





# California Energy Commission October 08, 2025 Business Meeting Backup Materials for Verne Inc.

The following backup materials for the above-referenced agenda item are available in this PDF packet as listed below:

- 1. Proposed Resolution
- 2. Grant Request Form
- 3. Scope of Work

**RESOLUTION NO: 25-1008-XX** 

#### STATE OF CALIFORNIA

# STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

**RESOLUTION: Verne Inc.** 

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

**RESOLVED**, that the CEC approves agreement EPC-25-026 with Verne Inc. for a \$3,998,616 grant. The project will design, build and demonstrate a low-cost hydrogen distribution method to supply zero-emission electricity to California ratepayers facing grid supply constraints. This new method of distribution, using cryo-compressed hydrogen technology, doubles the capacity of hydrogen gas trailers without incurring the cost and boil-off losses that come with liquid hydrogen deliveries, thereby unlocking cost-effective hydrogen delivery for end-users that wish to receive on-demand electricity using hydrogen-to-power equipment; and

**FURTHER BE IT RESOLVED**, that the Executive Director or their designee shall execute the same on behalf of the CEC.

### **CERTIFICATION**

The undersigned Secretariat to the CEC 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 CEC held on October 08, 2025.

AYE: NAY: ABSENT: ABSTAIN:		
	Dated:	
	Kim Todd Secretariat	



# STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION

### **GRANT REQUEST FORM (GRF)**

### A. New Agreement Number

**IMPORTANT**: New Agreement # to be completed by Contracts, Grants, and Loans Office.

**New Agreement Number**: EPC-25-026

#### **B.** Division Information

1. Division Name: ERDD

2. Agreement Manager: Heriberto Rosales

3. MS-:None

4. Phone Number: 916-653-1646

# C. Recipient's Information

1. Recipient's Legal Name: Verne Inc.

# D. Title of Project

Title of project: Bringing Rapid Innovation to Distributed Green Energy with Cryo-Compressed Hydrogen

#### E. Term and Amount

Start Date: 11/21/2025
 End Date: 2/10/2030
 Amount: \$3,998,616.00

# F. Business Meeting Information

- 1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
- 2. The Proposed Business Meeting Date: 10/8/2025.
- 3. Consent or Discussion? Discussion
- 4. Business Meeting Presenter Name: Lindsey Fransen
- 5. Time Needed for Business Meeting: 15 minutes.
- 6. The email subscription topic is: Electric Program Investment Charge (EPIC)

### **Agenda Item Subject and Description:**

**Verne Inc.** Proposed resolution approving agreement EPC-25-026 with Verne Inc. for a \$3,998,616 grant and adopting staff's recommendation that this action is exempt from the California Environmental Quality Act (CEQA). The project will design, build and demonstrate a low-cost hydrogen distribution method to supply zero-emission electricity to California ratepayers facing grid supply constraints. This new method of distribution using cryo-compressed hydrogen technology doubles the capacity of hydrogen gas trailers without incurring the cost and boil-off losses that come with liquid hydrogen deliveries, thereby unlocking cost-effective hydrogen delivery for end-users that wish to receive on-demand electricity using hydrogen-to-power equipment. (EPIC funding) Contact: Heriberto Rosales

# G. California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?

Yes

If yes, skip to question 2.



If no, complete the following (PRC 21065 and 14 CCR 15378) and 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 answer the following questions.

a) Agreement IS exempt?

Yes

### **Statutory Exemption?**

No

If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

PRC section number:

CCR section number:

### **Categorical Exemption?**

Yes

If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

CCR section number: 15301

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

Nο

If yes, explain reason why Agreement is exempt under the above section. If no, enter "Not applicable" and go to the next section.

The CEQA exemption under California Code of Regulations, title 14, section 15301, Existing Facilities, applies. Section 15301 covers the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. This project involves the designing and building of a mobile cryo-compressed hydrogen distribution platform. Both design and build activities will take place in existing research facilities. The mobile cryo-compressed hydrogen distribution platform will then be temporarily demonstrated at existing facilities in Long Beach, California, without the need for additional construction. The deployment of this fueling system is not expected to increase activity at the demonstration site beyond normal. Hydrogen safety rules will be followed, according to a hydrogen safety plan.

The project will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not



included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

## b) Agreement IS NOT exempt.

**IMPORTANT:** consult with the legal office to determine next steps.

No

If yes, answer yes or no to all that applies. If no, list all as "no" and "None" as "yes".

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes

### H. Is this project considered "Infrastructure"?

No

#### I. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter "No subcontractors to report" and "0" to funds. **Delete** any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
Mainspring Energy, Inc.	\$1,389,770	\$0
WestAir Gases & Equipment, Inc.	\$0	\$158,000
Cool OC	\$11,000	\$0

# J. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter "No vendors or sellers to report" and "0" to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
No vendors to report	\$	\$

# K. Key Partners



CALIFORNIA ENERGY COMMISSION

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

# Key Partner Legal Company Name No key partners to report

# L. Budget Information

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	24-25	301.001L	\$ 3,998,616

**TOTAL Amount:** \$ 3,998,616

R&D Program Area: TIEB: EDMF

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: 101

# M. Recipient's Contact Information

## 3. Recipient's Administrator/Officer

Name: Pat Donley

Address: 115 Stillman Street

City, State, Zip: San Francisco, CA 94107

Phone: 440-221-0947

E-Mail: pat.d@verneh2.com

## 1. Recipient's Project Manager

Name: Bav Roy

Address: 115 Stillman Street

City, State, Zip: San Francisco, CA 94107

Phone: 408-410-4270

E-Mail: bav@verneh2.com

### N. Selection Process Used

There are three types of selection process. List the one used for this GRF.

Selection Process	Additional Information
Competitive Solicitation #	GFO-23-318



First Come First Served Solicitation #	Not applicable
Other	Not applicable

## O. Attached Items

1. List all items that should be attached to this GRF by entering "Yes" or "No".

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	Yes

# **Approved By**

Individuals who approve this form must enter their full name and approval date in the MS Word version.

**Agreement Manager:** Heriberto Rosales

**Approval Date: 8/27/2025** 

**Branch Manager:** Anthony Ng **Approval Date:** 08/29/2025

**Director:** Anthony Ng for Jonah Steinbuck

**Approval Date:** 08/29/2025

#### I. TASK ACRONYM/TERM LISTS

## A. Task List

Task #	CPR <sup>1</sup>	Task Name
1		General Project Tasks
2		Design the CcH <sub>2</sub> Trailer Filling Station and CcH <sub>2</sub> -to-Power Equipment
3		Procure and Build Equipment for CcH <sub>2</sub> Trailer & Filling Station and CcH <sub>2</sub> -to-Power Equipment
4	Х	Install and Commission the Equipment at Project Partner Site
5	Х	Run the Commercial Demonstration of CcH <sub>2</sub> Trailer Filling Station and CcH <sub>2</sub> -to-Power Equipment
6	Х	Develop Post-Demonstration Plan to Continue Benefiting California Ratepayers
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

### B. Acronym/Term List

Acronym/Term	Meaning
CAD	Computer-Aided Design
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CcH <sub>2</sub>	Cryo-Compressed Hydrogen (cold pressurized hydrogen gas in the super-
	critical state, as first discovered by Lawrence Livermore National Lab in
	Livermore, CA, USA)
CPR	Critical Project Review
HAZOP	Hazard and Operability Study
IOU	Investor-owned utility, an electrical corporation as defined in California
	Public Utilities Code section 218.
kWh	Kilowatt-Hour
TAC	Technical Advisory Committee

# II. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES

### A. Purpose of Agreement

The purpose of this Agreement is to fund the design, build and demonstration of a low-cost hydrogen distribution method to supply zero-emission electricity to California electric customers facing grid supply constraints in IOU service territories. This new method of distribution using

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<sup>&</sup>lt;sup>1</sup> Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

cryo-compressed hydrogen technology doubles the capacity of hydrogen gas trailers without incurring the cost and boil-off losses that come with liquid hydrogen deliveries, thereby unlocking cost-effective hydrogen delivery for end-users that wish to receive on-demand electricity using hydrogen-to-power equipment.

#### B. Problem/ Solution Statement

#### **Problem**

With increased electrification across the grid, truck fleets and other commercial electricity users are struggling to receive adequate electricity supply that is timely, reliable and affordable and this is preventing them from achieving their sustainability goals and meeting California's regulatory requirements. For example, the adoption of battery-electric trucks is often delayed by the lengthy timelines for grid upgrades, especially where a new or upgraded substation is required. Additionally, electrification of vehicles places an even higher burden on electricity availability and so there is a need for a flexible and sustainable backup electricity solution that can supply electricity when the grid is down or facing peak-power pricing.

Hydrogen is increasingly being delivered and converted to electricity to supply fleets that are facing this challenge. For example, Amazon received green liquid hydrogen from Plug Power to provide electricity (via a Plug fuel cell) to power its fleet of battery-electric Rivian vans. However, the high price of hydrogen is limiting its use in this application. Mainspring Energy is seeing rapid growth in its linear generator product but most of the end-users are using natural gas rather than zero-emission hydrogen due to the high cost of existing modes of hydrogen supply (compressed gas or liquid). Each of these two incumbent hydrogen distribution methods have limitations. Compression is efficient (\$0.9/kg cost) but the trailers are low in capacity (500-1000kg) and so there is a high delivery cost as well. Hydrogen liquefaction is expensive (>\$3/kg) while the trailers are high in capacity (about 3,000kg after accounting for losses). A cost-effective mode of hydrogen distribution would reduce the cost of hydrogen and make its use as an energy supply for zero-emission electricity for battery-electric vehicle charging and other applications cost-effective.

# **Solution**

This project will demonstrate a technological breakthrough in hydrogen distribution to make it a cost-effective solution for hydrogen-to-power applications. The project will demonstrate a first-of-kind Technology Readiness Level 6 cryo-compressed hydrogen distribution platform and gather real-world data on its performance and reliability in regular operations in a commercial environment. The project will prove the low-cost nature of the cryo-cooling process to convert hydrogen gas to cryo-compressed hydrogen, and it will prove the high capacity of cryo-compressed hydrogen trailers. It will also illustrate the end-to-end equipment required to deliver cryo-compressed hydrogen and convert that hydrogen to on-demand electricity to charge battery-electric vehicles.

In doing so, the project will show how new sources of zero-emission hydrogen, produced from green electrolysis, zero-emission pyrolysis and geologic sources can be cost-effectively delivered to supply electricity to commercial users with electricity demands that outpace what the grid can supply cost-effectively guickly and reliably.

Success in this project will give new zero-emission hydrogen producers the confidence to begin adopting the low-cost distribution method to deliver hydrogen from their production sites.

Success in this project will also encourage fleets and other end-users to accelerate their electrification plans, without the constraints of the timeline of upgrading local substations or other grid equipment. It will therefore greatly help improve the reliability, affordability and environmental sustainability of electricity supply. Additionally, while the knowledge from this project will apply to users across California, the specific equipment from this project will benefit disadvantaged communities suffering a high pollution burden at and around the Long Beach area.

### C. Goals and Objectives of the Agreement

### **Agreement Goals**

The goals of this Agreement are to:

- Design, build and demonstrate a sub-scale cryo-compressed hydrogen gas trailer that
  has the capacity to exceed that of all other compressed hydrogen gas trailers in the
  market, when built to full scale.
- Design, build and demonstrate a cryo-cooler that is significantly cheaper than hydrogen liquefaction at the same scale, when accounting for both capital expenses and operating expenses.
- Design, build and demonstrate equipment to supply hydrogen from a cryo-compressed hydrogen trailer to the conditions required to power a Mainspring Linear Generator to charge heavy duty battery electric equipment.
- Validate the maturity and reliability of all equipment involved.

Ratepayer Benefits:<sup>2</sup> This Agreement will result in the ratepayer benefits of greater electricity reliability, and lower costs by reducing the requirement to upgrade local substations in response to increased electrification and battery-electric truck charging, as zero-emission electricity can now be supplied in a targeted way while by-passing constrained substations. This will therefore reduce capital expenditures on the grid, reduce peak demand charges faced by end-users and provide a second source of electricity supply that is independent of the local grid network.

Technological Advancement and Breakthroughs:<sup>3</sup> This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by making the delivery of green hydrogen produced from electrolysis more cost-effective for users of hydrogen-to-power equipment. This will allow California to focus its investment less on substation upgrades and end-use sites and more on connecting new solar and wind production sites to the grid. Additionally, by creating a new cost-effective use-case for green hydrogen, the project will accelerate the commercialization of green hydrogen production in general.

#### Agreement Objectives

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<sup>&</sup>lt;sup>2</sup> California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC "Phase 2" Decision 12-05-037 at page 19, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD PDF/FINAL DECISION/167664.PDF).

<sup>&</sup>lt;sup>3</sup> California Public Resources Code, Section 25711.5(a) also requires EPIC-funded projects to lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory and energy goals.

The objectives of this Agreement are to:

- Design, build and commission a sub-scale cryo-compressed hydrogen trailer that can store 300-400kg and would store 1,500-2,000kg at full scale. This trailer should be able to provide hydrogen at the right pressure and temperature required for end-uses such as linear generators to use as its fuel input.
- Design, build and commission a 1 metric ton per day cryo-cooler at a commercial hydrogen trailer-filling facility.
- Demonstrate the performance of cryo-compressed hydrogen trailers in a relevant environment. Specific performance metrics include:
  - o 60-67 g/L hydrogen density at the outlet of the cryo-cooler
  - o 300-400 kg measured sub-scale trailer hydrogen capacity
  - 1,500 2,000 kg implied full-scale trailer hydrogen capacity (will be based on Techno-economic analysis)
  - 0.5 5% hydrogen losses from trailer fill & de-fill operations (due to venting) in steady-state operations
- Demonstrate the efficiency and reliability of cryo-cooling in a real-world, commercial operation. Specific performance metrics include:
  - 7-9 kWh of electricity consumed per kg of hydrogen-cooled
  - o 200-400 hours of operational time between maintenance intervals

#### **III. TASK 1 GENERAL PROJECT TASKS**

#### **PRODUCTS**

#### **Subtask 1.1 Products**

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V)**. All products submitted which will be viewed by the public, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations. All technical tasks should include product(s). Products that require a draft version are indicated by marking "(draft and final)" after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, "days" means working days.

#### The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Consider incorporating all CAM comments into the final product. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product.

 Submit the revised product and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period, or approves a request for additional time.

#### For products that require a final version only

• Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

#### For all products

• Submit all data and documents required as products in accordance with the following:

### <u>Instructions for Submitting Electronic Files and Developing Software:</u>

#### Electronic File Format

Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the California Energy Commission's (CEC) software and Microsoft (MS)operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
- Text documents will be in MS Word file format, version 2007 or later.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

#### Software Application Development

Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open-source programs:

- 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 CAM. The CAM will consult with the CEC's Information Technology Services Branch to determine whether the exceptions are allowable.

#### **MEETINGS**

#### Subtask 1.2 Kick-off Meeting

The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

#### The Recipient shall:

Attend a "Kick-off" meeting with the CAM, and other CEC staff relevant to the
Agreement. The Recipient's Project Manager and any other individuals deemed
necessary by the CAM or the Project Manager shall participate in this meeting. The
administrative and technical aspects of the Agreement will be discussed at the meeting.
Prior to the meeting, the CAM will provide an agenda to all potential meeting
participants. The meeting may take place in person or by electronic conferencing (e.g.,
Teams, Zoom), with approval of the CAM.

The Kick-off meeting will include discussion of the following:

- The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Terms and conditions of the Agreement;
- Invoicing and auditing procedures;
- Travel;
- Equipment purchases;
- Administrative and Technical products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Monthly Calls (subtask 1.5)
- Quarterly Progress reports (subtask 1.6)
- Final Report (subtask 1.7)
- Match funds (subtask 1.8);
- o Permit documentation (subtask 1.9);
- Subawards(subtask 1.10);
- Technical Advisory Committee meetings (subtasks 1.11 and 1.12);
- Agreement changes;
- Performance Evaluations: and
- Any other relevant topics.
- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones
  - List of potential risk factors and hurdles, and mitigation strategy
- Provide an *Updated Project Schedule, Match Funds Status Letter*, and *Permit Status Letter*, as needed to reflect any changes in the documents.

#### The CAM shall:

- Designate the date and location of the meeting.
- Send the Recipient a Kick-off Meeting Agenda.

#### **Recipient Products:**

- Kick-off Meeting Presentation
- Updated Project Schedule (if applicable)

- Match Funds Status Letter (subtask 1.7) (if applicable)
- Permit Status Letter (subtask 1.8) (if applicable)

#### **CAM Product:**

Kick-off Meeting Agenda

#### Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget may be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

#### The Recipient shall:

- Prepare and submit a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

#### The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a CPR Agenda with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda may include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. A determination of unsatisfactory progress This may result in project delays, including a potential Stop Work Order, while the CEC determines whether the project should continue.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

## **Recipient Products:**

CPR Report(s)

#### **CAM Products:**

- CPR Agenda(s)
- Progress Determination

## **Subtask 1.4 Final Meeting**

The goal of this subtask is to complete the closeout of this Agreement.

#### The Recipient shall:

Meet with CEC staff to present project findings, conclusions, and recommendations. The
final meeting must be completed during the closeout of this Agreement. This meeting will
be attended by the Recipient and CAM, at a minimum. The meeting may occur in person
or by electronic conferencing (e.g., WebEx), with approval of the CAM.

The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.

- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM of the following Agreement closeout items:
  - Disposition of any procured equipment.
  - The CEC's request for specific "generated" data (not already provided in Agreement products).
  - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
  - "Surviving" Agreement provisions such as repayment provisions and confidential products.
  - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a Schedule for Completing Agreement Closeout Activities.
- Provide copies of All Final Products organized by the tasks in the Agreement.

#### **Products:**

- Final Meeting Agreement Summary (if applicable)
- Schedule for Completing Agreement Closeout Activities
- All Final Products

### **MONTHLY CALLS, REPORTS AND INVOICES**

#### **Subtask 1.5 Monthly Calls**

The goal of this task is to have calls at least monthly between the CAM and Recipient to 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 verbally 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, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted or the CAM determines that a monthly call is unnecessary.

#### The CAM shall:

- Schedule monthly calls.
- Provide questions to the Recipient prior to the monthly call.
- Provide call summary notes to Recipient of items discussed during call.

## The Recipient shall:

- Review the questions provided by CAM prior to the monthly call
- Provide verbal answers to the CAM during the call.

#### **Product:**

Email to CAM concurring with call summary notes.

### **Subtask 1.6 Quarterly Progress Reports and Invoices**

The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

#### The Recipient shall:

- Submit a Quarterly Progress Report to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the scope of work for the reporting period, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Progress reports are due to the CAM the 10th day of each January, April, July, and October. The Quarterly Progress Report template can be found on the ECAMS Resources webpage available at: https://www.energy.ca.gov/media/4691
- Submit a monthly or quarterly *Invoice* on the invoice template(s) provided by the CAM.

#### **Recipient Products:**

- Quarterly Progress Reports
- Invoices

#### **CAM Product:**

Invoice template

#### **Subtask 1.7 Final Report**

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement.

When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

#### **Subtask 1.7.1 Final Report Outline**

#### The Recipient shall:

• Prepare a *Final Report Outline* in accordance with the *Energy Commission Style Manual* provided by the CAM.

#### **Recipient Products:**

• Final Report Outline (draft and final)

#### **CAM Products:**

- Energy Commission Style Manual
- Comments on Draft Final Report Outline
- Acceptance of Final Report Outline

#### **Subtask 1.7.2 Final Report**

#### The Recipient shall:

- Prepare a Final Report for this Agreement in accordance with the approved Final Report
  Outline, Energy Commission Style Manual, and Final Report Template provided by the
  CAM with the following considerations:
  - o Ensure that the report includes the following items, in the following order:
    - Cover page (required)
    - Credits page on the reverse side of cover with legal disclaimer (required)
    - Acknowledgements page (optional)
    - Preface (required)
    - Abstract, keywords, and citation page (required)
    - Table of Contents (required, followed by List of Figures and List of Tables, if needed)
    - Executive summary (required)
    - Body of the report (required)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a Summary of TAC Comments on Draft Final Report received on the Executive Summary. For each comment received, the Recipient will identify in the summary the following:
  - Comments the Recipient proposes to incorporate.
  - Comments the Recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.

- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

#### Products:

- Summary of TAC Comments on Draft Final Report
- Draft Final Report
- Written Responses to Comments (if applicable)
- Final Report

#### **CAM Product:**

Written Comments on the Draft Final Report

#### MATCH FUNDS, PERMITS, AND SUBAWARDS

#### **Subtask 1.8 Match Funds**

The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this Agreement and applies them to the Agreement during the Agreement term.

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

### The Recipient shall:

 Prepare a Match Funds Status Letter that documents the match funds committed to this Agreement. If no match funds were part of the application that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

If match funds were a part of the application that led to the CEC awarding this Agreement, then provide in the letter:

- A list of the match funds that identifies:
  - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
  - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the 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 must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
  - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.

- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. 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 Supplemental Match Funds Notification Letter to the CAM of receipt of additional match funds.
- Provide a Match Funds Reduction Notification Letter to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

#### **Products:**

- Match Funds Status Letter
- Supplemental Match Funds Notification Letter (if applicable)
- Match Funds Reduction Notification Letter (if applicable)

### **Subtask 1.9 Permits**

The goal of this subtask 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, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

### The Recipient shall:

- Prepare a Permit Status Letter that documents the permits required to conduct this
  Agreement. If no permits are required at the start of this Agreement, then state this in the
  letter. If permits will be required during the course of the Agreement, provide in the letter:
  - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
  - o The schedule the Recipient will follow in applying for and obtaining the permits.

The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project 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 progress reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a Copy of Each Approved Permit.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

#### **Products:**

- Permit Status Letter
- Updated List of Permits (if applicable)
- Updated Schedule for Acquiring Permits (if applicable)
- Copy of Each Approved Permit (if applicable)

#### **Subtask 1.10 Obtain and Execute Subawards and Agreements with Site Hosts**

The goals of this subtask are to: (1) procure and execute subrecipients and site host agreements, as applicable, required to carry out the tasks under this Agreement; and (2) ensure that the subrecipients and site host agreements are consistent with the Agreement terms and conditions and the Recipient's own contracting policies and procedures.

#### The Recipient shall:

- Execute and manage subawards and coordinate subrecipients activities in accordance with the requirements of this Agreement.
- Execute and manage site host agreements and ensure the right to use the project site
  throughout the term of the Agreement, as applicable. A site host agreement is not
  required if the Recipient is the site host. [CAMs- delete this bullet-point and the one
  below if there is no site host. Note that these bullet-points can also be edited for unique
  agreements such as projects with dozens of sites where it may be administratively
  burdensome to require site agreements for all sites. Please work with CCO on any
  edits.1
- Notify the CEC in writing immediately, but no later than five calendar days, if there is a reasonable likelihood the project site cannot be acquired or can no longer be used for the project.
- Incorporate this Agreement by reference into each subaward.
- Include any required Energy Commission flow-down provisions in each subaward, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subaward terms.
- Submit a Subaward and Site Letter to the CAM describing the subawards and any site
  host agreement needed or stating that no subawards or site host agreements are
  required.
- If requested by the CAM, submit a draft of each *Subaward* and any *Site Host Agreement* required to conduct the work under this Agreement.
- If requested by the CAM, submit a final copy of each executed *Subaward* and any *Site Host Agreement*.
- Notify and receive written approval from the CAM prior to adding any new subrecipient (see the terms regarding subrecipient additions in the terms and conditions).

#### **Products:**

- Subaward and Site Letter
- Draft Subawards (if requested by the CAM)
- Draft Site Host Agreement (if requested by the CAM)
- Final Subawards (if requested by the CAM)
- Final Site Host Agreement (if requested by the CAM)

#### TECHNICAL ADVISORY COMMITTEE

# **Subtask 1.11 Technical Advisory Committee (TAC)**

The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the Agreement work and other past, present, or future projects
     (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support, and relationships with a national spectrum of influential leaders.
- Ask probing questions that ensure a long-term perspective on decision-making and progress toward the project's strategic goals.

The TAC may be composed of qualified professionals spanning the following types of disciplines:

- Researchers knowledgeable about the project subject matter;
- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers:
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

#### The Recipient shall:

- Prepare a List of Potential TAC Members that includes the names, companies, physical
  and electronic addresses, and phone numbers of potential members. The list will be
  discussed at the Kick-off meeting, and a schedule for recruiting members and holding
  the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.12.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.

• Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

### **Products:**

- List of Potential TAC Members
- List of TAC Members
- Documentation of TAC Member Commitment

#### **Subtask 1.12 TAC Meetings**

The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

#### The Recipient shall:

- Discuss the TAC meeting schedule with the CAM at the Kick-off meeting. Determine the number and location of meetings (in-person and via teleconference) in consultation with the CAM.
- Prepare a TAC Meeting Schedule that will be presented to the TAC members during recruiting. Revise the schedule after the first TAC meeting to incorporate meeting comments.
- Prepare a TAC Meeting Agenda and TAC Meeting Back-up Materials for each TAC meeting.
- Organize and lead TAC meetings in accordance with the TAC Meeting Schedule.
   Changes to the schedule must be pre-approved in writing by the CAM.
- Prepare *TAC Meeting Summaries* for each TAC Meeting that include any recommended resolutions of major TAC issues.

#### The TAC shall:

- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that ensure a long-term perspective on decision-making and progress toward the project's strategic goals.
- Review and provide comments to proposed project performance metrics.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

#### **Products:**

- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)
- TAC Meeting Back-up Materials
- TAC Meeting Summaries

### **Subtask 1.13 Project Performance Metrics**

The goal of this subtask is to finalize key performance targets for the project based on feedback from the TAC and report on final results in achieving those targets. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic metrics that provide the most significant indicator of the research or technology's potential success.

#### The Recipient shall:

- Complete and submit the project performance metrics section of the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task, to the CAM
- Present the draft project performance metrics at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a TAC Performance Metrics Summary that summarizes comments received from the TAC members on the proposed project performance metrics. The TAC Performance Metrics Summary will identify:
  - TAC comments the Recipient proposes to incorporate into the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
  - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Develop and submit a Project Performance Metrics Results document describing the
  extent to which the Recipient met each of the performance metrics in the Final Project
  Benefits Questionnaire, developed in the Evaluation of Project Benefits task.
- Discuss the Project Performance Metrics Results at the Final Meeting.

#### **Products:**

- TAC Performance Metrics Summary
- Project Performance Metrics Results

#### IV. TECHNICAL TASKS

# TASK 2 DESIGN THE CCH2 TRAILER & FILLING STATION AND CCH2-TO-POWER EQUIPMENT

The goal of this task is to complete all engineering, planning, and permitting activities necessary to order components and equipment for the demonstration. This includes detailed designs, feasibility studies, and compliance with regulatory requirements.

#### The Recipient shall:

- Develop preliminary engineering designs for the CcH2 trailer and filling station, including CAD schematics, materials selection, and initial safety assessments, and submit a Preliminary Engineering Design Summary.
- Conduct simulations to assess system behavior under operational conditions, including hydrogen flow rates, cooling performance, and generator efficiency.
- Identify all regulatory permitting requirements, including safety, environmental, and operational permits, and prepare a *Permitting Roadmap*.
- Create detailed technical specifications for all major components, including pressure vessels, cryo-compression unit, filling equipment, and power generation systems.

- Conduct a HAZOP review to ensure safe system operations, with input from project partners, and create a HAZOP Summary Report
- Complete a Detailed Design Report that includes:
  - o CAD drawings and engineering specifications.
  - System performance simulation results.
  - o Identification of potential risks and mitigation strategies.
  - Compliance with relevant industry standards and codes.
- Coordinate site preparation, including:
  - Site surveys and infrastructure readiness.
  - o Delivery and staging of equipment, as documented in a Site Installation Plan.

#### **Products:**

- Preliminary Engineering Design Summary
- Permitting Roadmap
- HAZOP Summary Report (draft and final)
- Detailed Design Report (draft and final)
- Site Installation Plan (draft and final)

# TASK 3 PROCURE AND BUILD EQUIPMENT FOR CCH2 TRAILER & FILLING STATION AND CCH2-TO-POWER EQUIPMENT

The goal of this task is to procure, manufacture, and assemble all components required for the cryo-cooler, CcH2 sub-scale trailer, filling station (skid-mounted), and hydrogen-to-power system for vehicle charging. This includes quality assurance through factory acceptance testing.

#### The Recipient shall:

- Develop and issue procurement specifications for all major equipment and components, including trailer, cryo-cooler, vehicle charger, and linear generator, and submit a *Procurement and Build Plan*.
- Fabricate and assemble the CcH2 trailer and filling station (skid-mounted).
- Oversee manufacturing and quality assurance processes, including:
  - Factory acceptance testing for cryo-coolers, pressure vessels, and filling station components, and document results in a Factory Acceptance Test Results Report.
  - o Documentation of manufacturing standards and testing results.
- Build and assemble the equipment to ensure alignment with the Detailed Design Report.
- Prepare a *Build Completion Report* summarizing equipment fabrication, testing, and delivery.

#### **Products:**

- Procurement and Build Plan (draft and final)
- Factory Acceptance Test Results
- Build Completion Report (draft and final)

#### TASK 4 INSTALL AND COMMISSION THE EQUIPMENT AT PROJECT PARTNER SITE

The goal of this task is to install and commission the CcH2 trailer, filling station (skid-mounted), and cryo-compressed hydrogen-to-power system at a project partner's facility. This includes site preparation, system integration, and phased commissioning tests.

#### The Recipient shall:

- Install the cryo-cooler and filling station skid and integrate with the upstream project site gases tube trailer, the downstream Verne cryo-compressed hydrogen trailer and the far downstream linear generator and third-party vehicle charger
- Conduct a phased commissioning process:
  - Verify installation alignment with site layout plans.
  - Perform system integration tests, including hydrogen flow and cooling validation, and document them as System Functionality Test Results.
  - Conduct safety checks for pressure containment, thermal management, and emissions compliance according to a *Commissioning Plan*.
- Prepare a Site Installation and Commissioning Report summarizing:
  - o Installation activities, timeline, and resource allocation.
  - Results of system integration and safety testing.
  - o Identified challenges and solutions implemented during commissioning.
- Attend CPR meeting and draft/submit CPR Report #1.

#### **Products:**

- System Functionality Test Results
- Commissioning Plan (draft and final)
- Site Installation and Commissioning Report (draft and final)
- CPR Report #1 (draft and final)

# TASK 5 RUN THE COMMERCIAL DEMONSTRATION OF CCH2 TRAILER FILLING AND CCH2-TO-POWER EQUIPMENT

The goal of this task is to operate and evaluate the CcH2 trailer, filling station, and hydrogen-to-power system in a commercial environment. This includes collecting and analyzing performance data under varying operational conditions.

#### The Recipient shall:

- Conduct a commercial demonstration of the CcH2 trailer filling station and CcH2-topower system at project partner's facility, guided by a *Demonstration Test Plan* that details:
  - o Test objectives, procedures conditions, facilities, and equipment.
- Operate the system under varying load conditions to validate:
  - System efficiency (e.g., volumetric and gravimetric densities achieved, hydrogen consumption per kWh output).
  - o Reliability metrics, such as downtime and repair frequency.
  - o Environmental performance, including emissions and noise levels.
- Collect and analyze operational data for performance validation and include findings in an *Operational Data Summary*.
- Prepare a *Demonstration Report* summarizing:
  - o Comprehensive analysis of demonstration outcomes.
  - Comparison of real-world data to simulation predictions.
  - Recommendations for optimizing future deployments.
- Attend CPR meeting and draft/submit CPR Report #2.

#### **Products:**

Demonstration Test Plan

- Operational Data Summary
- Demonstration Report (draft and final)
- CPR Report #2 (draft and final)

# TASK 6 DEVELOP POST-DEMONSTRATION PLAN TO CONTINUE BENEFITING CALIFORNIA RATEPAYERS

The goal of this task is to create a roadmap for scaling and future deployment of the cryo-compressed hydrogen technology, ensuring long-term benefits for California ratepayers. This includes identifying opportunities, partnerships, and ongoing operational strategies.

### The Recipient shall:

- Analyze the results of the commercial demonstration to develop a *Post-Demonstration Plan* that ensures sustained benefits to California ratepayers.
- Identify and document pathways for scaling up the deployment of cryo-compressed hydrogen technology.
- Outline a *Training and Maintenance Plan* to ensure long-term system reliability and safety.
- Collaborate with stakeholders to determine if it is appropriate for the project equipment
  to be put into commercial use after the demonstration, and if yes, consider who may
  adopt the equipment from this project, subject to the EPIC Standard Grant Terms and
  Conditions. Document this in a *Project Equipment Continuity Plan*. The plan should
  include how the hydrogen-to-power equipment will be re-deployed with an end-user, and
  how the CcH2 Filling station will be re-deployed with a green hydrogen producer.
- Collaborate with community benefits partners to engage the community leveraging a framework to ensure equitable community participation in the project and deployment of the technology.
- Develop a Community Benefits Report in conjunction with community benefits partners
  that analyzes the impacts of the project on the community in terms of environmental
  justice, economic impacts and workforce impacts and identifying opportunities for
  continued improvement in community impacts.
- Scope new sites for future technology deployment, all documented in a *Stakeholder Engagement Summary*.
- Develop a strategy for public and private partnerships to support further adoption of technology.
- Attend CPR meeting and draft/submit CPR Report #3.

#### **Products:**

- Post-Demonstration Plan (draft & final)
- Training and Maintenance Plan (draft & final)
- Project Equipment Continuity Plan (draft & final)
- Community Benefits Report (draft & final)
- Stakeholder Engagement Summary
- CPR Report #3 (draft and final)

#### TASK 7 EVALUATION OF PROJECT BENEFITS

The goal of this task is to report the benefits resulting from this project.

#### The Recipient shall:

- Complete the Initial Project Benefits Questionnaire. The Initial Project Benefits Questionnaire shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the *Annual Survey* by January 31st of each year. The Annual Survey includes but is not limited to the following information:
  - Technology commercialization progress
  - New media and publications
  - Company growth
  - Follow-on funding and awards received
- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and recipient directory on the <u>Energize Innovation website</u> (www.energizeinnovation.fund), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the
  organizational profile on the CEC's public online project and recipient directory on the
  Energize Innovation website (www.energizeinnovation.fund), and provide
  Documentation of Organization Profile on EnergizeInnovation.fund, including the profile
  link.

#### **Products:**

- Initial Project Benefits Questionnaire
- Annual Survey(s)
- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

#### TASK 8 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the technological learning that resulted from the demonstration(s) is captured and disseminated to the range of professions that will be responsible for future deployments of this technology or similar technologies.

#### The Recipient Shall:

- Develop and submit a Project Case Study Plan that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The Project Case Study Plan should include:
  - An outline of the objectives, goals, and activities of the case study.
  - The organization that will be conducting the case study and the plan for conducting it.
  - A list of professions and practitioners involved in the technology's deployment.
  - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.

- Presentations/webinars/training events to disseminate the results of the case study.
- Present the draft *Project Case Study Plan* to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the draft *Project Case Study Plan*. This document will identify:
  - TAC comments the Recipient proposes to incorporate into the final *Technology Transfer Plan*.
  - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Submit the final *Project Case Study Plan* to the CAM for approval.
- Execute the final Project Case Study Plan and develop and submit a Project Case Study.
- When directed by the CAM, develop presentation materials for a CEC sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California CEC.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

#### **Products:**

- Project Case Study Plan (draft and final)
- Summary of TAC Comments
- Project Case Study (draft and final)
- High Quality Digital Photographs

#### IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.