



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
March 12, 2026 Business Meeting
Backup Materials for Prospect Silicon Valley**

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

CALIFORNIA ENERGY COMMISSION
PROPOSED RESOLUTION: Prospect Silicon Valley
RESOLUTION NO: 26-0312-XX

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-25-049 with Prospect Silicon Valley for a \$1,849,978 grant. The purpose of this project is to demonstrate an advanced, cost-competitive CO₂-based heat pump system capable of providing simultaneous heating, cooling, and domestic hot water for multifamily buildings, replacing conventional gas-fueled systems with ultra-low GWP refrigerant technology. The initiative aims to reduce first costs through modular design, validate performance through rigorous lab and field testing, and showcase grid-responsive controls for demand flexibility and energy efficiency; and

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

APPROVED AND ADOPTED this 12th day of March 2026, by the following vote:

AYE:

NAY:

ABSENT:

ABSTAIN:

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 approved and adopted by affirmative vote of the CEC at a meeting held on March 12, 2026.

Kim Todd
Secretariat



GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: EPC-25-049

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Jason Tancher
3. MS-:51
4. Phone Number: 916-776-0822

C. Recipient's Information

1. Recipient's Legal Name: Prospect Silicon Valley

D. Title of Project

Title of project: Next Generation Modular CO2 Heat Pumps for Multi-Family Buildings

E. Term and Amount

1. Start Date: 3/31/2026
2. End Date: 6/29/2029
3. Amount: \$1,849,978.00

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 3/12/2026
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Harrison Reynolds
5. Time Needed for Business Meeting: 5 minutes.
6. The email subscription topic is: Electric Program Investment Charge (EPIC)

Project Description:

Prospect Silicon Valley. Proposed resolution approving agreement EPC-25-049 with Prospect Silicon Valley for a \$1,849,978 grant and adopting staff's recommendation that this action is exempt from CEQA. This project will demonstrate an advanced, cost-competitive CO₂-based heat pump system capable of providing simultaneous heating, cooling, and domestic hot water for multifamily buildings, replacing conventional gas-fueled systems with ultra-low GWP refrigerant technology. The project aims to reduce first costs through modular design, validate performance through lab and field testing, and showcase grid-responsive controls for demand flexibility and energy efficiency. (EPIC funding) Contact: Karen Perrin

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: If not a CEQA project, provide explanation

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: None

CCR section number: None

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: CCR section number: Cal. Code Regs., tit. 14, § 15301; Cal. Code Regs., tit. 14, § 15306;

Cal. Code Regs., tit. 14, Section 15301 Existing Facilities provides that the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment or topographical features which involve negligible or no expansion of use beyond that existing at the time of the responsible agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act. This project involves the development and installation of a CO₂-based heat pump heating, cooling, and domestic hot water system in an existing laboratory at the Lawrence Berkeley National Laboratory. Once laboratory testing has concluded, the system will be installed in a multifamily building in Oakland in parallel with a standard HVAC and hot water system for purposes of comparison of the performance of the systems against each other. There will be no expansion of use of the laboratory due to the installation of the system and minimal expansion of use, and no expansion of structures, the project site beyond that in existence at the time the standard HVAC and hot water systems are installed. Therefore, this project will not have a significant effect on the environment and is exempt from CEQA under California Code of Regulations, title 14, section 15301.

Cal. Code Regs., tit. 14, Section 15306, provides that projects which consist of data collection, research, experimental management, and resource evaluation activities, and which do not result in a serious or major disturbance to environmental resources, are categorically exempt from CEQA. This project consists of research and data collection associated with the in-laboratory development and subsequent onsite installation of a CO₂-based heat pump system in parallel with standard HVAC and hot water systems; data and information will be collected on the performance of heating, ventilation, and air conditioning energy load. For this reason, the proposed work will not have a significant impact on the environment and is exempt from CEQA under Cal. Code Regs., tit. 14, Section 15306.



This project does not involve impacts on any particularly sensitive environment; 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

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

No

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

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
Alter Consulting Engineers	\$ 99,000	\$ 0
DMG North, Inc.	\$ 650,000	\$ 250,000
Lawrence Berkeley National Laboratory	\$ 350,000	\$ 0
East Bay Asian Local Development Corporation	\$ 20,000	\$ 350,000
David Baker Architects	\$ 30,000	\$ 0
Engineering 350 LLC	\$ 30,000	\$ 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

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	\$ 1,849,978

TOTAL Amount: \$ 1,849,978

R&D Program Area: ICMB: Buildings

Explanation for “Other” selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

M. Recipient’s Contact Information



1. Recipient’s Administrator/Officer

Name: Doug Davenport
Address: 1608 Las Plumas Ave
City, State, Zip: San Jose, CA 95133-1655
Phone: 415-867-7498
E-Mail: doug.davenport@prospectsv.org

2. Recipient’s Project Manager

Name: Tracey Moore
Address: 3031Tisch Way #1018
City, State, Zip: San Jose, CA 95128
Phone: 408-409-5031
E-Mail: tracey.moore@prospectsv.org

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-24-305
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	No

Approved By

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

Agreement Manager: Jason Tancher



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 01/2024)

Approval Date: 1/29/2026

Branch Manager: Anthony Ng

Approval Date: 1/29/2026

Director: Jonah Steinbuck delegated to Branch Manager

Approval Date: 1/29/2026

Exhibit A Scope of Work Prospect Silicon Valley

I. TASK AND ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2		Project Planning and Design
3	X	System and Controller Development
4	X	System Installation and Commissioning
5		Testing and Data Collection
6		Measurement & Verification
7		Evaluation of Project Benefits
8		Technology Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CO ₂	Carbon Dioxide
COP	Coefficients of performance
CPR	Critical Project Review
DHW	Domestic Hot Water
GWP	Global Warming Potential
LBNL	Lawrence Berkeley National Lab
R-744	Carbon Dioxide Refrigerant
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 development, testing, and field demonstration of a modular, single-compressor CO₂ (Carbon dioxide) heat pump for multifamily buildings, providing both space conditioning and domestic hot water across multiple residences.

¹ 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.

Exhibit A

Scope of Work

Prospect Silicon Valley

B. Problem/ Solution Statement

Problem

Heat pumps that use low Global Warming Potential (GWP) refrigerants for multifamily housing face key barriers such as high installation costs, integration challenges with existing building systems, and limited performance data across California's diverse climate zones. Additionally, design tools and control strategies specific to multifamily applications are lacking, particularly for combined space conditioning and domestic hot water systems.

These issues persist due to limited deployment in the multifamily sector and insufficient in-state demonstrations. As California advances aggressive building decarbonization and electrification goals, addressing these gaps is critical to meeting climate targets and ensuring equitable access to clean energy technologies in multifamily communities.

Solution

Prospect Silicon Valley is working with Flow Environmental Systems who has developed a 100% electric advanced heat pump platform utilizing R-744 (refrigerant grade CO₂) that can operate as either a cooling-only chiller, a heating-only heat pump or boiler, a domestic water heater, or all at the same time with a single power feed as a simultaneous heating and cooling system. This system can handle unbalanced loads while optimizing power at all operational conditions to maintain high coefficients of performance (COP) for heating, cooling, and domestic hot water. Potential advantages of the technology include:

- Natural refrigerant R744-based heat pump
- High efficiency in either heating or cooling, or simultaneous heating/cooling mode
- Simultaneously produce hydronic heating & cooling, and domestic hot water
- Modular system design
- Optimized system operation with unbalanced loads

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Evaluate performance of a central single-compressor CO₂ heat pump for multifamily use
- Minimize system cost through modular design while combining space conditioning and domestic hot water (DHW) systems
- Provide independent Measurement and Verification of field performance
- Demonstrate benefits to end users including cost-efficient installation, cost of ownership, human and building comfort, and environmental stewardship and energy efficiency

Ratepayer Benefits:² This Agreement will result in the ratepayer benefits outlined below:

Electrification of gas-fueled heating and water heating appliances is an essential pathway to electrify California's 13.5 million homes. The benefits to California IOU ratepayers include (1)

² 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,

Exhibit A Scope of Work Prospect Silicon Valley

lower first cost of heat pump installation in existing building retrofits or new constructions, (2) reduced energy bills from high efficiency heat pump operations under either heating, cooling or simultaneous heating and cooling mode. (3) reduced peak demand charge through the dynamic control of heat pump operations, and (4) environmentally friendly R744 refrigerant (CO₂) in place of R134a and R410A refrigerants. Assuming that this heat pump product is installed in the proposed residence apartment building with a floor area of 3,370 square feet (5 1BR apartments and 1 2BR apartment) located in the Downtown Oakland area, it is estimated that a reduction of 5,454 kWh of electricity is achievable over a year of operation. Considering the slight difference in electricity rates between summer and winter months (under PG&E's residential rate E-TOU-B electric tariff), the economic analysis shows that the proposed system result in annual utility cost savings of \$2,255 or 15.8%, while the heat pump system significantly lowers these costs by delivering more efficient heating, cooling, and domestic hot water services. Based on CO₂ emission factors in 2021 (electricity - 480.5 lb/MWh, natural gas – 116.65 lb/MMBtu), the use of this heat pump in place of space heating and water heating systems can reduce a total of 2,828 Lbs (~1.28 metric ton) CO₂ over a year of operation.

Technological Advancement and Breakthroughs:³ The purpose of this Agreement is to lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals which it aims to do by demonstrating an advanced, cost-competitive, high efficiency large air-source and water-source heat pump that uses ultra-low GWP refrigerant and is capable of providing heating, cooling, and domestic hot water supply *simultaneously* within and between housing units in one central system. The system is 100% electric and provides safety benefits from using a safety class A1 (CO₂ refrigerant) vs A2L, A3, and B2L, such as the reduction in PFAS, TFA, and other harmful toxic chemicals in the water supply. The project will also include a demonstration of the communications, controls, and optimization algorithms for coordinating the heat pump system with existing building systems and in response to grid events or price signals.

Agreement Objectives

The objectives of this Agreement are to:

- Showcase a single-compressor CO₂ heat pump that provides heating, cooling, simultaneous heating, cooling, and hot water as a central thermal plant
- Showcase simplified system designs resulting from combined heating/cooling/DHW plants, often located and operated separately within each home and employing potentially harmful refrigerants.
- Show that a CO₂-based heat pump can provide heating without increasing electrical supply to the building beyond that needed for existing cooling loads.
- Demonstrate that the system can meet Title 24 energy codes while centralizing heating, cooling and DHW.
- Demonstrate that the technology is ideal for demand flexibility and grid resiliency by offering a singular point of communication for building to grid integration, capable of adjusting power usage in response to the grid's positive or negative strain from peak

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).

³ 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.

Exhibit A

Scope of Work

Prospect Silicon Valley

loads or excess renewables. All heating and cooling control sequences can be programmed through a single point of contact, resulting in straightforward participation into various grid services.

- Demonstrate cost efficiency (total cost of ownership), ensuring optimal occupant service without compromising environmental stewardship or energy efficiency.
- Capture technological learnings and disseminate to a range of professions across the Buildings Industry responsible for future deployments of this or similar technologies.

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:

Instructions for Submitting Electronic Files and Developing Software:

Exhibit A

Scope of Work

Prospect Silicon Valley

○ **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

Exhibit A Scope of Work Prospect Silicon Valley

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);
 - Permit documentation (subtask 1.9);
 - **Obtain and Execute Subawards and Agreements with Site Hosts** (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.

Exhibit A Scope of Work Prospect Silicon Valley

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.

Exhibit A

Scope of Work

Prospect Silicon Valley

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.

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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

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- 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:
 - 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

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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.

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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.
 - 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 goal of this task is to ensure quality products and to execute subrecipients and site host agreements, as applicable, required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement and 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.
- 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.

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- 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.

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- 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.

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- 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.

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Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

III. TECHNICAL TASKS

TASK 2 PROJECT PLANNING AND DESIGN

The goal of this task is to develop the plans needed for laboratory and site demonstration of Flow's ANSWR CO₂ Heat Pump

The Recipient shall:

- Review test configurations at the demonstration site and laboratory to understand the space, connectivity, and integration constraints
- Develop a *Use Case Memo* in conjunction with the TAC, to ensure that testing conditions, captured data, and resulting design resources will prove relevant and informative to future project applications in Knowledge Transfer activities
- Develop a *Demonstration & Testing Plan* addressing system modifications, laboratory testing, and field pilot components
- Develop *Engineering Design Documents* for piping, electrical, and ANSWR installation at the demonstration site

Products:

- Use Case Memo
- Demonstration & Testing Plan
- Engineering Design Documents

TASK 3 SYSTEM AND CONTROLLER DEVELOPMENT

The goal of this task is to develop modeling and design tools stemming from the demonstration for use by future designers, installers, or technology providers.

The Recipient shall:

- Modify an existing dual-compressor 20 ton ANSWR heat pump to produce a nominal 10 ton single-compressor heat pump, for residential space conditioning and domestic hot water production serving multiple apartment units simultaneously
- Develop a *System Modification and Development Memo* covering the changes to the existing dual-compressor ANSWR design and lab testing requirements
- Develop a high-fidelity *Building Model* in EnergyPlus and a *Heat Pump System Model* in Modelica, and calibrate the model from lab and field testing. Additionally, develop a model predictive controller (MPC) for coordinating the HVAC and DHW systems for achieving higher efficiency and load flexibility
- Carry out a series of parametric simulations of the system model under varying conditions including climate, building construction, and residential use assumptions. Results will be compiled in a *System Modeling and Controller Development Memo*
- Prepare and submit a CPR Report #1.
- Attend the CPR meeting per subtask 1.3.

Products:

- System Modification and Development Memo
- Building Model

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- Heat Pump System Model
- System Modeling and Controller Development Memo
- CPR Report #1

TASK 4 SYSTEM INSTALLATION AND COMMISSIONING

The goals of this task are to install and commission the single-compressor 10-ton ANSWR heat pump and ensure system integration at the demonstration site.

The Recipient shall:

- Manufacture, transport, install and commission a new Flow ANSWR heat pump system (up to 10T) at the multi-family building demonstration site, as specified in the Engineering Design Documents
- Install piping, electrical, fan coils, and heat pump mounting for identified pilot apartments in the multi-family building demonstration site.
- Provide *As-Built Documents* for all installed systems
- Commission and confirm setup of Flow's ANSWR CO₂ heat pump system, and document results in a *Commissioning Memo*
- Prepare and submit a CPR Report #2.
- Attend the CPR meeting per subtask 1.3.

Products:

- As-Built Documents
- Commissioning Memo
- CPR Report #2

TASK 5 TESTING AND DATA COLLECTION

The goals of this task are to perform laboratory and site testing, as well as data collection of Flow's ANSWR heat pump system at the demonstration site.

The Recipient shall:

- Conduct performance testing of the modified unit at a dedicated laboratory space to assure all metrics are met or exceeded under a broad range of conditions. Results of this test will be compiled in a *Lab Test Report*
- Conduct site demonstration in accordance with the Demonstration & Testing Plan and Engineering Documents. Results will be compiled in a *Project Data Summary* and *Site Testing Report*

Products:

- Lab Testing Report
- Site Testing Report
- Project Data Summary

TASK 6 MEASUREMENT AND VERIFICATION

The goal of this task is to analyze the data collected to calculate performance and efficiency of the installed ANSWR heat pump system.

The Recipient shall:

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- Develop a *Measurement & Verification Plan* to quantify the installed heat pump performance vs a set of metrics (e.g., COP of Heating, Cooling and DHW, energy consumption, energy and demand cost, carbon emissions).
- Conduct Measurement Verification (M&V) tasks, including
 - Results evaluation and 1:1 comparison of Flow's simultaneous heating and cooling heat pump to existing technology present in similar apartments
 - Calibration of the Building Model and Heat Pump Model for future industry use
- Write a Draft and Final *Measurement and Verification (M&V) Report*, detailing results from M&V Tasks above

Products:

- Measurement & Verification Plan
- Measurement & Verification Report (Draft & 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 [Energize Innovation website \(www.energizeinnovation.fund\)](http://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 \(www.energizeinnovation.fund\)](http://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 TRANSFER ACTIVITIES

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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.

Subtask 8.1 Project Case Study

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

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Subtask 8.2 Technology Transfer Engagement Plan

The Recipient Shall:

- Develop a *Technology Transfer Engagement Plan* that outlines how Flow will reach key stakeholders in the building industry and share results from the demonstration effort/Project Case Study. *The Technology Transfer Engagement Plan* shall include:
 - An outline of the objectives, goals, and activities of industry engagement efforts
 - A list of key building industry stakeholders that may be involved in the technology's deployment.
 - Specific engagement activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
 - A list of sector specific presentations/webinars/training events to disseminate findings from the project.
- Share the *Technology Transfer Engagement Plan* with the TAC for review and comment
- Execute the final *Technology Transfer Engagement Plan* and develop and submit a *Technology Transfer Summary Report*.

Products:

- Technology Transfer Engagement Plan (draft and final)
- Summary of TAC Comments
- Technology Transfer Summary Report (draft and final)

Subtask 8.3 Guidelines and Documentation

The Recipient Shall:

- Assemble project documents and testing data from the demonstration effort
- Develop guidelines and documentation to share with key stakeholders identified in the Engagement Plan, which may include:
 - Initial design guidelines
 - How-to-documentation
 - Value proposition
 - Model specifications for procurement
- Compile resources into a *Guidance Packet* and webinar for long-term engagement purposes
- Present the *Guidance Packet* to the TAC for review and comment
- Produce a series of sector specific workshops or webinars defined in the Engagement Plan to share the Guidance Packet and information from the Case Study to garner feedback and improve the resulting deliverables

Products:

- Guidance Packet

IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.