



To: Grants and Loans Office

Date: 4 / 17 / 2012

Project Manager: Hieu Nguyen

Phone Number: (916) 654-4163 ext.

Office: Emerging Fuels and Technologies

Division: Fuels and Transportation

MS- 27

Project Title: SacPort Renewable Diesel Pilot Project

Type of Request: (check one)

New Agreement: (include items A-F from below) Agreement Number: Assigned by the G&L Office

Program: Alternative and Renewable Fuel and Vehicle Technology Program

Solicitation Name and/or Number: Biofuels Production Facilities (PON-11-601)

Legal Name of Recipient: SacPort Biofuels Corporation

Recipient's Full Mailing Address: 221First Street
Davis, CA 95616

Recipient's Project Officer: Laura Carroll Phone Number: (530) 759-9827 ext. 508

Agreement Start Date: 6 / 30 / 2012 Agreement End Date: 3 / 1 / 2015

Amendment: (Check all that apply) Agreement Number: _____

Term Extension – New End Date: _____ / _____ / _____

Work Statement Revision (include Item A from below)

Budget Revision (include Item B from below)

Change of Scope (include Items A – F as applicable from below)

Other: (Specify) _____

ITEMS TO ATTACH WITH REQUEST:

- A. Work Statement
- B. Budget
- C. Recipient Resolution, if applicable. (Resolution may be requested in Special Conditions if not currently available.)
- D. Special Conditions, if applicable.
- E. CEQA Compliance Form
- F. Other Documents as applicable
 - Copy of Score Sheets
 - Copy of Pre-Award Correspondence
 - Copy of All Other Relevant Documents

California Environmental Quality Act (CEQA)

CEC finds, based on recipient's documentation in compliance with CEQA:

Project exempt: _____ NOE filed: _____ / _____ / _____

Environmental Document prepared: Type NOD filed: _____ / _____ / _____

Other: Explain _____

CEC has made CEQA finding described in CEC-280, attached

Funding Information:

*Source #1: ARFVTP Amount: \$ 5,000,000.00 Statute: 2011 FY: 11/12 Budget List #: 601.118D

*Source #2: _____ Amount: \$ _____ Statute: _____ FY: _____ Budget List #: _____

*Source #3: _____ Amount: \$ 0.00 Statute: _____ FY: _____ 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)

Proposed Business Meeting Date: 5 / 31 / 2012 Consent Discussion

Business Meeting Participant: Hieu Nguyen Time Needed: (5 minutes)

Agenda Notice Statement: (state purpose in layperson terms)

Possible approval of a Grant / Contingent Award to...

SacPort Biofuels Corporation in the amount of \$5,000,000 to develop, build, validate, and test a pilot facility to demonstrate an innovative Fischer-Tropsch process for the production of renewable diesel from locally sourced municipal solid waste. The project will be located in West Sacramento, CA and will produce up to 365,000 gallons of renewable diesel annually.

Project Manager _____ Date _____ Office Manager _____ Date _____ Deputy Director _____ Date _____

EXHIBIT A

Scope of Work

TASK LIST

Task #	CPR	Task Name
1	N/A	Agreement Management
2		Detailed Engineering Design and Site Design
3		Pre-Construction
4	X	Construction
5		System Commissioning
6		Operations
7		Data Collection and Analysis

KEY NAME LIST

Task #	Key Personnel	Key Subcontractors	Key Partners
1	Val Toppenberg –	Sierra Energy	
2	Laura Carroll	Sierra Energy	
3	Val Toppenberg Laura Carroll	Sierra Energy	
4	Val Toppenberg	Sierra Energy	
5		Sierra Energy Velocys	
6	Val Toppenberg	Sierra Energy	
7	SacPort	Sierra Energy	

GLOSSARY

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

Term/Acronym	Definition
ARFVT	Alternative and Renewable Fuel and Vehicle Technology
CAM	Energy Commission Agreement Manager
CPR	Critical Project Review
Energy Commission	California Energy Commission
FT	Fischer-Tropsch
FTD	Fuels and Transportation Division
Recipient	SacPort Biofuels Corporation

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Background:

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program). The statute, subsequently amended by AB 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. 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;
- Decrease, on a full fuel cycle basis, the overall impact and carbon footprint of alternative and renewable fuels and increase sustainability;
- Expand fuel infrastructure, fueling 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 California Energy Commission issued solicitation PON-11-601 for Advanced Biofuel Production to provide funding opportunities under the ARFVT Program for the development of new, California-based biofuel production facilities that can sustainably produce low carbon transportation fuels, for new, low carbon facilities, or for projects that lower the carbon intensity of fuels produced at existing facilities. To be eligible for funding under PON-11-601, the projects must also be consistent with the Energy Commission's ARFVT Program Investment Plan updated annually.

In response to PON-11-601, Recipient submitted application # 53, which was proposed for funding in the Energy Commission's Notice of Proposed Awards, Round 1 on March 23, 2012, and is incorporated by reference to this Agreement in its entirety.

Problem Statement:

Transportation fuels are an essential piece of the sustainable future envisioned by the Global Warming Solutions Act of 2006 (Assembly Bill 32, Núñez, Chapter 488, Statutes of 2006). Diesel is the only petroleum-based transportation fuel source that is expected to increase in California. A renewable, non-fossil sourced petroleum fuel alternative is essential to meet the growing demand for diesel and help California reach its environmental goals.

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Fischer-Tropsch (FT) has long been considered a viable option for producing renewable fuels from a syngas comprised of carbon monoxide and hydrogen. The most common method for producing syngas for the FT process has been steam-methane-reformation, which uses natural gas, a fossil fuel. However this process carries a large carbon footprint, as it relies on a non-carbon source. If syngas can be produced from renewable feedstock (with a neutral life-cycle carbon footprint), the same quality of fuel can be produced without the negative carbon impact, deeming the product “renewable diesel.”

Goals of the Agreement:

The goals of this agreement are to:

- Demonstrate the possibility of sourcing raw material and producing and using a renewable diesel fuel all within a 20-mile radius.
- Help transform California’s renewable fuels market by creating and testing a new process for producing ultra-low-carbon FT diesel from renewable feedstock.
- Design, develop, and demonstrate the effectiveness and economic feasibility of a waste-to-renewable FT diesel generation system.
- Engineer and develop a flexible and scalable system to accommodate a variety of feedstock sources and different fuel-generation or waste-processing capacities.
- Assist the state in achieving and exceeding its progressive environmental goals under AB 32 and the Low Carbon Fuel Standard by providing significant greenhouse gas emission benefits, as the fuel produced is expected to be carbon negative on a well-to-wheels life cycle analysis.
- Create green collar jobs in West Sacramento, an economically distressed area and designated Enterprise Zone.
- Maintain the integrated, multi-faceted project site for outreach and educational tours for state policymakers and decision-makers, as well as a training center for sustainable fuel advancement.
- Making progress to help ultimately displace up to 50% of total demand for non-renewable, unsustainable diesel throughout California by 2050.
- Proving the system sufficiently to help support the deployment of at least 180 systems by 2020.

Objectives of the Agreement:

The objective of this agreement is to develop, build, validate, and test a pilot facility to demonstrate an innovative and cost-effective process to produce renewable FT diesel from waste sourced from local municipal solid waste streams, a renewable and plentiful feedstock. Recipient will ramp up to commercial operations by the end of the Agreement. Additional objectives include:

- Produce up to 55 gallons of renewable diesel per ton of waste biomass.
- Replacing 365,000 gallons of petroleum diesel use in California with renewable FT diesel produced by the demonstration system.

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- Showing the diversity of waste-based feedstocks that can produce clean, sustainable, ultra-low carbon FT diesel, verifying at least three types of waste feedstock within the first year of operation.
- Following the commissioning phase, achieving revenue generation within the first month of operation pending federal renewable energy (RIN) credits.
- Providing a center for sustainable fuel development, production, and advancement.
- Providing engineering and design experience to reduce costs and enhance manufacturing capabilities of future systems by at least 20%.
- Creating 20 immediate new living-wage jobs in West Sacramento and an additional 30 full-time jobs during the construction phase.

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 Recipient shall:

- Attend a “Kick-Off” meeting with the Commission Agreement Manager (CAM), 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. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the CAM 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).
 - Permit documentation required (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 CAM’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 CAM shall designate the date and location of this meeting.

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Recipient Products:

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

CAM 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 Energy Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Technical Task List above. However, the CAM may schedule additional CPRs as necessary, and any additional costs will be borne by the Recipient.

Participants include the CAM and the Recipient and may include the Commission Grants Officer, the Fuels and Transportation Division (FTD) team 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. 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 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 the Terms and Conditions, Section 8). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Transportation Committee for its 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.

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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 projects. 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 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 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)
 - "Surviving" Agreement provisions

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- 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 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 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 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

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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 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.
- Prepare a Final Report following the approved outline and 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 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 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

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- 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 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 the 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.

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.

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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 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 the 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 the 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)

Task 1.8 Manage 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. It will also provide the Energy Commission an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, that the budgeted expenditures are reasonable and consistent with applicable cost principles.

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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 Recipient decides to add new subcontractors, it shall notify the Commission Agreement Manager.

Products:

- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2: DETAILED ENGINEERING DESIGN AND SITE DESIGN

Task 2.1: Process Design

The goal of this task is to finalize process and plant design.

The Recipient shall:

- Obtain turnkey process design engineers to design plant and integrate technologies.
- Finalize engineering detail design plans, specifications, and estimates based on the initial feasibility engineering study previously prepared by a third-party engineering group for Recipient.
- Prepare and submit a letter confirming the final engineering detail design plans, specifications, and estimates for the process and plant design have been completed.

Products:

- Letter confirming completion of final engineering detail design plans, specifications, and estimates

Task 2.2: Equipment Fabrication and Delivery

The goal of this task is to develop an equipment list and initiate equipment procurement.

The Recipient shall:

- Develop and submit an equipment list and procurement schedule. The equipment list shall provide:

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- Name of item
- Make, model, size, capacity, or other appropriate details for item
- Name of entity that will be carrying out the purchase and/or installation of the item
- Estimated cost to purchase and install the item
- Procurement schedule for equipment fabrication and installation

Products:

- Equipment list and procurement schedule

Task 2.3: Detail Design and Site Preparation

The goal of this task is to complete the design for site civil and utilities and to secure a general contractor to begin construction planning.

The Recipient shall:

- Prepare site plans, including utilities, geotechnical, foundation, roads, and building designs and concrete cost estimates.
- Prepare the site, build required structures, prepare pads for equipment and install all equipment.
- Develop and submit a construction schedule and timeline.
- Prepare and submit a letter confirming the site plans have been completed.

Products:

- Letter confirming completion of site plans
- Construction schedule and timeline

TASK 3: PRE-CONSTRUCTION

The goal of this task is to complete the land agreement and feedstock contracts necessary to begin construction of the facility.

The Recipient shall:

- Obtain and submit a copy of feedstock supplier contract(s).
- Finalize and sign already-established land agreement with Port of West Sacramento and prepare and submit a Land Agreement Letter confirming execution of the Land Agreement and summarizing its terms, and documenting its value to the project.
- Prepare and submit a Written Notification of Readiness to Construct stating that the project has obtained all permits, third party agreements, binding construction and equipment bids, and all other items necessary to begin construction.
- Update and submit construction timeline to incorporate authority to construct.

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Products:

- Feedstock supplier contract(s)
- Land agreement letter
- Written Notification of Readiness to Construct
- Updated construction timeline

TASK 4: CONSTRUCTION

The goal of this task is to complete the site development and process equipment procurement and installation for the waste-biomass to renewable diesel production facility according to the construction schedule and to prepare the facility for demonstration and operation.

The Recipient shall:

- Procure all necessary equipment for the facility.
- Construct the facility, including:
 - Site preparation: foundation work and utility installation
 - Feedstock pre-processing system
 - Gasification system and supporting utilities and control
 - Syngas cleaning and upgrading system
 - Fischer-Tropsch reactor system
 - Fuel storage
 - Integration, mechanical, and electrical work
- Prepare and submit a letter confirming completion of the equipment procurement and installation of the renewable diesel production facility

Products:

- Letter confirming completion of the equipment procurement and installation of the renewable diesel production facility

TASK 5: SYSTEM COMMISSIONING

Task 5.1: Commission Equipment and Conduct Sensitivity Analysis

The goal of this task is to commission the system equipment and optimize system parameters using sensitivity analysis.

The Recipient shall:

- Commission process equipment in order to complete controls automation and train operation staff.
- Conduct sensitivity analysis on range of parameters to develop an Optimization Study on the following parameters:
 - Feedstock pre-processing schedule
 - Feedstock consistency and feed rate
 - Fuel production and quality

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- Prepare and submit the Optimization Study Report summarizing the results of the Optimization Study including the parameters above.

Products:

- Optimization Study Report

Task 5.2: Source Testing and Approval to Operate

The goal of this task is to qualify the end product and obtain the final approval to operate.

The Recipient shall:

- Conduct source testing and other data testing to obtain final approval to operate from the Yolo-Solano Air Quality Management District.
- Prepare Written Notification of Pilot Operation for submission to the CAM, which will contain the following elements:
 - The date the project achieved pilot operation
 - A narrative on the current status of the project and initial operations
 - Any changes made from the project as originally proposed and reasons for those changes

Products:

- Written Notification of Pilot Operation

TASK 6: OPERATIONS

The goal of this task is to consistently produce renewable diesel to offset petroleum-based diesel use in California, initiate the sale of valuable co-byproducts, and begin business operations.

The Recipient shall:

- Include in the monthly progress report, for the period beginning with the start of pilot operations, the following information:
 - Narrative on operational highlights from previous month, including stoppages in production and statement as to the project's compliance with regulatory requirements.
 - The total amount of fuel produced on a monthly basis
 - The total amount of feedstock received and processed on a monthly basis
 - Conversion ratio for feedstock to fuel production
 - The direct operation costs of the project

Products:

- None. Data from this task is included in the Monthly Progress Report (Task 1.4)

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TASK 7: DATA COLLECTION AND ANALYSIS

The goal of this task is to collect and analyze operational data to determine the economic viability and environmental impact of the project, and include the data and analysis in the Final Report.

The Recipient Shall:

- Collect a minimum of six months of operational data from the fuel production system to include:
 - time operating (up and down time),
 - efficiency of conversion of feedstock,
 - biofuel production rate,
 - quality and quantity of fuel produced,
- Estimate gasoline and/or petroleum-based diesel fuel that will be displaced annually.
- Explain how the project will reduce criteria air pollutants and air toxics and reduce or avoid multimedia environmental impact, and lead to a decrease, on a life cycle basis, in emissions of water pollutants or any other substances known to damage human health or the environment.
- Explain how the project incorporated and achieved the sustainability goals (20 CCR 3101.5).
- Provide a quantified estimate of the project's carbon intensity values for life-cycle scale 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 revenue.
- 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

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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:

- None. Information from this task will be included in the Final Report.