



**CALIFORNIA  
ENERGY COMMISSION**



**California Energy Commission  
April 10, 2025 Business Meeting  
Backup Materials for AirCapture LLC**

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

**[PROPOSED]**

**RESOLUTION NO: 25-0410-11c**

**STATE OF CALIFORNIA**

**STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION**

**RESOLUTION: AirCapture LLC**

**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 CRI-24-005 with AirCapture LLC for a \$999,982 grant. This project will take place in Berkeley and will involve the design, development, and testing of a microwave energy-assisted direct air capture system that uses a low-energy sorbent regeneration process. This novel system requires no steam generation and can be powered by renewable energy, enabling it to operate in water and utility-scarce locations throughout California; 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 April 10, 2025.

AYE:

NAY:

ABSENT:

ABSTAIN:

Dated:

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Kristine Banaag  
Secretariat



## GRANT REQUEST FORM (GRF)

### A. New Agreement Number

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

**New Agreement Number:** CRI-24-005

### B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Paty De La Torre
3. MS-:51
4. Phone Number: Enter Phone Number

### C. Recipient's Information

1. Recipient's Legal Name: AirCapture LLC
2. Federal ID Number: 85-0949377

### D. Title of Project

Title of project: Location-Agnostic, Renewable Energy Powered Direct Air Capture for Deployment Across California

### E. Term and Amount

1. Start Date: 6/1/2025
2. End Date: 3/30/2030
3. Amount: \$999,982.00

### F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 4/10/2025
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Maryam Haddad
5. Time Needed for Business Meeting: 5 minutes
6. The email subscription topic is: Carbon Removal Innovation Support Program - CRISP

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

AirCapture LLC. Proposed resolution approving agreement CRI-24-005 with AirCapture LLC for a \$999,982 grant and adopting staff's recommendation that this action is exempt from CEQA. This project at Aircapture's lab in Berkeley will involve the design, development, and testing of a microwave energy-assisted direct air capture (DAC) system that uses a low-energy sorbent regeneration process. This novel DAC system requires no steam generation and can be powered by renewable energy, enabling it to operate in water and utility-scarce locations throughout California. (CRISP funding) Contact: Maryam Haddad

### 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: 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: Cal. Code Regs., tit. 14, § 15301

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.

California Code of Regulations, title 14, section 15301 provides that projects which consist of the operation, repair, maintenance, permitting, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, and which have negligible or no expansion of existing or former use, are categorically exempt from the provisions of the California Environmental Quality Act (CEQA). This project involves the design, development, and testing of a microwave energy-assisted direct air capture (DAC) system at an existing facility and will involve the operation of mechanical equipment. This project involves laboratory-scale testing and evaluation. Therefore, this project is exempt from the requirements of CEQA under section 15301.

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.



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 |
|----------------------------------|-----------|-------------|
| No subcontractors to report      | \$        | \$          |

**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 |
|----------------------------------|-----------|-------------|
| Denominator Collective           | \$40,000  | \$0         |
| PinkRF                           | \$154,000 | \$0         |
| Prodigy Scientific               | \$35,000  | \$0         |
| Cormetech, Inc.                  | \$25,000  | \$0         |
| McMaster-Carr Supply Company     | \$44,930  | \$0         |
| W.W. Grainger, Inc.              | \$24,750  | \$0         |
| Pasternack Enterprises           | \$17,400  | \$0         |

**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     |
|----------------|-------------------------------|--------------------|------------|
| GGRF           | 23-24                         | 303.307            | \$ 999,982 |

**TOTAL Amount:** \$ 999,982

R&D Program Area: ICMB: IAW

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: Rachel Smith

Address: 2629 7Th St

City, State, Zip: Berkeley, CA 94710-2509

Phone: 617-999-2255

E-Mail: rachel.smith@aircapture.co

##### 3. Recipient's Project Manager

Name: Rachel Smith

Address: 2629 7Th St

City, State, Zip: Berkeley, CA 94710-2509

Phone: 617-999-2255

E-Mail: rachel.smith@aircapture.co

#### 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-24-303             |



|  |                |
|--|----------------|
| 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:** Paty De La Torre

**Approval Date:** 2/28/2025

**Branch Manager:** Cody Taylor

**Approval Date:** 3/4/2025

**Director:** Cody Taylor for Jonah Steinbuck

**Approval Date:** 3/4/2025

**EXHIBIT A**  
**Scope of Work**  
**AirCapture LLC**

**TASK ACRONYM/TERM LISTS**

**A. Task List**

| Task # | CPR <sup>1</sup> | Task Name                                       |
|--------|------------------|---|
| 1      |                  | General Project Tasks                           |
| 2      |                  | MWDAC Design, Construction & Commissioning      |
| 3      | X                | Material Preparation & Operational Testing      |
| 4      |                  | Data, Techno-Economic, Lifecycle Analysis & MRV |
| 5      |                  | Community Benefits Plan Development Proposal    |
| 6      |                  | Evaluation of Project Benefits                  |
| 7      |                  | Technology/Knowledge Transfer Activities        |

**B. Acronym/Term List**

| Acronym/Term | Meaning                                 |
|--------------|---|
| CAM          | Commission Agreement Manager            |
| CAO          | Commission Agreement Officer            |
| CEC          | California Energy Commission            |
| CPR          | Critical Project Review                 |
| DAC          | Direct Air Capture                      |
| GHG          | Greenhouse Gas                          |
| LCA          | Lifecycle Analysis                      |
| MRV          | Measurement, Reporting and Verification |
| MWDAC        | Microwave Assisted Direct Air Capture   |
| TAC          | Technical Advisory Committee            |
| TEA          | Techno-Economic Analysis                |
| TRL          | Technology Readiness Level              |

**I. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES**

**A. Purpose of Agreement**

The purpose of this Agreement is to fund the design, development, and testing of a Microwave-Assisted Direct Air Capture system that will achieve a 30%+ reduction in Direct Air Capture cost and a 30%+ reduction in overall energy use. MWDAC has the potential to widen the practical applications of DAC technology across California, even

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<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.



## **EXHIBIT A**

### **Scope of Work**

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in locations previously thought to be unsuitable for DAC based on water and utility availability.

#### **B. Problem/ Solution Statement**

##### **Problem**

This project addresses the high costs and resource demands of conventional direct air capture (DAC) systems, which limit scalability and market-wide adoption. Current systems rely heavily on steam-driven desorption processes, leading to high energy and water usage, as well as potential environmental risks like sorbent degradation and fouling. These barriers restrict deployment in arid regions and water-sensitive areas of California and the United States, while capital costs and inefficiencies hinder widespread customer adoption.

This problem has not been fully addressed by others due to the technological and cost challenges of replacing steam-based systems with more sustainable alternatives. Microwave-assisted DAC (MWDAC) presents a timely solution by offering faster desorption cycles, lower CapEx, and renewable energy compatibility. With growing urgency to scale DAC solutions for climate mitigation and the increasing demand for sustainable technologies, addressing these barriers now is critical to enabling widespread and impactful deployment.

##### **Solution**

The Recipient has developed and patented a novel mechanism to reduce energy demands of the highly energy-intensive desorption phase of direct air capture (DAC) by using microwave heating to desorb the carbon dioxide from the sorbent contactors once it is captured. By using microwave heat applied directly to the sorbent contactor blocks that capture and bind CO<sub>2</sub>, the overall energy inputs of the system are lowered and the standard requirement for steam generation is removed. Since initially developing the technology, the Recipient team has advanced the MWDAC system to a technology readiness level (TRL) of 4.

This breakthrough in DAC technology reduces both initial capital and ongoing operational expenses. The mechanisms are less complex and thus less expensive to build, and the overall energy demands of the system to operate are much lower. Additionally, the transition away from reliance on a water source to generate steam means that the DAC system can be run entirely on renewable energy, such as in proximity to a solar farm or on-site at a facility with CO<sub>2</sub> input demands.

Developing more efficient and less carbon-intensive DAC methods directly supports California's statutory energy goals by reducing atmospheric carbon dioxide, a critical step toward achieving the state's ambitious greenhouse gas (GHG) reduction targets and carbon neutrality objectives under AB 1279. DAC aligns with the GHG reduction strategies in AB 32 and SB 32 by providing scalable solutions to meet 2030 emissions targets and delivering carbon reduction benefits to disadvantaged communities.

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Furthermore, DAC complements the goals of SB 100 by enabling a transition to a zero-carbon energy system, ensuring California's renewable energy objectives are met without increasing emissions in neighboring regions.

#### **C. Goals and Objectives of the Agreement**

##### **Agreement Goals**

The goals of this Agreement are to:

- Design, construct and commission a functional MWDAC system for laboratory-scale testing and assessment.
- Test and monitor the system over at least 2,000 adsorption and desorption cycles while incrementally assessing the performance characteristics over the total test series.
- Identify and characterize the sorbent contactors most promising for commercial MW DAC use and increase the number of suitable contactor materials under consideration
- Increase the usable lifespan of MW DAC sorbent materials by 50% or more from a baseline of 2-3 months
- Increase the cost effectiveness of MW DAC by 25% from the current cost to build
- Advance the TRL of MW DAC from TRL 4 to TRL 5 or greater
- Reduce the cost/ton of captured CO<sub>2</sub> by 30% from \$230/MTCO<sub>2</sub>
- Reduce the energy consumption/ton of captured CO<sub>2</sub> by 30% from 350 kWh/MT CO<sub>2</sub>
- Analyze the data generated during the test period and generate a meaningful Techno-Economic Analysis, Lifecycle Analysis, Evaluation of Project Benefits and Knowledge Transfer Activities.
- Demonstrate the viability and feasibility of MWDAC technology for future large-scale deployment within California and beyond.

**Ratepayer Benefits:**<sup>2</sup> This Agreement will result in the ratepayer benefit of greater electricity reliability because unlike conventional DAC, MWDAC is not inextricably linked to a water source and thus is geographically flexible. This means that it can be sited in locations previously deemed unsuitable for DAC and powered entirely by renewable energy. MWDAC machines could be installed directly at the point of use where CO<sub>2</sub> is needed, reducing local strain on the electrical grid and allowing the machines to tie in

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<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](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF)).

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directly to the renewable energy sources at the installation site. Additionally, the MWDAC machines could operate flexibly depending on available electric capacity; when excess renewable energy is generated, the MWDAC machines can utilize the capacity and therefore contribute to grid stability.

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 supporting breakthroughs in scalable, cost-effective carbon removal technologies that can be deployed statewide. This will accelerate progress toward the mandated 85% emissions reduction to below 1990 levels/commitment to carbon neutrality by 2045 (AB 1279). Furthermore, the system's ability to operate flexibly with renewable energy sources enhances grid stability, reduces curtailment, and optimizes the use of California's abundant solar and wind resources, creating a sustainable pathway to achieve the state's ambitious energy and climate goals.

#### **Agreement Objectives**

The objectives of this Agreement are to:

- Identify and characterize the contactor and sorbent materials most promising for commercial MWDAC use based on efficiency, usable lifetime, cost effectiveness, and minimization of environmental impact.
- Achieve 30% or greater reduction in cost from current baseline of \$230/MT CO<sub>2</sub> with a plan to achieve less than \$100/MT CO<sub>2</sub> by 2032.
- Achieve minimum 30% reduction in overall energy use from current baseline of 350 kWh/MT CO<sub>2</sub>.
- Advance the TRL of MWDAC by at least one level by project completion.

## **II. 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

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<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.

## **EXHIBIT A**

### **Scope of Work**

#### **AirCapture LLC**

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:

- **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:

**EXHIBIT A**  
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- 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.

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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);
  - 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*)

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- 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

## **EXHIBIT A**

### **Scope of Work**

#### **AirCapture LLC**

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.



## **EXHIBIT A**

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#### **AirCapture LLC**

- 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)

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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

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**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.

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#### **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.

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- 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.
  - 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*.

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- 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.
- 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).

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#### **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.

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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.



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#### **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* 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-

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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

**III. TECHNICAL TASKS**

**TASK 2: MWDAC DESIGN, CONSTRUCTION & COMMISSIONING**

The goal of this task is to conduct engineering design and verification activities for a skid-based MW DAC system to be constructed at the Recipient's facility.

**The Recipient shall:**

- Conduct engineering design of a MW DAC skid
  - Incorporate the retrofitting of the existing MW equipment available at the Recipient's research facility.
  - Incorporate appropriate controls and instrumentation to measure all pertinent process variables and conditions
  - Emphasize reproducibility, incorporation of commercially available materials and equipment for later scale-up
  - Produce *Engineering Design Plans* that include the total anticipated size, scale, and capacity of system.

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- Complete Technology EH&S Assessment
  - Conduct a preliminary EH&S assessment
  - Ensure that EH&S risks are minimized during field testing
  - Update the EH&S assessment upon the completion of field scale testing
  - Generate a *Preliminary EH&S Assessment Report* including identification of and mitigation strategies for any EH&S risks that may arise.
- Conduct Risk Management and HAZOP Analysis
  - Host an initial workshop and hazardous operations (HAZOP) analysis during the project design/verification phase.
  - Prepare for identification and evaluation of risks associated with the DAC design, construction, and testing stages
  - Produce a *Preliminary HAZOP report* that covers all potential operational hazards associated with the construction and operation of the system.
- Construct and Commission MW Reactor
  - Construct the MWDAC system based on the plans generated under Subtask 2.1
  - Complete factory acceptance testing, thereby commissioning the unit and putting it into service.
  - Submit *Design, Construction and Commissioning results in periodic reporting to CEC* including new findings during the development process.

#### **Products:**

- Engineering Design Plans
- Preliminary EH&S Assessment Report
- Preliminary HAZOP Report
- Design, Construction and Commissioning Report (*draft and final*)

### **TASK 3 MATERIAL PREPARATION & OPERATIONAL TESTING**

The goal of this task is to determine which contactor and sorbent combinations are likely to be most suitable for long-term use in MWDAC based on known thermochemical properties, observed kinetics, and established breakdown chemistry profiles.

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

- Develop a MW Testing Plan
  - Include the development of a candidate matrix of most viable sorbent contactor candidates for use with the microwave system.
  - Select materials based on their established performance characteristics and likelihood to perform well throughout long-term microwave exposure cycling.
  - Emphasize materials with low environmental impact and high longevity ratings.

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- Submit *MW Test Plan (draft and final)* including the duration of testing, anticipated performance metrics, and success criteria.
- Prepare MW Material for Testing
  - Prepare the selected materials with necessary surface treatments and coatings
  - Take baseline chemical and physical characteristic assessments to be compared to at assessment intervals throughout the project. This will determine material stability, lifetime, sorbent exclusion/creep, sorbent oxidation and other mechanical factors as well as electromagnetic properties
  - Yield *Test-Ready Sorbent Contactor Materials*
- Commence MW Testing & Operations
  - Operate MW DAC System at the Recipient's R&D facility
  - Complete a minimum of 2,000 adsorption/desorption cycles under ambient local conditions to yield a representative sample of operational data.
  - Collect data on an ongoing basis, cataloging and storing it appropriately along the testing timeline.
  - Install fresh, unheated contactors at 500 cycle increments
  - Document MW DAC System Operations and compile *Report* to be delivered to program manager.
- Monitor Chemistry and Breakdown Process of Sorbent Contactors
  - Gather operational data for analysis on an ongoing basis as well as specifically at the 500 cycle increments when installed contactors are removed and replaced.
  - Examine replaced contactors with gas chromatography-mass spectroscopy to compare the fresh to the used contactors.
  - Assess the retained capacity for adsorption and desorption, general condition and integrity, as well as any chemical/physical changes that may occur with the contactors.
- Prepare a *CPR Report* in accordance with subtask 1.3.
- Participate in a CPR Meeting.

#### **Products:**

- MW Test Plan (draft and final)
- Test-Ready Sorbent Contactor Materials
- MW DAC System Operation Report
- CPR Report

#### **TASK 4: DATA, TECHNO-ECONOMIC, LIFECYCLE ANALYSIS & MRV**

The goals of this task are to conduct data analysis and verification activities based on the data collected throughout the experimentation phase with comparisons to the

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original hypothesized data. Additionally, this task will assess the project benefits and comprise knowledge transfer work.

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

- Conduct ongoing data analysis throughout the testing period
  - Organize, catalog and store relevant data from the active testing phase
- Complete a Techno-Economic Analysis (TEA) using published protocols
  - Assess system performance including energy consumption, CO<sub>2</sub> capture efficiency, and operational reliability.
  - Analyze the drivers of cost including materials, energy inputs and maintenance
  - Model the scalability of the system and potential for expansion
  - Complete draft and final *TEA*, including anticipated cost reductions demonstrating the 30%+ reduction in cost and plan for less than \$100/MT by 2032.
- Complete a Lifecycle Analysis (LCA) using published protocols
  - Assess the complete energy consumption and impact of the materials to be used across the MWDAC lifecycle
  - Quantify the emissions and other outputs with potential environmental impacts
  - Create an assessment of the sustainability of the total system
  - Complete draft and final *LCA*, including 30%+ reduction in total energy consumption by 2032.
- Complete Independent Measurement, Reporting and Verification (MRV) Activities
  - Measure CO<sub>2</sub> capture rates, energy usage, and operational efficiency
  - Compile *Reporting Documents* detailing the performance, emissions, total reductions, and compliance with statutory standards
  - Utilize the input of independent auditors to validate the CO<sub>2</sub> capture claims made in the Recipient's internal calculations.
  - Complete *final MRV report*, verifying the performance numbers generated during the testing portion of the program.
- Develop a *Mitigation Plans Memo* that address any risks or no-go issues uncovered through TEA and LCA

#### **Products:**

- TEA (Draft and Final)
- LCA (Draft and Final)
- Mitigation Plans Memo (Draft and Final)
- MRV Reporting Documents

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- Final MRV Report

**TASK 5: COMMUNITY BENEFITS PLAN DEVELOPMENT PROPOSAL**

The goal of this task is to create a Community Benefits Plan Development Proposal (CBPDP) as a part of the Recipient's final deliverables upon the completion of the project.

**The Recipient shall:**

- Create a *CBPDP* that must include but is not limited to:
  - Project's plan for outreach and engagement, including community partners
  - Project's impact on criteria pollutants, water, and other resources
  - Project's potential benefits to local communities
  - Approaches for negotiating future Community Benefits Agreements and integrating stakeholder and community feedback to develop and improve ongoing engagement

**Products:**

- CBPDP (Draft and Final)

**TASK 6: 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](http://www.energizeinnovation.fund) ([www.energizeinnovation.fund](http://www.energizeinnovation.fund)), and provide *Documentation of Project Profile on Energize Innovation.fund*, including the profile link.

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- 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](http://www.energizeinnovation.fund) ([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 7 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES**

For Technology Demonstration and Deployment Solicitations

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:

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- 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.