

**GRANT REQUEST FORM (GRF)**

CEC-270 (Revised 02/13)

CALIFORNIA ENERGY COMMISSION

New Agreement ARV-14-037 (To be completed by CGL Office)

Division	Agreement Manager:	MS-	Phone
600 Fuels and Transportation Division	Pierre duVair	27	916-653-8685

Recipient's Legal Name	Federal ID Number
City of Napa	94-6000380

Title of Project
Napa Renewable Resources Project

Term and Amount	Start Date	End Date	Amount
	4 / 1 / 2015	12 / 31 / 2019	\$ 3,000,000

**Business Meeting Information**
 ARFVTP agreements under \$75K delegated to Executive Director.

Proposed Business Meeting Date	2 / 25 / 2015	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Pierre duVair	Time Needed:	5 minutes

Please select one list serve. Altfuels (AB118- ARFVTP)

**Agenda Item Subject and Description**

Possible approval of Agreement ARV-14-037 with the City of Napa for a \$3,000,000 grant to produce renewable compressed natural gas (RNG) from dry anaerobic digestion of organic wastes. Modifications at the City's existing materials diversion facility will enable conversion of 25,000 tons per year of food waste, green waste, and manure into biomethane. An RNG refueling station will be installed to supply an existing fleet of 35 waste and recycling trucks with a negative carbon intensity fuel. The facility will produce 328,000 diesel gallons equivalent per year.

**California Environmental Quality Act (CEQA) Compliance**

1. Is Agreement considered a "Project" under CEQA?  
 Yes (skip to question 2)  No (complete the following (PRC 21065 and 14 CCR 15378)):  
 Explain why Agreement is not considered a "Project":  
 Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because .
2. If Agreement is considered a "Project" under CEQA:  
 a) Agreement **IS** exempt. (Attach draft NOE)  
 Statutory Exemption. List PRC and/or CCR section number: \_\_\_\_\_  
 Categorical Exemption. List CCR section number: \_\_\_\_\_  
 Common Sense Exemption. 14 CCR 15061 (b) (3)  
 Explain reason why Agreement is exempt under the above section:
- b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)  
 Check all that apply  
 Initial Study  Environmental Impact Report  
 Negative Declaration  Statement of Overriding Considerations  
 Mitigated Negative Declaration

**List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)**

Legal Company Name:	Budget
Zero Waste Energy, LLC	\$ 3,000,000
Napa Recycling & Waste Services, LLC	\$ 0
Edgar & Associates, Inc.	\$ 0

**List all key partners: (attach additional sheets as necessary)**

Legal Company Name:
BioCNG, LLC
CH2M Hill, Inc.

**GRANT REQUEST FORM (GRF)**

CEC-270 (Revised 02/13)

CALIFORNIA ENERGY COMMISSION



<b>Budget Information</b>			
Funding Source	Funding Year of Appropriation	Budget List No.	Amount
Funding Source	14/15	601-1186	\$3,000,000
Funding Source			\$
R&D Program Area:	Select Program Area	TOTAL:	\$3,000,000
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

<b>Recipient's Administrator/ Officer</b>				<b>Recipient's Project Manager</b>			
Name:	Kevin Miller			Name:	Kevin Miller		
Address:	Public Works Department P.O. Box 660			Address:	Public Works Department P.O. Box 660		
City, State, Zip:	Napa, CA 94559			City, State, Zip:	Napa, CA 94559		
Phone:	707-257-9200	Fax:	707-257-9522	Phone:	707-257-9200	Fax:	707-257-9522
E-Mail:	kmiller@cityofnapa.org			E-Mail:	kmiller@cityofnapa.org		

<b>Selection Process Used</b>	
<input checked="" type="checkbox"/> Competitive Solicitation	Solicitation #: PON-13-609
<input type="checkbox"/> First Come First Served Solicitation	

<b>The following items should be attached to this GRF</b>	
1. Exhibit A, Scope of Work	<input checked="" type="checkbox"/> Attached
2. Exhibit B, Budget Detail	<input checked="" type="checkbox"/> Attached
3. CEC 105, Questionnaire for Identifying Conflicts	<input checked="" type="checkbox"/> Attached
4. Recipient Resolution	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached
5. CEQA Documentation	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached

Agreement Manager \_\_\_\_\_

Date \_\_\_\_\_

Office Manager \_\_\_\_\_

Date \_\_\_\_\_

Deputy Director \_\_\_\_\_

Date \_\_\_\_\_

## Exhibit A SCOPE OF WORK

### TECHNICAL TASK LIST

CPR	Task #	Task Name
	1	Administration
X	2	Pre-Construction
	3	Construction
	4	Test and Commission Facility
	5	Operations
	6	Data Collection, Analysis, Verification and Reporting

### KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Kevin Miller, City of Napa	Greg Kelley, Napa Recycling & Waste Services (NRWS) Eric Herbert, Zero Waste Energy (ZWE) Rick Moore, Edgar and Associates	
2	Kevin Miller, City of Napa	Greg Kelley, NRWS Eric Herbert, ZWE	
3	Kevin Miller, City of Napa	Greg Kelley, NRWS Eric Herbert, ZWE	
4	Kevin Miller, City of Napa	Greg Kelley, NRWS	
5	Kevin Miller, City of Napa	Greg Kelley, NRWS	
6	Kevin Miller, City of Napa	Greg Kelley, NRWS	

### GLOSSARY

*Specific terms and acronyms used throughout this scope of work are defined as follows:*

Term/ Acronym	Definition
AD	Anaerobic Digestion
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
Biogas	A gaseous fuel derived from decay of organic matter
BLT	Blue Line Transfer

<b>Term/ Acronym</b>	<b>Definition</b>
CAM	Commission Agreement Manager
CI	Carbon Intensity
CPR	Critical Project Review
DGE	Diesel Gallon Equivalent
EA	Edgar & Associates
FTD	Fuels and Transportation Division
GHG	Greenhouse Gas
LCFS	Low Carbon Fuel Standard
NRRP	Napa Renewable Resources Project
NRWS	Napa Recycling and Waste Services
PG&E	Pacific Gas & Electric Company
Recipient	City of Napa
RNG	Renewable Natural Gas (also biomethane)
ZWE	Zero Waste Energy

## **BACKGROUND**

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The statute authorizes the California Energy Commission (Energy Commission) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorizes the ARFVTP through January 1, 2024, and specifies that the Energy Commission allocate up to \$20 million per year (or up to 20 percent of each fiscal year’s funds) in funding for hydrogen station development until at least 100 stations are operational. The Energy Commission has an annual program budget of approximately \$100 million and provides financial support for projects that:

- Develop and improve alternative and renewable low-carbon fuels;
- Optimize alternative and renewable fuels for existing and developing engine technologies;
- Produce alternative and renewable low-carbon fuels in California;
- Expand fuel infrastructure, refueling stations, and equipment;
- Improve light-, medium-, and heavy-duty vehicle technologies;
- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets;
- Expand infrastructure connected with existing fleets, public transit, and transportation corridors; and
- Establish workforce training programs, conduct public education and promotion, and create technology centers.

The Energy Commission issued solicitation PON-13-609 entitled "Pilot-Scale and Commercial Scale Advanced Biofuels Production Facilities" under the ARFVTP on January 14, 2014. This competitive grant solicitation was an offer to share the cost of development and production of new low-carbon transportation fuels. To be eligible for funding under PON-13-609, projects must also be consistent with the Energy Commission's ARFVTP Investment Plan, updated annually. In response to PON-13-609, the City of Napa (Recipient) submitted application number 23, which was proposed for funding in the Energy Commission's Notice of Proposed Awards on July 18, 2014. PON-13-609 and Recipient's aforementioned application are hereby incorporated by reference into this Agreement in their entirety.

In the event of any conflict or inconsistency between the terms of the Solicitation and the terms of the Recipient's Application, the Solicitation shall control. In the event of any conflict or inconsistency between the Recipient's Application and the terms of the Energy Commission's Award, the Energy Commission's Award shall control. Similarly, in the event of any conflict or inconsistency between the terms of this Agreement and the Recipient's Application, the terms of this Agreement shall control.

### **Problem Statement:**

Organic waste management typically consists of either composting or landfilling organics, resulting in a loss of the inherent useful energy embodied in the waste. Additionally, waste collection vehicles usually operate on diesel or fossil fuel compressed natural gas, which are high carbon intensity fuels. This project will anaerobically digest organic material, deriving methane from biogas and transforming it into low carbon intensity transportation fuel (i.e., biomethane or "renewable natural gas") while also transforming the organic substrate into a soil amendment co-product. A renewable natural gas (RNG) refueling station will be installed to supply an existing fleet of 35 refuse and recycling trucks with the low carbon intensity fuel produced.

The passage of AB 32 (Chapter 488, Statutes of 2006), adoption of the LCFS, and passage of AB 341 (Chapter 476, Statutes of 2011) which mandated commercial recycling and increased recycling goals from 50% to 75%, have created drivers for innovative waste management technologies that reduce GHGs. AD of organic waste in California is relatively new, but the BLT facility in South San Francisco being built by ZWE will be operational soon. The technology is advancing rapidly and ZWE's technology will be used with the Napa Renewable Resources Project (NRRP). ZWE has improved their technology and reduced costs as a result of lessons learned at the BLT facility. Additionally, improvements are being made with biogas purification technology that increases biomethane recovery efficiency. These technological advances and relative cost reductions are a direct result of the new market environment for renewable natural gas (RNG) in California and low carbon intensity fuels. This project will address the problem of producing a very low carbon intensity transportation fuel at a reasonable cost.

### **Goal of the Agreement:**

The goal of this Agreement is to build upon experiences with the BLT facility, implement upgraded technologies to a larger system to demonstrate next-generation technologies, construct a waste management system for organic wastes from landfills, produce a low CI transportation fuel for waste collection vehicles from the wastes that they haul, and provide a co-product soil amendment for use in agriculture.

## **Objectives of the Agreement:**

The objectives of this Agreement are to:

- 1) Demonstrate state-of-the-art high solids AD and biogas purification technologies;
- 2) Establish a biogas generation rate from chosen feedstocks, so facilities can be right-sized to accommodate available demand;
- 4) Measure efficiency of the digester and refueling systems as percent of biomethane in the biogas converted to transportation fuel;
- 5) Measure biomethane quality and compare to established fuel specifications;
- 6) Assess vehicle performance when using facility-produced compressed RNG;
- 7) Verify the full-fuel cycle carbon intensity and compare to Recipient's target of -48 gCO<sub>2</sub>e/MJ;
- 8) Address any issues associated with composting digestate and assessing quality of resulting compost;
- 9) Collect, analyze, report, and verify compressed RNG production system data;
- 10) Compare verified data to economic and cost assumptions used by the Recipient to develop budgets and cost estimates of compressed RNG transportation fuel production.

## **TASK 1 ADMINISTRATION**

### **Task 1.1 Attend Kick-off Meeting**

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The CAM shall designate the date and location of this meeting and provide an agenda to the Recipient prior to the meeting.

#### **The Recipient shall:**

- Attend a "Kick-Off" meeting with the Commission Agreement Manager, the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the CAM to this meeting.
- Discuss the following administrative and technical aspects of this Agreement:
  - Agreement Terms and Conditions
  - Critical Project Review (Task 1.2)
  - Match fund documentation (Task 1.6); no reimbursable work may be done until this documentation is in place.
  - Permit documentation (Task 1.7)
  - Subcontracts needed to carry out project (Task 1.8)
  - The CAM's expectations for accomplishing all tasks in the Scope of Work
  - An updated Schedule of Products and Due Dates
  - Monthly Progress Reports (Task 1.4)
  - Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
  - Final Report (Task 1.5)

**Recipient Products:**

- Updated Schedule of Products and Due Dates
- Updated list and status of match funds
- Updated list of permits

**Commission Agreement Manager Products:**

- Kick-off meeting agenda
- Summary of discussion at kick-off meeting

**Task 1.2 Critical Project Review (CPR) Meetings**

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

The CAM may schedule CPR meetings as necessary, and meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the Commission Grants Officer, the Fuels and Transportation Division (FTD) biofuel lead, other Energy Commission staff and Management as well as other individuals selected by the CAM to provide support to the Energy Commission.

**The CAM shall:**

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. Prepare a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see Section 8 of the Terms and Conditions). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Transportation for his or her concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

**The Recipient shall:**

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving stated goals and objectives. This report shall include recommendations and conclusions regarding continued work under this agreement. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

**CAM Products:**

- Agenda and list of expected participants
- Schedule for written determination
- Written determination

**Recipient Product:**

- CPR Report(s)

**Task 1.3 Final Meeting**

The goal of this task is to closeout this Agreement.

**The Recipient shall:**

- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the CAM. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the CAM.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The CAM will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the CAM and the Grants Officer about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options)
- Energy Commission's request for specific "generated" data (not already provided in Agreement products)
- Need to document Recipient's disclosure of "subject inventions" developed under the Agreement

- “Surviving” Agreement provisions
- Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.

**Products:**

- Written documentation of meeting agreements
- Schedule for completing closeout activities

**Task 1.4 Monthly Progress Reports**

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

**The Recipient shall:**

- Prepare a Monthly Progress Report which summarizes all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the CAM within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.
- In the first Monthly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

**Product:**

- Monthly Progress Reports

**Task 1.5 Final Report**

The goal of the Final Report is to assess success of the project in achieving: goals and objectives of the Agreement, advancing science and technology, and providing energy-related and other benefits to California.

The objectives of the Final Report are to clearly and completely describe the purpose of the project, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for future projects and improvements to the FTD project management processes.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

**The Recipient shall:**

- Prepare an Outline of the Final Report, if requested by the CAM.
- Prepare a Final Report following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before end of the Agreement Term.
- Submit one bound copy of the Final Report with the final invoice.

**Products:**

- Outline of the Final Report (if requested)
- Draft Final Report
- Final Report

**Task 1.6 Identify and Obtain Matching Funds**

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of Energy Commission funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

**The Recipient shall:**

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting; if no match funds were part of the proposal that led to the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter; if match funds were a part of the proposal that led to the Energy Commission awarding this Agreement, then provide in the letter a list of match funds that identifies:
  - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied

- Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied; if the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and address where the property is located
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured; for match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting; if applicable, match funds will be included as a line item in progress reports and will be a topic at CPR meetings
- Provide appropriate information to the CAM, if during the course of the Agreement additional match funds are received
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced; reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting

**Products:**

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

**Task 1.7 Identify and Obtain Required Permits**

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

**The Recipient shall:**

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
  - A list of the permits that identifies:
    - Type of permit

- Name, address and telephone number of the permitting jurisdictions or lead agencies
  - The schedule the Recipient will follow in applying for and obtaining these permits
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits; implications to the Agreement if permits are not obtained in a timely fashion or are denied; if applicable, permits will be included as a line item in Progress Reports and will be a topic at CPR meetings
- If during the course of the Agreement additional permits become necessary, provide appropriate information on each permit and an updated schedule to the CAM
- As permits are obtained, send a copy of each approved permit to the CAM
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 working days; either of these events may trigger an additional CPR

**Products:**

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
- Updated list of permits as they change during the term of the Agreement (if applicable)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)
- A copy of each final approved permit (if applicable)

**Task 1.8 Obtain and Execute Subcontracts and Agreements**

The goal of this task is to ensure quality products and to procure subcontractors or partners required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures. It will also provide the Energy Commission an opportunity to review the subcontracts and agreements to ensure that the tasks are consistent with this Agreement, and that the budgeted expenditures are reasonable and consistent with applicable cost principles.

**The Recipient shall:**

- Manage and coordinate subcontractor activities
- Submit a draft of each subcontract or agreement required to conduct the work under this Agreement to the CAM for review
- Submit a final copy of the executed subcontract or agreement
- If Recipient decides to add new subcontractors or partners, then the Recipient shall notify the CAM

**Products:**

- Draft subcontracts and agreements
- Final subcontracts and agreements

**TECHNICAL TASKS**

**TASK 2 PRE-CONSTRUCTION**

**Task 2.1 System and Site Design**

The goal of this task is to optimize and integrate system components, while considering site constraints and satisfying all internal energy requirements.

**The Recipient shall:**

- Work with the subcontractors Zero Waste Energy (anaerobic digestion system) and others to produce detailed engineering design and construction specifications, as well as optimal operating parameters
- Prepare site design and construction package
- Prepare a description of all specifications and optimal operating parameters
- Establish performance benchmarks for the AD and RNG fuel production facility

**Products:**

- Site design and construction package
- Description of all specifications and optimal operating parameters
- Description of performance benchmarks for the AD to RNG fuel systems

**Task 2.2 Construction and Equipment List**

The goal of this task is to finalize the project design and construction costs prior to incurring major construction expenses.

**The Recipient shall:**

- Prepare a Construction and Equipment List documenting the comprehensive construction costs. The Construction and Equipment List will include all items to be purchased, constructed, or installed on the project. For each item, the list shall provide:
  - Name of the item
  - Make, model, size, capacity or other information as appropriate to the item
  - Name of the entity that will be carrying out the purchase and/or installation of the item
  - Estimated cost to purchase and install the item
  - Schedule for obtaining a binding bid from the supplying or installing entity
- Prepare a schedule for on-time delivery of equipment meeting project specifications

**Products:**

- Construction and Equipment List
- Schedule for on-time delivery of equipment meeting project specifications

### **Task 2.3 Submit an Application to PG&E for Extensions to Electricity and Natural Gas Service**

The goal of this task is to begin the process of assessing adequacy of PG&E's electrical and natural gas service for any upgrades or extensions with PG&E early in the process.

#### **The Recipient shall:**

- Submit a request to PG&E for a system assessment of adequacy of existing facility and need for upgrades or extensions

#### **Products:**

- Recipient's application to PG&E for an assessment of adequacy

### **Task 2.4 Approval to Proceed with Construction**

The goal of this task is to document preparedness to build the project and to secure Energy Commission approval to begin incurring major construction costs.

**\*\*\* CPR WILL BE HELD FOR THIS TASK. See Task 1.2 for details. \*\*\***

#### **The Recipient shall:**

- Prepare a Written Notification of Readiness to Construct stating the project has obtained all permits, third party agreements, binding construction and equipment bids, and all other items necessary to begin construction
- Develop proposed Construction Timeline running from the intended date to begin construction until the date the facility is operational

#### **The Commission shall:**

- The CAM shall hold a CPR during this task and provide a determination regarding approval to proceed with incurring major construction costs under this grant.

#### **Products:**

- Written Notification of Readiness to Construct
- Construction Timeline

### **Task 2.5 Equipment Ordering**

The goal of this task is to order equipment and ensure the timely arrival of all equipment, built to specifications.

#### **The Recipient shall:**

- Use the equipment list (Task 2.2) and specifications from the system design (Task 2.1) to place orders for all equipment
- Coordinate with equipment providers to ensure that all equipment arrives on time to maintain the Construction Timeline (Task 2.4)

#### **Products:**

- Document the on-time ordering of equipment meeting project specifications

### **Task 2.6 Equipment Delivery**

The goal of this task is to assess delivered equipment to ensure it is free from damage meets product specifications, and document time of delivery.

**The Recipient shall:**

- Document the timeliness of deliveries and inspect delivered equipment to ensure quality and specifications are met

**Products:**

- Documented arrival times of delivered equipment
- Preliminary approval of delivered equipment based on visual inspections of equipment and specification obtained from Tasks 2.1, 2.2, and 2.5

**TASK 3 CONSTRUCTION**

The goals of this task are to construct the AD biogas production facility and prepare it for operations; provide construction project management; coordinate the construction schedule, equipment delivery and required inspections; and respond to any issues that arise during construction and equipment installation.

**The Recipient shall:**

- Provide professional project construction management services
- Recipient shall notify CAM when any delays or deviations from the Construction Timeline are first known by the Recipient
- Execute construction of the project as outlined in the Construction Timeline (Task 2.4) and Construction and Equipment list (Task 2.2), including but not limited to the following major components:
  - Feedstock delivery area
  - Anaerobic digestion facility and biogas storage
  - Biogas cleanup system
  - Vehicle fueling system
- Prepare a Written Notification of Facility Operation and submit it to the Commission Agreement Manager within ten working days of operation of the project; the Written Notification shall contain the following elements:
  - Date the facility becomes operational
  - A narrative on current status of the project and initial operations
  - Any changes made from the project as originally proposed, reasons for those changes and implications of the changes

**Products:**

- Notifications of delay in construction (if necessary)
- Written Notification of Facility Operation

**TASK 4 TEST AND COMMISSION FACILITY**

The goal of this task is to perform startup activities, particularly heating the percolate liquid, optimizing system integration, verifying operational parameters and ensuring that the facility and equipment function as designed.

**The Recipient shall:**

- Initiate anaerobic digestion and the generation of biogas
- Initiate operation of the biogas cleanup and fueling systems
- Verify operational parameters and system performance

**Products:**

- Letter documenting system functionality based upon system engineering and design in Task 2.1

**TASK 5 OPERATIONS**

The goal of this task is to operate the facility as designed and begin to collect data to document the facility's performance.

**The Recipient shall:**

- Operate facility and comply with all applicable regulatory standards
- Prepare Monthly Operations Reports; the Operations Reports shall include but are not be limited to the following information:
  - A narrative on operational highlights from the previous month, including any stoppages in production and a statement as to the project's compliance with regulatory requirements
  - The total amount of biogas produced on a monthly basis
  - The total amount, type, and quality of feedstocks received and processed on a monthly basis
  - Conversion ratio for feedstock to RNG production
  - The direct operational costs of the project
- Produce a monthly volume of RNG consistent with an annual yield of 328,000 diesel gallon equivalents (DGE)
- Compare initial RNG production to performance metrics defined in Task 2.1

**Products:**

- Monthly Operations Reports
- Report comparing initial RNG production with performance metrics

**TASK 6 DATA COLLECTION, ANALYSIS, VERIFICATION and REPORTING**

**Task 6.1 Evaluate Feedstock, Biogas Production and Composition**

The goal of this task is to measure biogas production per unit of feedstock, and analyze biogas composition relative to contaminants and methane content – beyond the initial start-up assessment period in Task 5.

**The Recipient shall:**

- Weigh and observe feedstock composition, weight and quality
- Measure biogas production beyond the initial start-up period of Task 5
- Conduct analyses of biogas composition
- Prepare a database of biogas production and composition

**Products:**

- Log of feedstock type, weight and quality
- Database of biogas production and composition

**Task 6.2 Evaluate Efficiency of Biogas Treatment and Purification**

The goal of this task is to assess the amount of generated biomethane that ultimately becomes transportation fuel.

**The Recipient shall:**

- Measure flow rate of RNG from the biogas treatment and purification system
- Measure quality of biomethane relative to Engine Manufacturers Specifications, SAE J1616
- Measure flow rate and methane content of waste gas from cleanup processes
- Maintain a database of biomethane generation and composition
- Compare RNG produced against SAE J1616 specifications
- Quantify system efficiency as percent of biomethane conversion to RNG transportation fuel

**Products:**

- Database of biomethane generation and composition
- Quality assessment of compressed RNG relative to Engine Manufacturers Specifications, SAE J1616
- Quantification of system efficiency as a percent of biomethane conversion to RNG transportation fuel

**Task 6.3 Evaluate Vehicle Performance**

The performance of NRWS vehicles operating under typical conditions using biomethane-derived fuel will be assessed.

**The Recipient shall:**

- Compare NRWS vehicle performance in the areas of power, fuel economy and maintenance relative to fossil CNG and diesel fuel powered comparable vehicles

**Products:**

- Report documenting NRWS vehicle performance

**Task 6.4 Data Collection and Analysis**

The goal of this task is to collect and analyze operational data to determine the economic viability and environmental impacts of the RNG production facility and RNG use by NRWS vehicles. Final analysis of all project data, including at least six months of operations data, must be included in the Final Report (see Task 1.5).

**The Recipient Shall:**

- Collect six months of operations data from fuel production system to include:

- time operating (up and down time)
- efficiency of conversion of feedstock
- biogas production rate
- quality and quantity of RNG produced
- quantity and quality of all non-RNG co-products
- Estimate, verify and report gasoline, petroleum-based diesel, and fossil natural gas that will be displaced annually within the transportation sector
- Explain how the project reduces criteria air pollutants and air toxics and reduces or avoids multimedia environmental impacts, and leads to a decrease, on a life cycle basis, in emissions of water pollutants or any other substances known to have an adverse impact on human health or the environment
- Explain how the project incorporates and achieves the sustainability goals
- Provide a quantified and verified estimate of the project's carbon intensity values for life-cycle or full-fuel cycle greenhouse gas emissions
- Quantify any water efficiency and water use reduction measures used in the project including, but not limited to, the use of recycled or reclaimed water and the reduction or elimination of point and nonpoint source wastewater discharge
- Describe any potential use of renewable energy or cogeneration in the project
- Describe any potential energy efficiency measures used in the project that would exceed Title 24 standards in Part 6 of the California Code of Regulations
- Provide data on expected job creation, economic development, and increased state and local revenues
- Compare any project performance and expectations provided in the proposal to Energy Commission with actual project performance and accomplishments
- Describe how the project supports new technology advancement for vehicles, vessels, engines, and other equipment, and promote the deployment of such technologies in the marketplace; to the extent possible describe how the project provided a measurable transition from the nearly exclusive use of petroleum fuels to a diverse portfolio of viable alternative fuels that meets California's petroleum reduction and alternative fuel use goals
- Describe how the project demonstrated the cost-effectiveness of the proposed technology in achieving greenhouse gas emissions reduction
- Provide additional data that may be requested by the Energy Commission during the term of this Agreement, as is reasonably available

**Products:**

- Include the following data and analysis within the Final Report (Task 1.5):
  - 6 months of operations data
  - annual displacement of gasoline, petroleum-based diesel, or fossil natural gas used in transportation
  - estimated reductions in criteria and toxics air pollutant emissions, water pollutants, multimedia environmental impacts, and any changes in adverse impacts to public health
  - contribution to sustainability goals
  - estimates of the life-cycle carbon intensity of RNG produced by the NRRP
  - water use and water efficiency measures achieved by the NRRP
  - use of renewable energy and any co-generation benefits
  - energy efficiency measures completed by the NRRP
  - data and estimates of job creation, economic development, and increased state and local revenues from the NRRP

- comparison of expected performance metrics against actual performance
- description of how the NRRP supported advances in new technologies for vehicles, engines, other equipment and any changes in markets for alternative transportation vehicles and fuels
- estimates of cost-effectiveness of GHG emission reductions from the NRRP

STATE OF CALIFORNIA

STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: CITY OF NAPA

**RESOLVED**, that the State Energy Resources Conservation and Development Commission (Energy Commission) adopts the staff CEQA findings contained in the Agreement Request Form; and

**RESOLVED**, that the Energy Commission approves Agreement ARV-14-037 with the City of Napa for a \$3,000,000 grant to produce renewable compressed natural gas (RNG) from dry anaerobic digestion of organic wastes. Modifications at the City's existing materials diversion facility will enable conversion of 25,000 tons per year of food waste, green waste and manure into biomethane. An RNG refueling station will be installed to supply an existing fleet of 35 waste and recycling trucks with a negative carbon intensity fuel. The facility will produce 328,000 diesel gallons equivalent per year; and

**FURTHER BE IT RESOLVED**, that the Executive Director or his/her designee shall execute the same on behalf of the Energy Commission.

**CERTIFICATION**

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on February 25, 2015.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

---

Harriet Kallemeyn,  
Secretariat