

Exhibit A Scope of Work

TECHNICAL TASK LIST

Task #	CPR	Task Name
1	N/A	Administration
2		Demonstration Site Selection
3	X	Detailed Demonstration Design
4		Bill of Materials
5		Pyrolysis Equipment and Materials Procurement
6		Installation Contractor Selection
7		General Equipment and Materials Procurement
8		Equipment Skid Fabrication
9	X	Demonstration Site Construction and Installation
10		Test Plans and Demonstration Trials
11		Data Collection and Analysis
12		Technology Transfer Activities
13		Production Readiness Plan

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Juan Josse (Anaergia Services)		
2			
3			
4	Michael Theodoulou (Anaergia, Inc.)		
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GLOSSARY

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

Term/ Acronym	Definition
CNG	Compressed Natural Gas
CPM	Commission Project Manager
CPR	Critical Project Review

Term/ Acronym	Definition
LNG	Liquid Natural Gas
PBM	PyroBioMethane
P&ID	Process and Instrumentation Diagrams
RNG	Renewable Natural Gas

Problem Statement:

35 million tons of waste are landfilled in California annually. “Green” wastes such as leaves, yard trimmings, tree trunks and trimmings, and holiday trees account for 10-20% of the waste. Transportation requirements for goods and services are also increasing, resulting in the consumption of traditional fuels such as gasoline and diesel. Some proactive transport operators and government-mandated policies require transport trucks to use alternative or renewable fuels, such as Renewable Natural Gas (RNG), Liquid Natural Gas (LNG), or Compressed Natural Gas (CNG). However, these fuels are not widely available and are slow to be adopted.

Goals of the Agreement:

The goal of this Agreement is to demonstrate that green waste can be converted to LNG or CNG through a pyrolysis process called PyroBioMethane (PBM), which reduces the mass of green waste for disposal by treating it thermo-chemically in the absence of oxygen, outputting two value products in the bio-char and condensate. The bio-char holds all of the nutrients which were in the original green waste feed, giving it value as a potential fertilizer. The condensate, which is generated by condensing the gas caused in pyrolysis, is rich in volatile solids that can be fed to an anaerobic digester and co-digested with other substrates to make biogas.

Objectives of the Agreement:

The objectives of this Agreement are to: (1) Generate 7,000 ft³ of biogas per ton of green waste fed; (2) By extension show that 55 gallons of LNG can be made from one ton of green waste; (3) Achieve a 50% mass reduction of green waste through pyrolysis; (4) Retain all nutrient value of the green waste in the resultant bio-char from pyrolysis; and (5) Reduce hauling and disposal fees for green wastes.

TASK 1 ADMINISTRATION

Instructions for Submitting Electronic Files and Developing Software

Electronic File Format

The Recipient will deliver an electronic copy (CD ROM or memory stick or as otherwise specified by the Commission Project Manager (CPM) of the full text of any Agreement products in a compatible version of Microsoft Word (.doc).

The following describes the accepted formats of electronic data and documents provided to the Energy Commission as products and establishes the computer platforms, operating systems, and software versions that will be required to review and approve all software deliverables.

- Data sets will be in Microsoft (MS) Access or MS Excel file format.
- PC-based text documents will be in MS Word file format.
- Documents intended for public distribution will be in PDF file format, with the native file format provided as well.
- Project management documents will be in MS Project file format.

Software Application Development

If this Scope of Work includes any software application development, including but not limited to databases, websites, models, or modeling tools, the Recipient will use the following standard Application Architecture components in compatible versions:

- Microsoft ASP.NET framework (version 3.5 and up) Recommend 4.0.
- Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
- Visual Studio.NET (version 2008 and up) Recommend 2010.
- C# Programming Language with Presentation (UI), Business Object and Data Layers.
- SQL (Structured Query Language).
- Microsoft SQL Server 2008, Stored Procedures Recommend 2008 R2.
- Microsoft SQL Reporting Services Recommend 2008 R2
- XML (external interfaces).

Any exceptions to the Electronic File Format requirements above must be approved in writing by the Energy Commission's Information Technology Services Branch.

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 Recipient shall:

- Attend a "Kick-Off" meeting with the CPM, 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 CPM to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the CPM will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include, but not be limited to, the following:

- Discussion of the terms and conditions of the Agreement
- Discussion of Critical Project Review (Task 1.2)
- Match fund documentation (Task 1.6) *No work may be performed until this documentation is in place.*
- Permit documentation (Task 1.7)
- Discussion of subcontracts needed to carry out project (Task 1.8)

The technical portion of the meeting shall include, but not be limited to, the following:

- The CPM's expectations for accomplishing tasks described in the Scope of Work
- An updated Schedule of Products
- Discussion of Progress Reports (Task 1.4)
- Discussion of Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Discussion of the Final Report (Task 1.5)

The CPM shall designate the date and location of this meeting.

- Submit an updated Schedule of Products, List of Match Funds, and List of Permits to the CPM.

Recipient Products:

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits

Commission Project Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

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.

CPRs provide the opportunity for frank discussions between the CPM and the Recipient. The CPM may schedule CPRs as necessary, and CPR costs will be borne by the Recipient.

Participants include the CPM and the Recipient, and may include the Commission Grants Officer, the Energy Research and Development Division technical lead, other Energy Commission staff and Management, and any other individuals selected by the CPM to provide support to the Energy Commission.

The Commission Project Manager 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 or may be conducted via electronic conferencing (e.g., WebEx), as determined by the Commission Project Manager.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion of both match funding and permits.
- Conduct and make a record of each CPR meeting. One of the outcomes of this meeting will be a schedule for providing the written determination described below.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. If the CPM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- 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 products 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 its goals and objectives. This report shall include recommendations and conclusions regarding continued work on the project. This report shall be submitted along with any other products identified in this Scope of Work. The Recipient shall submit these documents to the CPM 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.

Commission Project Manager Products:

- Agenda and a 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 close out this Agreement.

The Recipient shall:

- Meet with Energy Commission staff to present the project 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 CPM. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the discretion of the CPM.

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

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

- Disposition of any equipment purchased with Energy Commission funds
- 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 written documentation of any agreements made between the Recipient and Commission staff during the meeting.
- 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 research 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 that 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 CPM within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in the Terms and Conditions of this Agreement.
- In each Monthly Progress Report and invoice, document and verify:
 - Energy Commission funds received by California-Based Entities (CBEs);
 - Energy Commission funds spent in California; and Match fund expenditures
 - Provide synopsis of project progress.

Product:

- Monthly Progress Reports

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving its goals and objectives, 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 project's purpose, 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 further projects and improvements.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will also prepare a confidential version of the Final Report, 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.
- Prepare a Final Report following the approved outline and the latest version of the Final Report guidelines which will be provided by the CPM. The CPM shall provide written comments on the Draft Final Report within 15 working days of receipt. The Final Report must be completed at least 90 days before the end of the Agreement Term.
- Submit one bound copy of the Final Report with the final invoice.

Products:

- Draft Outline of the Final Report
- Final Outline of the Final Report
- Draft Final Report
- Final Report

Task 1.6 Identify and Obtain Match Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained 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 CPM 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 the match funds that identifies the:
 - 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, 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, telephone number, and the 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 the progress reports and will be a topic at CPR meetings.

- Provide a letter including the appropriate information to the CPM if during the course of the Agreement additional match funds are received.
- Provide a letter to the CPM 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.

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 CPM 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 the:
 - 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 copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, provide an updated list of permits (including the appropriate information on each permit) and an updated schedule to the CPM.
- As permits are obtained, send a copy of each approved permit to the CPM.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CPM 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
- 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 approved permit (if applicable)

Task 1.8 Obtain and Execute Subcontracts

The goal of this task is to ensure quality products and to procure subcontracts required to carry out the tasks under this Agreement consistent with the terms and conditions of this Agreement and the Recipient's own procurement policies and procedures. This task will also provide the Energy Commission an opportunity to review the subcontracts 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 required to conduct the work under this Agreement to the Commission Agreement Manager for review.
- Submit a final copy of the executed subcontract.
- If the Recipient decides to add new subcontractors, it shall notify the Commission Agreement Manager.

Products:

- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2 DEMONSTRATION SITE SELECTION

The goal of this task is select a site that will host the PBM Demonstration Project.

The Recipient shall:

- Prepare a *Summary of Demonstration Site Selection Details* for the field test site that includes but is not limited to the following:
 - Site type;
 - Number of sites;
 - Site location; and
 - Timing, length, and frequency of testing.
- Reach agreement with the site owner on issues including:
 - Details of test, including dates and length;
 - Access to site;
 - Insurance and indemnity;
 - Contingency if damages are caused by testing activities; and
 - Equipment installation and removal.
- Upon site selection, enter into an agreement with the site owner for use of the site.
- Provide the CPM with a *Site Selection Notification Letter*.
- Provide the CPM with a copy of the *agreement with the site owner*, upon request.

Products:

- Summary of Demonstration Site Selection Details (no draft)
- Site Selection Notification Letter (no draft)
- Agreement with the site owner (upon request, no draft)

TASK 3 DETAILED DEMONSTRATION DESIGN

The goal of this task is to develop a detailed demonstration design specific to the selected demonstration site.

The Recipient shall:

- Develop detailed site layout drawings that are specific to the demonstration site installation and locate all necessary equipment and skids. Present the drawings in a *Detailed Demonstration Design and Drawing Package* that includes a discussion of local building code requirements, including seismic compliance.
- Prepare a detailed demonstration process flow diagram that outlines the demonstration process.
- Prepare a final demonstration process and instrumentation diagrams (P&IDs) that outline all equipment, electrical requirements, and plant control methodology.
- Design pre-engineered equipment skids/containers that will be used in the demonstration project.
- Create a detailed project schedule for all tasks through the completion of construction and demonstration commissioning.
- File amendments and secure changes to the plant's air permit and

- operational Certificate of Approval.
- Secure necessary insurance coverage for demonstration installation and operation.
- Develop of a scope of work for the demonstration installation, including all design, construction, and commissioning work to be executed by third parties.
- Enter into a contract with a third party for the detailed design of:
 - Structural components used in the demonstration;
 - Field piping detail drawings and routings as needed;
 - Required seismic design reviews and considerations;
 - Demonstration electrical design and control panel requirements; and
 - Demonstration Plant Control Philosophy, operating program, and “SCADA” (supervisory control and data acquisition, a computer-run industrial control system that monitors and controls physical processes) integration.
- Obtain a *Detailed Demonstration Design Package* from the contractor that includes: any necessary modifications to the Detailed Demonstration Design and Drawing Package; and the California Engineer seal of approval on local building code and seismic plans.
- Provide a *Notification Letter on Demonstration Project Design Completion* to the CPM. The letter will include but not be limited to: written documentation that the demonstration project is ready for the commencement of equipment purchase and construction kick off, the equipment purchase date, the construction start date, and photographs and drawings of the demonstration site.

Products:

- Detailed Demonstration Design and Drawing Package (no draft)
- Detailed Demonstration Design Package (no draft)
- Notification Letter on Demonstration Design Completion (no draft)

TASK 4 BILL OF MATERIALS

The goal of this task is to create a Bill of Materials which identifies all equipment and materials required for the Demonstration Project.

The Recipient shall:

- Prepare and provide a *Bill of Materials* for the demonstration project that includes but is not limited to:
 - A description of each item;
 - Test protocols and codes applicable to each item;
 - Cost estimates or bids for each item;
 - Key materials of construction;
 - Required suppliers; and
 - Supply scope for each component.

Products:

- Bill of Materials (no draft)

TASK 5 PYROLYSIS EQUIPMENT AND MATERIALS PROCUREMENT

The goals of this task are to finalize the design specifications for a pyrolysis unit for the selected demonstration site, and to purchase the pyrolysis unit.

The Recipient shall:

- Finalize the required capacity of the pyrolysis unit with a pyrolysis equipment supplier. Sizing will be finalized based on available organic waste feedstock and the capacity of the selected demonstration site.
- Purchase all equipment and materials needed for the pyrolysis unit.
- Provide a *Notification Letter on Pyrolysis Equipment and Materials Procurement* to the CPM. The letter will include but not be limited to written documentation that the equipment and materials are ready for shipment and installation, the installation start date, and photographs of the pyrolysis equipment and materials.

Products:

- Notification Letter on Pyrolysis Equipment and Materials Procurement (no draft)

TASK 6 INSTALLATION CONTRACTOR SELECTION

The goal of this task is to select the installation contractor for the Demonstration Project.

The Recipient shall:

- Prepare an installation contractor bid package that includes but is not limited to:
 - Demonstration installation requirements;
 - Detailed demonstration P&IDs
 - Detailed Bill of Materials;
 - Demonstration layout drawings and general arrangements;
 - Electrical design requirements;
 - Operation control philosophy;
 - Supply scope matrix; and
 - Requirements for support during the commissioning and startup of the Demonstration Project.
- Define Contractor selection criteria.
- Select an installation contractor based on the selection criteria.
- Execute an agreement with and the selected contractor.
- Provide the CPM with a Notification Letter on Selection of the Installation Contractor .

Products:

- Notification Letter on Selection of the Installation Contractor Selection (no draft)

TASK 7 GENERAL EQUIPMENT AND MATERIALS PROCUREMENT

The goal of this task is to purchase all remaining equipment and materials outside of the pyrolysis unit for the Demonstration Project.

The Recipient shall:

- Purchase all materials and equipment as defined in the Bill of Materials.
- Provide a *Notification Letter on Purchase of Equipment and Materials* to the CPM. The letter shall include but is not limited to written documentation that the equipment and materials are ready for shipment and installation; and the date such installation shall begin, and shall include photographs.

Products:

- Notification Letter on Purchase of Equipment and Materials (no draft)

TASK 8 EQUIPMENT SKID FABRICATION

The goal of this task is to fabricate and assemble all of the equipment skids and equipment containers necessary for the Demonstration Project.

The Recipient shall:

- Contract with a California-based fabrication company to fabricate and assemble necessary demonstration equipment skids and containers.
- Oversee the company's construction of pre-engineered equipment skids/containers associated with the Demonstration Project.
- Provide a *Notification Letter on Skid Fabrication Completion* to the CPM. The letter will include but not be limited to: written documentation that the equipment skids are assembled and tested, the installation date, and photographs of the skids.

Products:

- Notification Letter on Skid Fabrication Completion (no draft)

TASK 9 DEMONSTRATION SITE CONSTRUCTION AND INSTALLATION

The goal of this task is to install and commission all necessary equipment associated with the Demonstration Project.

The Recipient shall:

- Oversee the fabrication company's construction of the pre-engineered equipment skids associated with the Demonstration Project.
- Contract with a general contractor to perform all site work associated with

- Manage all site work performed by the selected general contractor and its subcontractors. This includes but is not limited to:
 - Site mobilization;
 - Site preparation for civil works and construction;
 - Pyrolysis equipment installation;
 - Siting of a pilot anaerobic digester; and
 - Commissioning and startup of demonstration system.
- Facilitate any construction change orders.
- Manage the project budget and inform the CPM of any budget issues.
- Provide a *Notification Letter on Construction Completion* to the CPM. The letter will include but not be limited to written documentation that the Demonstration Project is ready for operation and test plan initiation, the operation and test plan start date, and photographs of the completed installation.

Products:

- Notification Letter on Construction Completion (no draft)

TASK 10 TEST PLANS AND DEMONSTRATION TRIALS

The goal of this task is to develop and execute a Test Plan for the technical assessment of the Demonstration Project.

The Recipient shall:

- Prepare a *Demonstration Test Plan* that includes but is not limited to:
 - A description of the process to be tested
 - A rationale for the need for each test
 - Predicted performance based on calculation, analyses, or previous work
 - Discrete test pass criteria
 - Test objectives and technical approach
 - A test matrix showing the number of test conditions and replicated runs
 - A description of the facilities, equipment, and instrumentation required to conduct each of the tests
 - A description of test procedures, including parameters to be controlled and how they will be controlled; parameters to be measured and instrumentation to measure them; calibration procedures to be used; recommended calibration interval; and maintenance of the test log
 - A description of the data analysis procedures
 - A description of the quality assurance procedures
 - Contingency measures to be considered if the test objectives are not met
 - A baseline and active Test Plan schedule, identifying the sequencing of discrete tests; and
 - Site activity log during each of the discrete tests, to identify potential causes of abnormal site operation.

- Prepare monthly *Demonstration Test Progress Reports*, which will be included in the monthly project progress report. The Progress Reports will include but not be limited to:
 - The Test Plan;
 - Test results;
 - Analysis;
 - Conclusions and recommendations;
 - Photographs as appropriate;
 - Pertinent data trending and comparisons;
 - A discussion of increases in the digester biogas representing amount of potential vehicle fuel that can be derived from pyrolyzing and digesting green wastes and biomass; and
 - Cumulative amount of GHG emission reductions.

Products:

- Draft Demonstration Test Plan
- Final Demonstration Test Plan
- Demonstration Test Progress Reports (to be included in the monthly Progress Reports)

TASK 11 DATA COLLECTION AND ANALYSIS

The goals of this task are to collect operational data, analyze it for economic and environmental impacts, and include the data and analysis in the Final Report.

The Recipient shall:

- Develop a *Data Collection Test Plan* based on input from the CPM. The plan will include but not be limited to a discussion of the following:
 - Energy savings and estimated cost savings;
 - Greenhouse gas reductions; and
 - Other non-energy benefits.
- Provide data on potential job creation, market potential, economic development, and increased state revenue as a result of expected future expansion.
- Provide an estimate of the project's energy savings and other benefits and potential statewide energy savings once market potential has been realized.
- Compare project performance and expectations provided in the proposal with actual project performance and accomplishments.
- Prepare a *Data Analysis Report*.

Products:

- Data Collection Test Plan
- Draft Data Analysis Report
- Final Data Analysis Report

TASK 12 TECHNOLOGY TRANSFER ACTIVITIES

The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to key decision-makers.

The Recipient shall:

- Prepare a *Technology Transfer Plan* that explains how the knowledge gained in this project will be made available to the public. The level of detail expected is least for research-related projects and highest for demonstration projects. Key elements from this report will be included in the Final Report.
- Conduct technology transfer activities in accordance with the Technology Transfer Plan. These activities will be reported in the Monthly Progress Reports.
- Indicate the intended use(s) for and users of the project results.

Products:

- Draft Technology Transfer Plan
- Final Technology Transfer Plan

TASK 13 PRODUCTION READINESS PLAN

The goal of the plan is to determine the steps that will lead to the manufacturing of the technologies developed in this project or to the commercialization of the project's results.

The Recipient shall:

- Prepare a *Production Readiness Plan*. The degree of detail in the plan should be proportional to the complexity of producing or commercializing the proposed product and its state of development. As appropriate, the plan will include but not be limited to a discussion of the following:
 - Critical production processes, equipment, facilities, personnel resources, and support systems needed to produce a commercially viable product;
 - Internal manufacturing facilities, supplier technologies, capacity constraints imposed by the design under consideration, design-critical elements, and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes";
 - A projected "should cost" for the product when in production;
 - The expected investment threshold to launch the commercial

- product; and
- An implementation plan to ramp up to full production.

Products:

- Draft Production Readiness Plan
- Final Production Readiness Plan

GRANTS/CONTINGENT AWARD REQUEST



To: Grants and Loans Office

Date: 2/27/2013

Project Manager: David Effross

Phone Number: 916-327-1314

Office: Energy Generation Research Office

Division: Energy Research and Development

MS- 43

Project Title: Green Waste to Renewable Natural Gas by PyroBioMethane

Type of Request: (check one)

Form for New Agreement with fields for Program, Solicitation Name, Recipient Name, Address, Project Officer, and Agreement Dates.

Form for Amendment with checkboxes for Term Extension, Work Statement Revision, Budget Revision, Change of Scope, and Other.

ITEMS TO ATTACH WITH REQUEST:

- List of items to attach: A. Work Statement, B. Budget, C. Recipient Resolution, D. Special Conditions, E. CEQA Compliance Form, F. Other Documents.

California Environmental Quality Act (CEQA)

Form for CEQA compliance with checkboxes for CEC finds, project exemption, and CEQA finding.

Funding Information:

Form for funding information with fields for Source #1, #2, #3, Amount, Statute, FY, and Budget List #.

If federally funded, specify federal agreement number:

* Source Examples include ERPA, PIER-E, PIER-NG, FED, GRDA, ARFVT, OTHER.

Business Meeting Approval: (refer to Business Meeting Schedule)

Form for Business Meeting Approval with fields for Date, Participant, and Time Needed, plus Consent/Discussion checkboxes.

Agenda Notice Statement: (state purpose in layperson terms)

Possible approval of a Grant / Contingent Award to... ANAERGIA SERVICES LLC. Possible approval of Agreement PIR-12-002 with Anaergia Services for \$395,121 to fund a demonstration project...

Award Number: PIR-12-002Date: 3 / 15 / 2013

Note: The Energy Commission Project Managers Manual includes detailed instructions on how to complete this section, with examples of grants that are “Projects” and are not “Projects”. When the Project Manager is completing this section, if questions arise as to the appropriate answers to the questions below, please consult with the Energy Commission attorney assigned to review grants or loans for your division.

1. Is grant/loan considered a “Project” under CEQA? Yes (skip to question #2) No (continue with question #1)

Please complete the following: [Public Resources Code (PRC) 21065 and 14 California Code of Regulations (CCR) 15378]:

Explain why the grant/loan is **not** considered a “Project”? The grant/loan will not cause a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because grant/loan involves:

2. If grant/loan is considered a “Project” under CEQA: (choose either **IS** or **IS NOT**)

Grant/loan **IS** exempt:

Statutory Exemption: (List PRC and/or CCR section numbers) _____

Categorical Exemption: (List CCR section number) 14 CCR 15303

Common Sense Exemption. (14 CCR 15061(b)(3))

Explain reason why the grant/loan is exempt under the above section:

Class 3 – New construction of limited small new facilities; installation of small, new equipment and facilities in small structures; and conversion of the use of small existing structures (e.g., construction of three or fewer single-family homes in urban areas)

Please attach draft Notice of Exemption (NOE). Consult with the Energy Commission attorney assigned to your division for instructions on how to complete the NOE.

- Grant/loan **IS NOT** exempt. The Project Manager needs to consult with the Energy Commission attorney assigned to your division and the Siting Office regarding a possible initial study.

To: Office of Planning and Research
PO Box 3044, 1400 Tenth Street, Room 222
Sacramento, CA 95812-3044

From: California Energy Commission
1516 Ninth Street, MS-48
Sacramento, CA 95814

Project Title: Green Waste to Transportation Fuel by PyroBioMethane

Project Location – Specific: To be determined.

Project Location – City: _____ Project Location – County: _____

Description of Project:

This project involves the construction and testing of a demonstration unit that uses pyrolysis to convert “green” waste such as leaves and yard trimmings to natural gas. The project will also involve data collection, analysis, and technology transfer activities.

Name of Public Agency Approving Project: California Energy Commission

Name of Person or Agency Carrying Out Project: Anaergia Services

Exempt Status: (check one)

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number 14 CCR 15303
- Statutory Exemptions. State code number. _____
- Common Sense Exemption. 15061(b)(3)

Reasons why project is exempt:

The project involves construction and installation activities that will not result in a significant environmental impact.

Lead Agency

Contact Person: David Effross Area code/Telephone/Ext: 916-327-1314

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ Date: _____ Title: _____

Signed by Lead Agency

Signed by Applicant

Date received for filing at OPR: _____