gas emissions. With the modernized trucks, Sectran will be able to eliminate diesel engine idling completely—while maintaining security and driver comfort—by operating in all-electric mode during stop-and-go operations on urban routes and in hybrid-mode during highway operations. Total anticipated

match is $1,813,037.

d. Sustainability research ($2,088,716)

United States Forest Service - Pacific Southwest Research Station (600-10-006)
United States Forest Service will use $1,861,716 in funding to investigate the sustainability of forest biomass for renewable biofuel production. This will include collecting field data from forest management activities, analysis of field data, case studies of biomass utilization activities, and decision tools for future projects. This project is estimated to create 37 short-term jobs.

University of California, Davis—Institute of Transportation Studies (600-11-006)
The Energy Commission authorized program funds of $227,000 for the Regents of the University of California on behalf of the Institute for Transportation Studies (ITS). This funding will supplement the Forest Biomass Sustainability Research Project that harnesses the work of leading California forest scientists to develop tools for implementing sustainable forest biomass utilization. This parallel agreement with UC Davis will support a broader scope of activities, with greater integration of results across all tasks and investigators, and the employment of key personnel. This project is estimated to create 37 short-term jobs.

5. Hydrogen

a. Fueling Infrastructure awards ($83,467,422)

AC Transit (600-10-013)
AC Transit, an East Bay transit authority, is awarded $3,000,000 to build a new hydrogen fueling station for buses at their Oakland facility. This station will fuel a fleet of 12 (and eventually up to 24) fuel cell buses, shared among five bay area transit agencies. The station will allow a 30 kilogram fill (one bus) to be completed in 5 to 6 minutes, which will replicate the fueling process and speed of a standard diesel bus. The fueling station will support the transit service of the buses under regular service conditions. Once completed and operating, this will be the single largest hydrogen fueling station for transit buses in the United States. Hydrogen fuel cell buses produce zero tailpipe emissions (other than water) and will reduce lifecycle greenhouse gas emissions by 43 percent compared to 2010 California Air Resources Board certified conventional diesel buses. 33.3% of the fuel will be renewable hydrogen produced by an electrolyzer. The electrolyzer, the station and AC transit's operations yard will be powered by renewable electricity from solar panels and stationary solid-oxide fuel cell. Both are part of a larger project that is funded by several federal, state, local agencies, and other funding sources and includes a total of $14.5 million in cost. The fueling station operation will avoid 700 metric tons of greenhouse gas emissions per year and will displace of 100,000 gallons (diesel gallons equivalent) total petroleum fuel per year. The project will create 25 jobs (temporary during construction) and 12 permanent jobs (station maintenance and operation. The total anticipated match funding for this project is $11,573,618.

Air Products and Chemicals, Inc. (ARV-10-048)
Air Products and Chemicals, Inc. is awarded $11,231,733 for the construction and expansion of eight hydrogen fueling stations in the Los Angeles area. This project will also incorporate $4,592,178 in match funding from the project team. The six new stations (in Beverly Hills, Hawthorne, Hermosa Beach, North Irvine, Santa Monica and West LA) and two expanded stations (at UC Irvine and in Diamond Bar) are all located in regions that have been identified by major automakers as a critical market for the early deployment of fuel cell vehicles. The six new stations will be located on the premises of existing gasoline retail stations, which will both ensure a customary, retail-like fueling experience and promote the visibility of hydrogen as an alternative fuel. When operating at full capacity, these stations will be able to each dispense 180 kilograms of hydrogen per day. Due to a unique distribution model, these stations also possess a significantly lower cost per station than previous generations of fueling stations. Based on estimated vehicle throughput through 2020, the Air Products network of hydrogen fueling stations will reduce greenhouse gas emissions by 25,000 metric tons and displace 10 million gallons of gasoline. Additionally, one-third of the hydrogen from Air Products central facility will be produced from renewable feedstocks. Additionally the Air Products fueling network will have important economic benefits to the state. The delivery trailers utilize storage vessels designed and manufactured by Structural Composite Industries (SCI), based out of Pomona, California. This order will assist SCI in maintaining 20 existing jobs and 12

new jobs. It is estimated that the entire project will create 30 short-term jobs in California and 41 long-term jobs. The project is expected to result in $500,000 to $1 million in tax benefits to the state.

Linde LLC (ARV-10-038)
Linde is awarded $3,920,198 for the construction of two new hydrogen fueling stations in West Sacramento and San Juan Capistrano, with $1,306,728 in project match funding. The new West Sacramento station will serve as the primary fueling station for the greater Sacramento area, including the headquarters of the California Fuel Cell Partnership. The new San Juan Capistrano station will serve the adjacent Irvine area, which was identified by major automakers as one of the primary markets for early fuel cell vehicle deployment. Both of these stations will be located on the premises of existing gasoline retail stations, which will both ensure a customary, retail-like fueling experience and promote the visibility of hydrogen as an alternative fuel. At full capacity, these stations will be able to each provide approximately 240 kilograms per day of hydrogen, which is enough to fuel approximately 240 fuel cell vehicles per day and represents a significant increase over previous generations of fueling stations. This project, along with other hydrogen fueling stations in the greater Los Angeles and Northern California regions, will create a network of hydrogen fueling stations that will enable automakers to accelerate their deployment of fuel cell vehicles in both regions. Fuel cell vehicles produce zero tailpipe emissions and will reduce lifecycle greenhouse gas emissions by 44 percent compared to a conventional gasoline vehicle. Based on estimated vehicle throughput through 2020, these Linde hydrogen fueling stations will reduce greenhouse gas emissions by 1,933 metric tons and displace 357,375 gallons of gasoline. Additionally, more than one-third of the hydrogen fuel that Linde will deliver to this station will be produced from renewable feedstocks. It is estimated that the project will create approximately 44 short-term and 13 long-term jobs in California.

Air Products and Chemicals, Inc. (ARV-12-059)
Air Products and Chemicals, Inc. is awarded $2,999,172 for the construction of two new hydrogen fueling stations in Woodland Hills and Mission Viejo, California. These stations are necessary to expand the network of publicly accessible hydrogen fueling stations. Air Products will be transporting and storing liquid hydrogen at the project sites, which will then be converted to gaseous hydrogen and compressed for dispensing at 350 and 700 bar pressures. Each station will have a daily capacity of 180kg. The estimated benefits of this project include a greenhouse gas reduction of 4,000 metric tons, 740,700 gasoline gallon equivalent displacement. This project is estimated to create five short-term and five long-term jobs. The total anticipated match for this project is $2,373,604.

Linde LLC (ARV-12-057)
Linde LLC is awarded $4,500,000 for the construction of three new hydrogen fueling stations in Mountain View, Cupertino, and Foster City, California. These stations are necessary to expand the network of publicly accessible hydrogen fueling stations. The major objectives of this agreement are: meet consumer requirements for the speed of fueling—dispense up to 7kg of hydrogen in any fuel cell vehicle in 3-4 minutes, five times in a single hour; prove the system can be expanded to a throughput of 700kg per day with no change in footprint for storage or compression

making the site viable into the next decade; dispense hydrogen into any OEM produced fuel cell vehicle according to Society of Automotive Engineers (SAE) standards; fully define the maintenance required to keep the fueling station operating reliably and at peak performance; and meet 33% renewable hydrogen fueling standard through the purchase of biogas produced from landfill gas and applied to the natural gas used to produce hydrogen. This project is estimated to create 36 short-term and 2 long-term jobs. The total anticipated match for this project is $3,069,948.

Hydrogen Frontier Inc. (ARV-12-061)
Hydrogen Frontier Inc. is awarded $3,000,000 to build and install a 100% renewable hydrogen fueling station to provide hydrogen for light-duty vehicles at consumer pricing that can be sustained in the next 3-5 years without government funding programs for infrastructure. The station will be built in Chino, California at the Hyundai Hydrogen Generation and Fueling Facility and will be capable of delivering up to 100kg of hydrogen per day. The station will meet all Society of Automotive Engineers (SAE) requirements for fueling hydrogen vehicles. This project is estimated to create 36 short-term jobs and 2 long-term jobs. The total anticipated match for this project is $1,615,385.

Air Liquide Industrial US LP (ARV-12-062)
Air Liquide Industrial US LP is awarded $1,500,000 for the construction of one hydrogen fueling station in Anaheim, California. This station is necessary to expand the network of publicly accessible hydrogen fueling stations. The goal of this project is to prove hydrogen vehicles can be successful in large scale urban and suburban settings and to supply the infrastructure that will allow the automobile suppliers to roll out new cars in larger volumes than in the past. The objectives of this project are to: deploy safe high quality compression and dispensing technology; maintain the system performance so that availability, ease of use, and filling speed meet or exceed customers' expectations; increase Air Liquide's hydrogen supply chain in California to help increase overall supply, market competition, and percentage of available renewable hydrogen; and prove that the technology and cost per kg of hydrogen can be reduced with increased usage of fuel cell vehicles. This project will create an estimated one short-term and five long-term jobs. The total anticipated match is $933,996.

South Coast Air Quality Management District (600-12-018)
South Coast Air Quality Management District is awarded $6,690,828 to upgrade and refurbish existing, publicly accessible hydrogen fueling infrastructure, and to test and evaluate the upgraded hydrogen fueling and dispensing equipment and state-of-the-art meters. This will bring existing, publicly accessible stations up to minimum standards to dispense hydrogen by the kilogram at current specifications defined by the Society of Automotive Engineers International. The upgraded stations will be able to efficiently dispense hydrogen by the kilogram through state-of-the-art meters that allow customers to purchase hydrogen fuel by using a point of sale/credit card reader. The upgraded stations will be part of a regional fueling network to ensure a reliable supply of hydrogen fuel in areas of planned Fuel Cell Vehicle deployment. The regional fueling network supports the transportation goals of the State of California, which requires 14% of certain auto manufacturers' model year-2015 fleets

to be zero-emission vehicles. This project will create an estimated 73 short-term jobs and four long-term jobs.

In March 2014, the South Coast Air Quality Management District Board awarded three contracts to: Equilon Enterprises LLC dba Shell Oil Products, Air Liquide Industrial U.S. LP, and H2 Frontier, Inc. Shell was awarded $2,476,000 to upgrade the existing hydrogen fueling infrastructure in Torrance, California. Shell is proposing to upgrade the facility to produce 200 kg/day and to install duel dispensers, a new cooling block and refrigeration systems, and two additional compressors. Air Liquide was awarded $2,630,000 to upgrade existing hydrogen fueling infrastructure at LAX. Air Liquide proposes upgrading the existing LAX East-Clean Energy site by installing a Steam Methane Reformer and a C100 Market Development hydrogen fuddling station at a public retail compressed natural gas station location. Air Liquide plans to both own and operate the station. H2 Frontier, Inc. was awarded $1,339,000 to undertake a rebuild of ageing equipment including existing compression equipment, desulfurization equipment, pumps, motors, and a new dispenser delivery system with accurate metering to meet requirements of the California Department of Food and Agriculture, Division of Measurement Standard. The proposed dispenser will be capable of point-of-sale transactions and perform fill data collection. These new systems will dramatically reduce overall operational costs and improve performance. H2's station will be located in and operated by the city of Burbank.

Gas Technology Institute (ARV-14-003)
Institute of Gas Technology dba Gas Technology Institute (GTI) is awarded $999,677 to design, fabricate, test, and deploy a fully operational, commercial mobile hydrogen refueler configured on a medium-duty Ford F550 platform with hydrogen storage, compression, and dispensing capabilities. The hydrogen refueling equipment will be self powered by a zero emission on-board hydrogen fuel cell and have the capability to fill either 350 Bar or 700 Bar vehicle tanks through onboard metered dispensing hoses.

Air Liquide Industrial US LP (ARV-14-007)
Air Liquide Industrial US LP is awarded $2,125,000 to install a hydrogen refueling station in Palo Alto, California.

First Element Fuel, Inc. (ARV-14-008)
First Element Fuel, Inc. is awarded $15,961,000 to install 11 hydrogen refueling stations with 10 in Southern California, and a connection station in Coalinga, California. Two of the stations will provide 100 percent renewable hydrogen.

First Element Fuel, Inc. (ARV-14-013)
First Element Fuel, Inc. is awarded $11,608,000 to install eight hydrogen refueling stations in Northern California.

Ontario CNG Station, Inc. (ARV-14-009)
Ontario CNG Station, Inc. is awarded $2,125,000 to install 100 percent renewable hydrogen refueling station in Ontario, California.

Hydrogen Technology & Energy Corporation (ARV-14-010)

Hydrogen Technology & Energy Corporation (HTEC) is awarded $2,125,000 to install a hydrogen refueling station in Woodside, California.

HyGen Industries, LLC (ARV-14-011)
Hygen Industries, LLC is awarded $5,306,814 to install three hydrogen refueling stations in the cities of Rohnert Park, Orange, and Pacific Palisades, California. The stations will provide 100 percent renewable hydrogen from on-site electrolyzers.

ITM Power, Inc. (ARV-14-012)
ITM Power, Inc. is awarded $2,125,000 to install a hydrogen refueling station in Riverside, California.

Linde LLC (ARV-14-018)
Linde LLC is awarded $4,250,000 to install two hydrogen refueling stations in Northern California.

b. Fuel standards development ($4,001,990)

California Department of Food and Agriculture (600-09-015)
The Energy Commission provided $4,000,000 to the Division of Measurement Standards (DMS), within the California Department of Food and Agriculture, for the development of critical standards and certifications for hydrogen and biodiesel fuels. The current lack of a "type approval" for hydrogen means that hydrogen cannot be sold on a per-unit basis. Unless addressed, this will remain a significant barrier to the commercialization of fuel cell vehicles. Additionally, DMS will research and develop fuel quality standards for both hydrogen and biodiesel blends. DMS will also conduct research to support standards that will allow biodiesel blends greater than 20 percent to be available in a retail setting. (Note: This project has completed. Of the $4,000,000 originally awarded, $3,901,990 was provided by the Energy Commission.)

California Department of Food and Agriculture (600-13-007)
The Energy Commission is providing $100,000 to the Division of Measurement and Standards (DMS), within the California Department of Food and Agriculture, to provide technical staff, test equipment, and perform type evaluations to certify hydrogen dispensers at hydrogen refueling stations across California.

c. Demonstration projects ($8,830,292)

CALSTART, Inc. (ARV-11-014)
CALSTART, Inc. is awarded funding for the demonstration of ten (10) projects, detailing an ambitious California Commercial-Path Low-Carbon Efficient Alternative-fuel Next-Generation (CLEAN) Truck Demonstration Program. These high-impact, on- and off-road, near commercial projects, were selected to focus on goods movement and public transit applications in consultation with, and support from, California's three highest-need air basins: Bay Area, San Joaquin Valley and South Coast. In total, 9 companies, along with 21 client partners and 12 engine/OEM manufacturing partners are participating in this grant with CALSTART. This project is estimated to create 36 short-term jobs and 335 long-term jobs. Project match

funds from participating companies and teams are expected to total $14,104,990. (The same agreement awarded nine other projects funding for electric truck demonstration projects. This is listed under the Medium- and Heavy-Duty Advanced Vehicle Awards section.)

Ballard Power Systems: Fuel Cell Bus Project
Ballard Power Systems is awarded $2,410,938 to build and demonstrate an American Fuel Cell Bus carrying passengers in transit operations at the University of California, Irvine.

Center for Transportation and the Environment (ARV-13-019)
The Center for Transportation and the Environment is awarded $1,100,000 to develop, validate, and deploy fuel cell hybrid electric walk-in delivery vans. This project was also awarded a federal grant from the US Department of Energy. Project partners include the University of Texas—Center for Electromechanics, Electric Vehicles International, Hydrogenics, USA, Valence Technology, and United Parcel Service (UPS). The fuel cell hybrid delivery vehicle design is able to achieve extended range through an optimum combination of fuel cell and battery power along with hydrogen energy storage. By implementing a state-of-the-art high power capacity battery module, the team is able to propose a vehicle design that primarily uses hydrogen as the energy storage means, while the fuel cell and battery pack are optimized to deliver the vehicle's power most efficiently. The team's emphasis is towards commercialization of the US-technology and manufacturing, with a primary focus in California. The project will help eliminate criteria pollutant and greenhouse gas emissions from 17 repowered vehicles. The vehicles will eliminate PM 2.5 emissions completely and are projected to eliminate 884,000 gallons of diesel consumption and 9,810 tons of CO_2 in California over the next 20 years. The total anticipated match funding is $3,434,730.

CALSTART, Inc. (Pending)
CALSTART, Inc. was awarded $900,000 to launch the Battery Dominant Fuel Cell Hybrid Bus (BD-FCHB) Project which was also selected for funding from the National Fuel Cell Bus Program (NFCBP) solicitation. This project team reunites key partners El Dorado National, BAE Systems, and SunLine Transit, all of whom have already collaborated on an NFCBP project delivering the "American Fuel Cell Bus" (AFCB), which has logged 60,000 revenue service miles in daily operations at SunLine Transit in the Coachella Valley, California. Additional buses are currently on order. The BD-FCHB reduces the cost (and size) of the bus' fuel cell power plant, the most expensive component on the bus, by 70%, supporting near-term fuel cell bus commercialization. The BD-FCHB project comprises an 18-month design, development, fabrication, integration, and acceptance test effort followed by 12-months of revenue-service at SunLine Transit. This project will provide side-by-side comparison of the BD-FCHB to the AFCB, which has: 1) improved air quality through 60,000 miles of zero emission revenue service, 2) reduced petroleum consumption by 11,250 gallons of diesel and 3) decreased Green House Gas (GHG) emissions into the California atmosphere in the Coachella Valley by 550,000 lbs. of carbon dioxide. The project team anticipates that the BD-FCHB will meet or exceed those numbers for the benefit of California, as demonstrated in the project's side-by-side test trials in one year in a lower cost transit bus configuration. The total anticipated match funding is $7,642,317.

Hydrogenics USA, Inc. (Pending)
Hydrogenics USA, Inc. is awarded funding to cost share the field demonstration of three truck technologies that may become commercially available in California.

Hydrogenics Advanced Fuel Cell Vehicle Technology Demonstration for Drayage Truck
Hydrogenics USA, Inc. is awarded $2,679,417 to operate the Advanced Fuel Cell Vehicle Drayage Truck in the port complexes of Los Angeles and Long Beach. Hydrogenics will also design, build, and integrate its fuel cell power system technology into a Class 8 drayage truck in the San Diego region. Total anticipated match is $1,525,915.

New Flyer Advanced Fuel Cell Vehicle Technology Demonstration for Bus
Hydrogenics USA, Inc. is awarded $1,739,937 to operate the New Flyer Dominant Fuel Cell Bus with Celerity Plus in the Coachella Valley. SunLine Transit will operate, maintain, and support the bus during the 12-month demonstration.

d. Regional readiness awards ($820,827)

South Coast Air Quality Management District (ARV-13-056)
The South Coast Air Quality Management District (SCAQMD) is awarded $297,460 for the Hydrogen Readiness in Early Market Communities plan. As stations are funded and built in multiples instead of one at a time, it is vital to address challenges in financing, planning and permitting stations; and to build awareness about hydrogen and fuel cells in the early market communities. SCAQMD proposes to address these challenges by: analyzing and testing the viability of two funding mechanisms: market assurance grants and reworking the existing grant program; providing hands-on training to active-duty fire fighters using a hydrogen vehicle prop commissioned by the internationally recognized HAMMER training facility; addressing information gaps with local authorities with an interactive version of the ZEV Guidebook developed by the Governor's Office of Planning and Research and providing local fire marshals and CalFire with education about NFPA 2, a fire code update; developing station education materials for non-emergency response personnel and other decision-makers to dispel misinformation about safety; performing marketing research and analysis with private fleet operators and individual drivers to understand their motivations for buying an alternative fuel vehicle in general, and a fuel cell electric vehicle in particular; developing marketing and outreach materials and strategies to address target audiences and motivations; developing template language for public fleet operators to ensure that they can include fuel cell electric vehicles in their purchasing schedules; and creating an ombudsman role to work with traditional fuel retailers and wholesalers, with the intent of increasing the availability of hydrogen at stations. The total anticipated match funding is $104,120.

Santa Barbara County Air Pollution Control District (ARV-14-038)
The Santa Barbara County Air Pollution Control District is awarded $242,872 to prepare a detailed readiness plan for developing hydrogen infrastructure in the Tri-Counties region (Santa Barbara, San Luis Obispo, and Ventura counties). Planning

resources will be for municipalities and county governments that are identified as primary candidates for early adoption of FCEVs.

City and County of San Francisco (ARV-14-043)
The City and County of San Francisco is awarded $111,495 to provide analysis to expedite the implementation of fuel cell electric vehicles (FCEVs) and hydrogen refueling infrastructure for the municipal fleet. The project will include site assessments for refueling station locations.

Redwood Coast Energy Authority (Pending)
The Redwood Coast Energy Authority is awarded $169,000 to accelerate fuel cell electric vehicle (FCEV) adoption in the North Coast and Upstate region by implementing guidance presented in the *Northwest California Alternative Transportation Fuels Planning Project*. The project organizers will: a) identify target areas where hydrogen stations could be located, b) engage community organizations and municipal agencies about hydrogen as a fuel, and c) work with at least four municipal fleet managers and public transit operators about the possibility of using FCEVs in their fleets.

e. Operation and Maintenance ($1,800,000)

Air Liquide Industrial US LP (ARV-13-027)
Air Liquide Industrial US LP is awarded $300,000 for the 10400 Aviation Boulevard, Los Angeles station to cover operation and maintenance costs for the existing hydrogen refueling equipment and gather data about the equipment.

Mebtahi Station Services, Inc. (ARV-13-028)
Mebtahi Station Services, Inc. is awarded $300,000 for the 25800 S. Western Avenue, Harbor City station to cover operation and maintenance costs for the existing hydrogen refueling equipment and gather data about the equipment.

CSU Los Angeles University Auxiliary Services, Inc. (ARV-13-030)
California State Los Angeles University Auxiliary Services, Inc. is awarded $300,000 for the 5151 State University Drive, Los Angeles station to cover operation and maintenance costs for the existing hydrogen refueling equipment and gather data about the equipment.

H2 Frontier, Inc. (ARV-13-034)
H2 Frontier, Inc. is awarded $300,000 for the 145 W. Verdugo Avenue, Burbank station to cover operation and maintenance costs for the existing hydrogen refueling equipment and gather data about the equipment.

Air Productions and Chemicals, Inc. (Pending)
Air Products is awarded $300,000 for the 21865 E. Copley Drive, Diamond Bar station to cover operation and maintenance costs for the existing hydrogen refueling equipment and gather data about the equipment.

Linde, LLC
Linde, LLC is awarded $300,000 for the 1515 South River Road, West Sacramento

station to cover operation and maintenance costs for the existing hydrogen refueling equipment and gather data about the equipment.

6. Workforce Development Grants

a. Interagency agreements ($25,218,124)

California Employment Development Department (600-08-008)
The Employment Development Department (EDD) has been provided $8,200,000 to advance green transportation industry needs. EDD's agreement assists the Energy Commission in four areas: 1) Workforce Development and Training, to target non-college bound high school graduates and individuals with training and/or experience in traditional fuels and vehicle technologies; 2) Regional Industry Sector Plan Development, which brings together economic, education, and workforce development practitioners with industry to compose regional sector strategies to support and advance alternative fuels and vehicles; 3) Labor Market Information Research, to estimate regional and statewide employment, employer demand, and skill requirements for occupations related to alternative and renewable fuels and vehicle technologies; and 4) New Entrant Career Path Development, to develop career paths for new industry entrants and to address white-collar workers' training needs related to alternative fuel and vehicle technologies.

Workforce Development and Training resulted in 8 regional workforce training grants to support workforce training and participant costs related to Hybrid/Electric Vehicle training. The effort would fund training in advanced fuel and vehicle technologies, targeting non-college bound high school graduates and individuals with training and/or experience in traditional fuels and vehicle technologies.

Long Beach ($400,000) – training topics include Liquefied Natural Gas (LNG)/CNG/Hybrid

Richmond ($400,000) – training topics include CNG/Hybrid

Sacramento ($400,000) – training topics include CNG/Hybrid/Electric

Los Angeles ($400,000) – training topics include Electric/Transit Vehicle Conversions

Imperial ($400,000) – training topics include Biofuel Production

Solano ($500,000) – training topics include Hybrid Vehicle Maintenance

NorTec ($500,000) – training topics include Propane Conversion and Maintenance

Orange ($500,000) – training topics include Hybrid/Electric Vehicle Maintenance

Regional Industry Sector Plan Development resulted in 4 regional industry cluster

planning grants to assist workforce development associations through the planning processes necessary to bring regional industry, educational and workforce training practitioners together to compose strategies to advance the competitive positions of their targeted industry clusters.

Central Coast ($50,000) – the Workforce Collaborative of California's Central Coast has identified three research areas of focus: 1) green building/energy efficiency; 2) agriculture-related energy efficiency and conservation; 3) and energy generation/energy storage. All three of these industries have ties to transportation and offer opportunities to support the economic development of alternative vehicles, alternative fuels, and alternative power supplies for alternative vehicles. The purpose of this research is to better understand the opportunities for workforce and economic development related to green transportation in the Central Coast. Information outcomes include: number of jobs in the region in green transportation and related industries; revenue/profits of green transportation and related firms; quantity of exports; and quality/sustainability of jobs.

Inland Empire ($49,900) - the Inland Empire RICOG team has identified two research areas of focus: 1) green logistics (including alternative transportation and fuels); and 2) health services. The Inland Empire team will take a two step approach in the process of achieving carbon reduction by focusing on the green segments of Energy Efficiency and Transportation. The team will use a survey to address the needs and gaps of employers and assist the team in the engagement/recruitment process of employers.

NorTec ($49,000) - the NorTec team has identified two research areas of focus: 1) renewable energy/alternative fuels; and 2) allied health. The team is working with businesses in communities to use biodiesel vs. diesel for a generators and pumps – education program.

Pacific Gateway ($49,987) - the Pacific Gateway team has identified three research areas of focus: 1) green building/energy efficiency; 2) alternative transportation/fuels/energy storage; and 3) water/wastewater. Looking beyond the basic definition of green transportation, the team will also study transportation as a hybrid of two green economic segments: transportation and energy storage.

Regional Industry Sector Plan Development (Regional Industry Clusters of Opportunity II) resulted in 5 regional industry cluster planning grants to assist workforce development associations through the planning processes necessary to bring regional industry, educational and workforce training practitioners together to compose strategies to advance the competitive positions of their targeted industry clusters.

Fresno ($158,000) – The Office of Community and Economic Development (OCED) at Fresno State was awarded funding to bolster support for the Alternative and Renewable Fuel and Vehicle Technology Industry in the San Joaquin Valley. Through this grant, OCED will leverage existing partnerships in Kern County to replicate training programs between workforce investment boards and community colleges in numerous counties in the region. A workforce

infrastructure is already established with the Kern Community College District's Clean Energy Center and Workplace Learning Resource Center.

NOVA ($250,000) – NOVA was awarded funding to create a strategic workforce development planning process for the electric vehicle industry cluster. The goal of NOVA's new project is to ensure that the Silicon Valley workforce has the talent and skills that employers require to advance EV cluster growth and to identify what training and education programs will be needed to build this workforce expertise. NOVA will be taking the lead on this project to establish an EV Regional Network and will be colloaborating with the San Mateo Workforce Investment Board and the San Jose-based work2future Workforce Investment Board, as well as other partners in the region such as the economic development offices of Santa Clara County and the cities of San Jose and Sunnyvale, the Bay Area Climate Collaborative, Bay Area Air Quality Management District, DeAnza College, Electric Vehicle Infrastructure Training Program, Evergreen Valley College, Silicon Valley Leadership Group, SolarTech, West Valley College, among many other stakeholders in this industry cluster.

Orange ($250,000) – Through a collaborative partnership among the Orange County Business Council, Orange County Workforce Investment Board, Pacific Gateway Workforce Investment Network, Long Beach City College, North Orange County Community College District, and the Los Angeles County Economic Development Corporation, the Orange Regional Industry Clusters of Opportunity grant will be continuing work toward growing an alternative fuel and advanced transportation industry cluster in the Orange and Los Angeles County region through the following activities: conducting research and analyzing trends, engaging in strategic planning, bringing together stakeholders, and implementing actions to attract, retain, and grow jobs in the region.

San Diego ($250,000) – CleanTECH San Diego, the San Diego Regional Economic Development Corporation and the Imperial Valley Economic Development Corporation were awarded funding to help facilitate the continued development of the region's biofuels industry, and to better understand the industry's growth projections and regulatory obstacles. The partnership will work with industry stakeholders to help formulate policy recommendations, at all levels, that streamline the permitting process and thereby encourage companies and their workforce to grow in the region.

Sacramento ($250,000) – The Sacramento region was awarded funding and will focus on two areas of Sacramento's alternative and renewable fuel and vehicle technology cluster attracting local investment and ripe for near term growth: electric vehicles and waste to fuel technology producing renewable compressed natural gas. The project team, led by the Sacramento Employment Training Agency (SETA), includes Valley Vision, Sacramento Area Council of Governments, Greenwise Joint Venture, Sacramento Clean Cities Coalition, Los Rios Community College District, the Sacramento Area Electrical Training Center, CleanWorld, and Atlas Disposal.

California Community Colleges Chancellor's Office (600-08-009)

Comprised of 72 districts and enrolling more than 209 million students, the California community colleges system is the largest higher education system in the country. Energy Commission has provided $5,500,000 to this agency for curriculum and training material development, train-the-trainer instruction, and training equipment to meet the Program-related needs of California community colleges. Through a series of assessment reports, the California Community Colleges Chancellor's Offices (4CO) itemized the training and instructional needs of the community colleges and the training and instructional resources existing within the community college system. The 4CO also analyzed occupational and industry information to identify training needs by region. These reports will guide the development and refinement of the Program's workforce training efforts and provide information for future investment planning.

Three Employment Development Department subgrantees: **American River College, Solano Community College, and Long Beach City College** will expand their existing technical training programs and will provide faculty professional development and new curricula both within and outside of their region.

Based on the Program Assessment of Regional Community College Alternative Fuels Technical Education Programs report, the 4CO identified and recommended colleges that have the ability to create or expand an education program in transportation alternative fuels or vehicle technology and form a foundation for alternative fuels technical training throughout California. The following colleges will receive funding from the Energy Commission to support strengthening alternative fuels technical training in California community colleges: **Fresno City College, Cerritos College, Rio Hondo Community College, Imperial Valley College, Yuba College, College of the Desert, Cypress College, Los Angeles Trade Technical College, De Anza College, Evergreen Valley College, and San Diego Miramar College**.

California Employment Training Panel (600-09-016)
The Energy Commission provided $11,518,124 for the development of training program consistent with the needs of the alternative and renewable fuels and vehicle technology industries. The Employment Training Panel delivers training by subcontract to single employers, multiple employer partnerships, training agencies, trade associations, joint apprenticeship training councils, labor unions, and other eligible entities. The ETP program is performance-based, providing funds for trainees who successfully complete training and are retained in their jobs for 91 days after course completion.

Electric Vehicle International (EVI) ($494,000) – to provide training to 100 employees in a High Unemployment Area. EVI manufactures electric vehicles for multiple applications covering a diverse range of transportation for today's environmentally aware and cost-conscious customers. EVI also offers conversion services of medium and large-sized fleets by evaluating and offering solutions to help companies reduce carbon footprints, greenhouse gas emission, dependence on foreign oil, and fluctuating fuel prices.

California Manufacturers and Technology Association (CMTA) ($558,000) –

to upgrade the skills of 305 incumbent workers employed at alternative/renewable fuel companies. CMTA concentrates in three main areas: training for production workers involved with ethanol production and extraction; training for electrical engineers involved with electric vehicles production and electric battery development and enabling technologies; and Lean and Quality Control training to increase productivity and decrease waste in order to maintain production of clean technology products in California.

Blue Sky ($59,280) – to provide training to 19 employees to update manufacturing skills for yard laborers, operations/maintenance staff, refiners, and drivers in the processing and distribution of bio-diesel products. Training courses include managing/servicing refining equipment, biofuel/refining systems training, transporting biofuels, material management/supply chain, low carbon process and products, feedstock titration, biodiesel dispensing operations, etc.

MV Public Transportation ($180,000) – to train 100 employees in a curriculum that spans maintenance skills and related occupational skills required in order to provide optimal service to customers and clients. Training topics include: electrical skills, air systems, compressed natural gas, hybrid propulsion systems, Cummins CNG engine/fuel systems, and air conditioning and heating for alternately fueled transit vehicles. One of the three training locations—Visalia, Tulare County—is located in a High Unemployment Area.

California Labor Federation ($999,460) – to train 1,298 employees and support a joint labor-management training program for three regional public transit agencies: Los Angeles County Metropolitan Transportation Authority, Sacramento Regional Transit District, and Santa Clara Valley Transportation Authority, with a combined total workforce of 11,300 employees. Funding is to provide training in the maintenance and repair of energy efficient equipment, technical documentation and specifications, test equipment and procedures, and sustainability management system that will capture industry-wide best management practices in planning, operations, procurement, administration, construction, and human resources under one system. ETP funds to support this skills upgrade, so that workers can maintain and improve the quality of service on existing rail and bus lines, and initiate and maintain service on expanded rail lines. The training supports only the training needed to work with the new, green vehicles and equipment.

Tesla ($756,000) – to train 350 employees in a curriculum that spans the complete spectrum of EV production including Manufacturing Skills, delivered as Class/Lab and Productive Lab (PL); Continuous Improvement; Advanced Technology; and Hazardous Materials that will be delivered as classroom/lab training. All training will be conducted at Tesla's Fremont facility. Funding will be provided for a minimum of 24 to a maximum of 200 hours per worker in any of the following manufacturing skills areas: vehicle assembly, body shop, maintenance/equipment engineering, paint, plastics, and stamping.

National Semi Conductor ($499,968) – to deliver classroom, laboratory, and computer-based training to select engineers, technicians, and managers through exceedingly technical and customized courses in semiconductor architecture,

systems engineering, software design and support systems, and product quality/reliability to 448 employees. According to company representatives, courses cover leading-edge technology trends in chip set design, fabrication modeling, and integration of advanced programming into National's vehicle technology products. Training is intended to foster a high level of innovation and product development which will fuel the next generation of power management and signal path solutions for the automotive market place and related industries.

Calgren Renewable Fuels, LLC ($28,652) – to provide cross-training in at least two or three ethanol production processes to improve employee's level of expertise to 29 employees. Training will include the five general processes involved in ethanol production: cooking, fermentation, distillation and dehydration, quality control lab, and shipping and loading. Ethanol production staff will gain the knowledge needed to understand ethanol production from the raw material stage to the finished product.

El Camino Community College District, Center for Applied Competitive Technologies ($747,460) – to provide alternative fuel vehicle training to 1,220 employees in a variety of clean air technologies for light and heavy duty vehicles including: hybrid-electric, electric, and compressed natural gas (CNG) systems. The training will focus on three different employer groups: 1) alternative fuel vehicles for municipalities will include CNG engine/fuel systems; 2) alternative fuel vehicles for small and large fleets (private and public) will cover advanced emissions systems, engine control, and diagnostics; and 3) alternative fuel vehicles small and independent repair shops will include hybrid vehicle maintenance and diagnostics.

Shasta-Tehama-Trinity Joint Community College District ($208,000) - to provide alternative fuel vehicle training in a variety of clean air technologies for light and heavy duty vehicles including: hybrid-electric, electric, compressed natural gas (CNG) systems, and biodiesel systems to 75 employees.

United Parcel Service ($23,400) – to provide training to 150 employees in fuel systems for CNG, LNG, Hybrid, and Electric vehicles, as well as training in low–emission systems service needs that differ from standard fueled vehicles.

John L. Sullivan Chevrolet, Inc. ($138,708) – to train 159 managers and technicians in maintenance and service for alternative fueled vehicles and support in promoting alternative fuels and vehicle technologies education to promote clean energy and lowered emissions for the state of California.

Foothill-DeAnza Community College ($363,636) – to train 378 public and private fleets in alternative energy for technicians and supervisors, including workforce development in new fueling infrastructure, including bi-diesel, ethanol, methanol, electricity, propane, CNG/LNG, and hydrogen.

Kings Canyon Unified School District ($43,200) – to train 12 employees in the use and maintenance of its fleet of alternative and/or renewable fueled school buses, which include hybrid electric, all-electric, and compressed natural gas.

Los Angeles Community College District ($379,308) – to train 438 employees on job skills needed for a workforce to produce and distribute new alternative fuels and design, and construct, install, operate, service and maintain new fueling infrastructure and vehicles. The project will target companies that need training support to ensure that their workers can meet the needs of their customers.

California and Nevada Labor Management Cooperation Trust ($749,708) – to retrain 1,124 incumbent journeyman electricians throughout California in the Electric Vehicle Infrastructure Training Program (EVITP), established to provide training and certification for the installation of residential and commercial (public) electric vehicle supply equipment. Training will address technical requirements, safety imperatives, and performance integrity of industry partners to ensure that the equipment is properly installed and maintained using the highest quality standards.

Dana Thomas dba Industrial Modification & Repair (IMR) ($75,400) – to train 14 existing IMR workforce and new employees, and provide technology development in the rebuilding of Hybrid Electric Vehicle batteries to meet the goals of the company and furnish the rising demand for these batteries. IMR plans to rebuild 200 HEV battery pack units in the first year, and a projection of 1,000 units each year thereafter.

Kern Community College District ($742,600) – to train 1,740 technicians and mechanics, drivers and first responders with multi-discipline project focused on EV, CNG/LNG and biofuels.

Riverside Community College District, Office of Economic Development ($699,930) – to train 1,818 technicians and mechanics, drivers, first responders, and production workers with a multi-discipline project focused on EV, CNG/LNG and biofuels.

California Labor Federation, AFL-CIO ($999,768) – to train 1,275 workers; to help California: 1) reduce its carbon footprint by strengthening its public transit agencies; 2) keep union workers trained in highly technical skills; and, 3) help California transit agencies continue to be role models of clean public transportation innovation for the rest of the country. CalFed seeks funding to support a joint labor-management training program for three regional public transit agencies: Los Angeles County Metropolitan Transportation Authority (LA Metro); Sacramento Regional Transit District (Sac RT); and, Santa Clara Valley Transportation Authority (Santa Clara VTA). Each agency has short and long-term plans to increase public transit usage without adding to their environmental footprint. To meet this challenge, each agency has incorporated high-tech propulsion systems that use compressed natural gas, hybrid drive trains, and electric rail. In conjunction with this new equipment, each agency is increasing its use of computer-based technology (highly complex computer diagnostics) for troubleshooting and servicing problems. These specialized transportation systems can only be properly maintained by offering up-to-date training programs current in technology.

Tesla Motors, Inc. ($407,702) – to train 1,623 employees in a curriculum that spans the complete spectrum of EV production including Manufacturing Skills, delivered as Class/Lab and Productive Lab (PL); Continuous Improvement; Advanced Technology; and Hazardous Materials that will be delivered as classroom/lab training. All training will be conducted at Tesla's Fremont facility. Funding will be provided for a minimum of 24 to a maximum of 200 hours per worker in any of the following manufacturing skills areas: vehicle assembly, body shop, maintenance/equipment engineering, paint, plastics, and stamping.

7. Other Agreements

a. Technical assistance and analysis ($13,882,463)

ICF International, LLC (600-09-002)
ICF Incorporated, LLC will use $721,388 in Program funding to evaluate fuel infrastructure program investments, and market assessments.

ICF International, LLC (600-08-007)
ICF Consulting, LLC will use $199,997 in Program funding to develop program performance metrics, methodology and communication plan.

Tetra Tech Inc. (600-09-003)
Tetra Tech Inc. will use $400,000 in technical assistance to assist in proposal evaluation and project troubleshooting.

Bevilacqua-Knight, Inc. (600-09-007)
Bevilacqua-Knight, Inc. will use $263,400 in a three-year membership to the California Fuel Cell Partnership.

University of California, Irvine (600-10-002)
The Regents of the University of California will use $1,515,000 to enhance the Spatially and Temporally Resolved Energy and Environment Tool (STREET) model to expand its use from the South Coast Air Basin to multiple air basins/regions throughout California and permit an analysis of several emerging alternative vehicle and fuel options.

California Department of Transportation (600-10-008)
California Department of Transportation will use $250,000 for Renewable and Alternative Fueled Vehicle Economy & Fuel Choice and CalTrans Household Travel Survey (CHTS) - On Board Diagnostic Devices. This contract has completed.

Gladstein, Neandross & Associates, LLC (600-10-009)
Gladstein, Neandross & Associates, LLC will use $50,000 in a co-sponsorship of the inaugural Alternative Clean Transportation Expo 2011 National Conference held in Long Beach on May 4-6, 2011. This national conference highlights progress in alternative and renewable fuels and advanced vehicle technologies by showcasing the projects, awardees and stakeholders of the Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program, as well as the Air Resources Board's Air Quality Improvement Program.

National Renewable Energy Laboratory (600-11-002)
Program funds of $2,152,273 will be used to provide support for the development and improvement of the Alternative and Renewable Fuels and Vehicle Technology Program (also known as the AB 118 program) and related Integrated Energy Policy Report documents. National Renewable Energy Laboratory (NREL) will produce technology and market reports that will provide detailed assessments of: advanced vehicle technology; fueling infrastructure; fuel production; and consumer and investor behavior reports, providing possible scenarios for the acceptance of new transportation technologies.

University of California, Davis (600-11-005)
The University of California, Davis, received $2,770,072 to research the comparative value, benefits and drawbacks of all types of alternative fuels in California. The multidisciplinary research through the university's Institute of Transportation Studies will include creating rollout scenarios, transition strategies, research on consumer perceptions, and development of case studies of potential biomass materials that could be used to create alternative fuel. Particular attention will be focused on investments in biofuels; low-carbon options for trucks, buses, rail transportation, boats and aircraft; and a consumer study to determine how to support optimal development of alternative fueling stations. Findings will be used to inform the Energy Commission's investment plans for AB 118 funds.

California Department of Housing and Community Development (600-12-003)
The California Department of Housing and Community Development is awarded $200,000 to conduct an assessment of the requirements and costs for electric vehicle charging infrastructure in single family dwellings, condominiums, and apartments. Using expertise of a specially-established, multi-agency and knowledgeable steering committee, HCD will review current reports and committee experience to address future code requirements for residential use.

Bevilacqua-Knight, Inc. (600-12-007)
Bevilacqua-Knight, Inc. (BKI) will use $87,800 in a one-year membership to the California Fuel Cell Partnership (CaFCP). BKI will facilitate and coordinate the efforts of the CaFCP, including operational, financial, and project management. In addition to membership (participating in the Working Group, Station Implementation Group, and committees), the Energy Commission will have a seat on the CaFCP's Steering Committee.

CALSTART, Inc. (600-12-014)
CALSTART will used $14,997 for a membership with the California Plug-in Electric Vehicle Collaborative (PEVC) for three fiscal years (2012/13, 2013/14, 2014/15). Annual membership fees are $4,999. Future fiscal year memberships are contingent upon the availability of funds for these purposes. This membership allows the Energy Commission to participate in PEVC working groups which will assist in the Energy Commission's strategic deployment of electric vehicle service equipment under the ARFVTP.

Tetra Tech Inc. (600-13-002)
Tetra Tech Inc. will use $2,000,000 in technical assistance to assist in proposal evaluation and project troubleshooting.

RAND Corporation (600-11-004)
Program funds of $2,744,558 were awarded to the RAND Corporation for the evaluation, measurement, and verification of the Alternative and Renewable Fuel and Vehicle Technology (ARFVT) program and projects. The RAND Corporation was selected from a competitive request for proposals to evaluate the impact, process, market baseline, market effect, and costs of the ARFVT program and projects. This will help the ARFVTP program increase the availability of alternative fuels and vehicle technologies, increase customer awareness, and ultimately increase cost effective reductions in petroleum fuel use and greenhouse gas emissions.

b. Evaluation, measurement, and verification ($1,730,000)

RAND Corporation (600-11-004)
Program funds of $1,730,000 were awarded to the RAND Corporation for the evaluation, measurement, and verification of the Alternative and Renewable Fuel and Vehicle Technology (ARFVT) program and projects. The RAND Corporation was selected from a competitive request for proposals to evaluate the impact, process, market baseline, market effect, and costs of the ARFVT program and projects. This will help the ARFVTP program increase the availability of alternative fuels and vehicle technologies, increase customer awareness, and ultimately increase cost effective reductions in petroleum fuel use and greenhouse gas emissions.

c. Multi-Fuel regional readiness awards ($1,775,720)

Redwood Coast Energy Authority (ARV-13-012)
Redwood Coast Energy Authority (ECEA) is awarded $300,000 to create an alternative fuel readiness plan through coordinated efforts in the northwest region. The plan will include a strategic assessment of the challenges and opportunities for the adoption of alternative fuels and implementation of targeted outreach programs. It will also address electricity, natural gas, hydrogen, and biofuels as alternative fuel types for this project. The total anticipated match funding is $60,000.

Monterey Bay Unified Air Pollution Control District (ARV-13-016)
Monterey Bay Unified Air Pollution Control District is awarded $300,000 to create an alternative fuel readiness plan. The Monterey Bay Alternative Fuel Ecosystem Project is a collaboration of the Monterey Bay Unified Air Pollution Control District, Ecology Action, the Monterey Bay PEV Coordinating Council, the Monterey Bay EV Alliance, EV Communities Alliance, and Plug-in America. The project goal is to accelerate the adoption of Alternative Fuel Vehicles (AFV) and promote the use of Alternative Fuel Infrastructure (AFI) in the region. Measurable objectives include: increased AFV sales, decreased GHG, criteria pollutants, and fuel use, and increased jobs and economic activity. Key activities over a 24 month period include: 1) Development of comprehensive data on AFV/AFI utilization; 2) Preparation of a regional AFV Readiness Plan addressing AFI permitting, deployment, maintenance, and inspection, and promotion of AFV-friendly public policies and incentives; 3) Development of comprehensive AFV outreach activities, including: a) four training sessions on Alternative Fuel infrastructure and vehicles for fleet operators, planners,

first responders, and decision makers; b) three AFV educational workshops for consumers; c) six Green Car shows serving 20,000 attendees; and d) five “Ride and Drive” events providing 1000 individual driving experiences to spur AFV sales and awareness. Ride and Drive events will bring diverse AFVs to community events, major employers, fairs, and other prominent locations. The total anticipated match funding is $60,000.

County of Santa Barbara (ARV-13-017)
County of Santa Barbara is awarded $299,910 to create an alternative fuel readiness plan. The Central Coast Altnerative Fuel Ecosystem Project is a collaboration of the County of Santa Barbara (lead agency), the three Air Pollution Control Districts of Santa Barbara, Ventura, and San Luis Obispo Counties, the Clean Cities Coalition of the Central Coast, the Community Environmental Council of Santa Barbara, and Plug-in Central Coast, the PEV Coordinating Council for the tri-county region. The project goal is to accelerate the adoption of Alternative Fuel Vehicles (AFV) and promote the use of Alternative Fuel Infrastructure (AFI) in the region. Measurable objectives include: increased AFV sales, decreased GHG, criteria pollutants, and fuel use, and increased jobs and economic activity. Key activities over a 24 month period include: 1) Development of comprehensive data on AFV/AFI utilization; 2) Preparation of a regional AFV Readiness Plan addressing AFI permitting, deployment, maintenance, and inspection, and promotion of AFV-friendly public policies and incentives; 3) Development of comprehensive AFV outreach activities, including: a) four training sessions on Alternative Fuel infrastructure and vehicles for fleet operators, planners, first responders, and decision makers; b) three AFV educational workshops for consumers; c) six Green Car shows serving 20,000 attendees; and d) five “Ride and Drive” events providing 1000 individual driving experiences to spur AFV sales and awareness. Ride and Drive events will bring diverse AFVs to community events, major employers, fairs, and other prominent locations. The total anticipated match funding is $60,000.

San Diego Association of Governments (ARV-13-013)
The San Diego Association of Governments (SANDAG) is awarded $300,000 to develop a San Diego Regional Alternative Fuel Readiness Plan (Plan) through coordinated engagement with alternative fuel stakeholders in the region. The Plan’s development will begin with an Alternative Fuel Assessment to establish the existing conditions and identify the key needs in the San Diego region to prepare for the deployment of alternative fuels (compressed natural gas, ethanol, biodiesel, hydrogen, and electric). Next, toolkits will be created to provide alternative fuel readiness resources to key sectors such as fleet owners/operators, local government staff, fuel provider/retailers, and vehicle dealers. Utilizing the assessment and toolkits, SANDAG will create a regionally-accepted, comprehensive strategic readiness plan that addresses immediate needs as well as long-term planning objectives for deployment of alternative fuel vehicles and alternative fuel infrastructure. The total anticipated match funding is $60,000.

City/County Association of Governments of San Mateo County (ARV-13-018)
The City/County Association of Governments of San Mateo County is awarded $275,810 to develop a plan for preparing the county and the 20 cities therein for the commercialization of alternative transportation fuels in the marketplace. Specific project tasks are as follows: analyze existing and potential incentives for increased

usage of alternative fuels; identify challenges and opportunities for sharing best practices for planning, permitting, deployment, maintenance, and inspection of Alternate Fuel Infrastructure; develop, or revise as necessary, training materials or classes for fleet operators, planners, first responders, and decision-makers regarding Alternate Fuel Infrastructure development; develop strategies and best practices to increase procurement and commercialization of alternative fuels; develop marketing analyses, marketing materials, and outreach strategies that communicate the benefits of alternative fuel usage to targeted groups such as fleet owners/operators; develop strategies to assist alternative fuel wholesalers/retailers, with the intent of increasing the availability and/or reducing the cost of alternative fuels; and assemble results of these efforts into an Alternative Fuel Readiness Plan document. The total anticipated match is $73,554.

City and County of San Francisco (ARV-13-053)
The City and County of San Francisco is awarded $300,000 to develop an Alternative Fuel Readiness Plan for the San Francisco region to prepare for the deployment of alternative fuels. The Plan will include a strategic assessment of the challenges and opportunities for the adoption of alternative transportation fuel and the implementation of targeted outreach programs for the fuels. The types of alternative transportation fuels to be addresses include electricity, natural gas, hydrogen, and biofuels. The project goal is to promote the use of alternative fuel infrastructure in the region. Measureable objectives include: increased alternative fuel vehicle sales, decreased GHG emissions, and fuel efficiency. The San Francisco Alternative Fuel Readiness Project is an initiative of the City of San Francisco's Department of the Environment in collaboration with the San Francisco Clean Cities Coalition. Key partners include Plug-in America, the California Center for Sustainable Energy, and EV Communities Alliance. The total anticipated match is $60,000.

d. Centers ($5,800,000)

The Regents of the University of California, Berkeley Campus (ARV-13-021)
The Regents of the University of California, Berkeley campus is awarded $1,566,667 to develop the Northern California Center for Alternative Transportation Fuels and Advanced Vehicle Technologies (North CAT). The project recipient will provide a physical and advanced web/internet-networked location for education, training, demonstration, and full-scale deployment of alternative transportation fuels and advanced technologies in the Northern California region. The project will bring together a cutting-edge team of leading organizations spanning the Northern California region with a wide coverage of advanced vehicle and alternative fuel training, outreach, and project development programs. Project partners include Lawrence Berkeley National Laboratory, Humboldt State University, Center for Transportation and the Environment (CTE), Prospect Silicon Valley, and Bevilacqua-Knight, Inc. Total match funding is $1,566,667.

Economic Development Corporation of Los Angeles County (ARV-13-031)
The Economic Development Corporation of Los Angeles County is awarded $1,566,274 to create a Southern California Center with one virtual and two physical locations. The physical Centers will be strategically located in downtown Los Angeles and in central San Diego. The operational goals include: (1) develop and

launch a virtual and physical Center locations and sustain them for a minimum of five years; (2) outreach to and convene members of the public as well as critical stakeholders; (3) facilitate regional coordination on alternative fuel and advanced vehicle technology in workforce development and planning; (4) provide a central location for companies, researchers, and public agencies to collaborate on alternative fuels, technology development, intellectual property protection, prototyping, and technological needs, and (5) ensure the Center is sustained with strong organizational development to promote and grow alternative fuels and advanced vehicle technologies' development, production, commercialization and export in the region. Project partners include the Center for Sustainable Energy; Los Angeles Cleantech Incubator; University of California, Los Angeles (UCLA), Luskin Center for Innovation; UCLA Smart Grid Energy Research Center; Advanced Sustainability Institute LLC; and Inland Empire Economic Partnership. Total match funding is $1,594,458.

The Regents of the University of California, Davis Campus (ARV-13-020)
The Regents of the University of California, Davis Campus is awarded $1,100,000 for the National Center for Sustainable Transportation—Emerging Technologies Project. This project was one of five national centers awarded by the US Department of Transportation as part of the University Transportation Centers Program in 2013. The goal of this Center is to enhance the environmental sustainability of the transportation system through reductions in fossil fuel consumption and greenhouse gas emissions. The Center will help to enhance California's pioneering efforts to reduce greenhouse gas emissions by conducting innovative research on strategies that promote new vehicle and fuel technologies, increase system efficiency, and reduce solo driving. In this project, the Center will support the transition toward zero-emission vehicle and fuel technologies for both passenger transportation and goods movement through research on the commercial barriers that are inhibiting the adoption of promising innovated alternative and renewable vehicle and fuel technologies. The total anticipated match funding is $5,600,000.

carbonBLU LLC (ARV-14-005)
carbonBLU LLC is awarded $372,400 to develop and operate the NORCAL Alternative Fuels and Advanced Vehicle Technology Center located at McClellan Business Park, a sustainably designed, mixed-use business and residential center. The proposed center will serve as a major hub of innovation, education, and adoption of alternative fuels and advanced vehicle technologies for public and private fleets in Northern California. When operational, the Center will provide regional municipal and private fleets with valuable technical and training services that will help them better understand the economics of fleet conversion; accurately assess their current carbon emissions and regulatory compliance; select a customized fleet optimization plan; and implement solutions that measurably reduce emissions, save money, and ensure regulatory compliance. The proposed Center is supported by numerous regional and statewide officials and organizations, including the Mayor of Sacramento, the Sacramento Municipal Utility District (SMUD), and the Southern California Center for Alternative Fuels and Advanced Vehicle Technology. The total anticipated match funding is $372,401.

CALSTART, Inc. (Pending)

CALSTART, Inc. is awarded $1,194,659 to launch, manage, and sustain the *San Joaquin Valley Clean Transportation Center.* Project partners include the San Joaquin Valley Clean Energy Organization (SJVCEO), University of California Kearney Agricultural Research and Extension Center (UC KARE), and Southern California Gas Company (SoCalGas). The goals of the Center include: 1) launch, manage, and sustain the Center that will enable significant reductions in transportation-related emissions to allow the communities of Central California to meet their regional objectives, California's climate change goals, and the Energy Commission's alternative fuel goals; 2) increase the acceptance and deployment of light-, medium-, and heavy-duty alternative fuel vehicles (AFVs) in Central California; and 3) reduce the barriers that hinder production of low carbon fuels and slow deployment of AFV in Central California. The proposed Center has earned the formal support of more than 40 agencies, elected officials, fleets, technology partners, and trade associations representing a diverse coalition that share a common goal of rapidly and dramatically increasing the adoption of clean fuel vehicles and technologies in Central California. The project team has set a goal of securing funding equal to five times the amount of this award for clean vehicle projects in the region.