CALIFORNIA ENERGY COMMISSION

California Energy Commission
April 8, 2026 Business Meeting
Backup Materials for Gridworks Organization

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: Gridworks Organization

RESOLUTION NO: 26-0408-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 PIR-25-005 with Gridworks Organization for a $799,911 grant. This project will develop a framework for defining, analyzing, and improving the social feasibility of gas system decommissioning in various building types and geographies statewide. The framework will be designed for use by investor-owned utilities, program administrators, community-based organizations, and other energy stakeholders. The project will identify areas ready for transition and design targeted outreach strategies to increase participation where readiness is not yet sufficient; 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 8th day of April 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 April 8, 2026.

Kim Todd
Secretariat

STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

CEC-270 (Revised 01/2024)

GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: PIR-25-005

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Martine Schmidt-Poolman
3. MS-:43
4. Phone Number: 916-232-6336

C. Recipient's Information

1. Recipient's Legal Name: Gridworks Organization

D. Title of Project

Title of project: A Social Feasibility Framework for California's Gas Transition

E. Term and Amount

1. Start Date: 5/1/2026
2. End Date: 6/29/2029
3. Amount: $799,911

F. Business Meeting Information

1. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 4/8/2026
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Mithra Moezzi
5. Time Needed for Business Meeting: 10 minutes.
6. The email subscription topic is: General Natural Gas and LNG Issues.

Project Description:

Gridworks Organization. Proposed resolution approving agreement PIR-25-005 with Gridworks Organization for a $799,911 grant, and adopting staff's recommendation that this action is exempt from CEQA. This project will develop a framework for defining, analyzing, and improving the social feasibility of gas system decommissioning in various building types and geographies statewide. The framework will be designed for use by investor-owned utilities, program administrators, community-based organizations and other energy stakeholders. The project will identify areas ready for transition and design outreach strategies to increase participation where readiness is not yet sufficient. (PIER NG funding) Contact: Mithra Moezzi

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":

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, § 15306 ;

      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.

      Cal. Code Regs., tit. 14, § 15306 consists of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. This project is a computer-based and field-based stakeholder research project to develop a framework for defining, analyzing and improving the social feasibility of gas system decommissioning in various building types and geographies statewide. The proposed project therefore will not have a significant impact on the environment and is categorically exempt under section 15306.

      The project does not involve impacts on any particularly sensitive environment; will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

b) Agreement **IS NOT** exempt.
IMPORTANT: consult with the legal office to determine next steps.

No

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

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

H. Is this project considered “Infrastructure”? No

I. Subcontractors

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

Subcontractor Legal Company Name	CEC Funds	Match Funds
Energy and Environmental Economics, Inc.	$ 245,999	$0
E Source Companies, LLC	$ 93,750	$0
Building Decarbonization Coalition	$ 275,189	$40,000
Katie Wu	$ 40,432	$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
Giftly Inc.	$ 7,500	$

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
NG Subaccount, PIERDD	21-22	501.001	$ 799,911

TOTAL Amount: $ 799,911

R&D Program Area: ESB

Explanation for “Other” selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #:

M. Recipient’s Contact Information

1. Recipient’s Administrator/Officer

Name: RH Ryan

Address: PO Box 131 1415 Webster St

City, State, Zip: Alameda, CA 94501-0507

Phone: 415-310-9115

E-Mail: ryanryan7926@gmail.com

2. Recipient’s Project Manager

Name: Neha Bazaj

Address: 1415 Webster St Po Box 131

City, State, Zip: Alameda, CA 94501-3824

Phone: 510-364-0743

E-Mail: nbazaj@gridworks.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-24-501
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: Martine Schmidt-Poolman

Approval Date: 2/25/26

Branch Manager: Alex Horangic

Approval Date: 2/27/26

Director: Jonah Steinbuck *(delegated to Manager)*

Approval Date: N/A

Exhibit A
Scope of Work
Gridworks Organization

I. TASK AND ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Customer Research and Analysis
3	X	Value Chain Research and Analysis
4		Gas Usage Analysis
5	X	Social Feasibility Framework
6		Evaluation of Project Benefits
7		Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
BDC	Building Decarbonization Coalition
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
Chefluencer Program	Led by the Building Decarbonization Coalition, this program trains chefs and professionals to become electric-kitchen experts.
ComStock	A U.S. Department of Energy model of the commercial building stock, developed and maintained by the institution known through late 2025 as the National Renewable Energy Laboratory.
CPR	Critical Project Review
IOU	Investor-Owned Utility
NLR	National Laboratory of the Rockies (formerly known as National Renewable Energy Laboratory - NREL)
OEM	Original Equipment Manufacturer
QAQC	Quality Assurance Quality Control
ResStock	A U.S. Department of Energy model of the residential building stock, developed and maintained by NLR
SB1221	Senate Bill 1221: which requires the California Public Utilities Commission to establish a voluntary zonal decarbonization program and designate priority neighborhood decarbonization zones
SIO	The Switch Is On, a platform and website (Switchison.org) powered by the non-profit Building Decarbonization Coalition
Social Feasibility Framework	A comprehensive framework for defining, analyzing and improving the social feasibility of gas system decommissioning in various building types and geographies statewide
TAC	Technical Advisory Committee
TECH	TECH Clean California (rebate program)

[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.

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 of a Social Feasibility Framework to support neighborhood-scale building electrification and gas system decommissioning in California.

B. Problem/ Solution Statement

Problem

California cannot meet its climate goals without a managed transition off the gas system. While technical and economic feasibility of electrification is increasingly well understood, social feasibility—community willingness to adopt electric alternatives—remains a major, unaddressed barrier. Without a majority of customers opting into electrification, utilities cannot decommission gas infrastructure due to current regulatory and statutory constraints. No framework exists today to assess, map, or improve social feasibility at the neighborhood scale.

Solution

This project will develop the first comprehensive framework for defining, analyzing and improving the social feasibility of gas system decommissioning in various building types and geographies statewide. It will integrate technical analysis, behavioral research, and stakeholder input to identify communities most likely to be ready for gas decommissioning and electrification and will design targeted interventions to support uptake. The framework will guide utilities, agencies, and local partners in scaling neighborhood decarbonization in support of California's climate and equity goals.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to develop a framework that:

1. Enables a more strategic and socially viable transition away from gas infrastructure;
2. Supports reduction of the cost and complexity of neighborhood-scale building electrification;
3. Improves decision-making frameworks for utilities, agencies, and communities through recommendations on integrating social feasibility into utility planning, regulatory processes, and program design;
4. Supports equitable access to clean energy through targeted outreach and engagement.

Ratepayer Benefits: This Agreement will result in the ratepayer benefits of lower costs and increased safety by reducing unnecessary investment in gas infrastructure and enabling more efficient, targeted electrification strategies. By identifying which communities are the most ready to transition away from gas, the framework will support utility decisions that reduce long-term system maintenance costs and mitigate safety risks associated with aging pipelines.

Ready-to-transition households are those for which moving from natural gas appliances to (electric) alternatives is practical, cost-effective, and aligned with the consumer's goals. The project will also identify where ratepayer funds can be directed towards gas decommissioning and electrification efforts with the strongest likelihood of success, based on clear indicators of consumer readiness and feasibility.

Technological Advancement and Breakthroughs: This Agreement will lead to breakthroughs in how California plans and implements building decarbonization by introducing a new, replicable methodology to assess and improve social feasibility. Unlike current planning tools, which rely heavily on technical and economic inputs, this framework will incorporate social dynamics—such as trust, awareness, and community norms—into energy transition decision-making. This advancement will overcome a critical barrier to decommissioning gas infrastructure and accelerate the State of California's progress toward its statutory climate and equity targets.

Agreement Objectives
The objectives of this Agreement are to:

- Conduct consumer field research and stakeholder sentiment analysis across California.
- Analyze gas use and ratepayer impacts to inform neighborhood targeting.
- Develop and test a Social Feasibility Framework tool for identifying and improving readiness for electrification.
- Produce recommendations for integrating social feasibility into utility planning, regulatory processes, and program design.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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

The Recipient shall:

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

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

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

For products that require a final version only
- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

For all products
- Submit all data and documents required as products in accordance with the following.

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:
  - 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, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to 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., WebEx), with approval of the CAM.

  The administrative portion of the meeting will include discussion of the following:
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Administrative products (subtask 1.1);
  - CPR meetings (subtask 1.3);
  - Match fund documentation (subtask 1.7);
  - Permit documentation (subtask 1.8);
  - Subcontracts (subtask 1.9); and
  - Any other relevant topics.

  The technical portion of the meeting will include discussion of the following:
  - The CAM's expectations for accomplishing tasks described in the Scope of Work;
  - An updated Project Schedule;
  - Technical products (subtask 1.1);
  - Progress reports (subtask 1.5);
  - Final Report (subtask 1.6);
  - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
  - Any other relevant topics.

- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones
  - List of potential risk factors and hurdles, and mitigation strategy

- Provide an *Updated Project Schedule, Match Funds Status Letter,* and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:

- Designate the date and location of the meeting.

- Send the Recipient a *Kick-off Meeting Agenda*.

Recipient Products:
- Kick-off Meeting Presentation
- Updated Project Schedule *(if applicable)*
- Match Funds Status Letter (subtask 1.7) *(if applicable)*
- Permit Status Letter (subtask 1.8) *(if applicable)*

CAM Product:
- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings
The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will 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 will 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. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.

- Provide the Recipient with a *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
- 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 and the CAO 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* on a USB memory stick, organized by the tasks in the Agreement.

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

MONTHLY CALLS, REPORTS AND INVOICES
Subtask 1.5 Monthly Calls

The goal of this task is to have calls at least monthly between the CAM and Recipient to verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.
The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted or the CAM determines that a monthly call is unnecessary.

The CAM shall:

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

The Recipient shall:

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

Product:

- Email to CAM concurring with call summary notes.

Subtask 1.6 Quarterly Progress Reports and Invoices

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

The Recipient shall:

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

Recipient Products:

- Quarterly Progress Reports
- Invoices

CAM Product:

- Invoice template

Subtask 1.7 Final Report
The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.7.1 Final Report Outline

The Recipient shall:
- Prepare a *Final Report Outline* in accordance with the *Energy Commission Style Manual* provided by the CAM.

Recipient Products:
- Final Report Outline (draft and final)

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

Subtask 1.7.2 Final Report

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

- Comments the Recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report.* If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.

- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

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

CAM Product:
- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBAWARDS

Subtask 1.8 Match Funds

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

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of CEC funds. 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 <u>no match funds</u> were part of the proposal 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 proposal that led to the CEC awarding this Agreement, then provide in the letter:
  - A list of the match funds that identifies:
    - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its

owner and provide a contact name, address, telephone number, and the address where the property is located.
    - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

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

Subtask 1.9 Permits
The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If <u>no permits</u> 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 Subcontracts 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 subrecipient activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required Energy Commission flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract 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 required 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 discussion subrecipient additions in the terms and conditions).

Products:

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.11 Technical Advisory Committee (TAC)

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

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.

- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that ensure a long-term perspective on decision-making and progress toward the project's strategic goals.

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

The Recipient shall:
- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

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

Subtask 1.12 TAC Meetings
The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

The Recipient shall:

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

The TAC shall:

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

Products:

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

Subtask 1.13 Project Performance Metrics

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

The Recipient shall:

- Complete and submit the project performance metrics section of the *Initial Project Benefits Questionnaire,* developed in the Evaluation of Project Benefits task, to the CAM.
- Present the draft project performance metrics at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:

- TAC comments the Recipient proposes to incorporate into the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- TAC comments the Recipient does not propose to incorporate with and explanation why.

- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the *Final Project Benefits Questionnaire,* developed in the Evaluation of Project Benefits task.
- Discuss the *Project Performance Metrics Results* at the Final Meeting.

Products:
- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

*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. **Subtask 1.1 (Products)** describes the procedure for submitting products to the CAM.*

TASK 2: CUSTOMER RESEARCH AND ANALYSIS

The goals of this task are to: (1) Identify patterns in awareness, knowledge, attitudes, and behaviors from prior and ongoing electrification efforts and interactions with electric equipment and (2) understand barriers, drivers, and attitudes that shape likelihood to switch to home electric equipment.

Subtask 2.1: Review Existing Experience and Impact Data

The goals of this task are to: (1) collect, sort, code, and review existing data, and (2) analyze the gaps to be filled with new data collection and build upon established research.

The Recipient shall:
- Collect, sort, code, and review existing data, including:
  - Community Engagement Data, such as:
    - PG&E's Powerful Neighborhoods Zero Emission Electrification Pilot
    - PG&E's Electrify My Block Zero Emission Electrification Pilot
    - Switch Is On (SIO) Ambassador Program
    - Building Decarbonization Coalition (BDC) Chefluencer program
  - Digital User Experience Data from the SIO website (at switchison.org), such as:
    - Number of visitors (unique, return, etc.)
    - Most viewed pages
    - How users arrived at the site (organic, paid search, social media, etc.)
    - Contractor response time (including disparities by geography, service type, etc.)
    - Searches for contractors (location, filters used, services sought, etc.)
    - Incentive Data: Data about the rebate amounts, timing (start/stop), measures, and geographies where incentives are available; searches by geography, measure, program, etc.

        - Impact that paid, earned and owned media may have had on traffic (timing, messaging, etc.)
        - Contractor Business Data: Collection via SIO / TECH Clean California Rebate Program (TECH) application of business information, including age of business, service territory, badges/certifications, customer reviews.
    - Electrification Project Data from TECH Clean California to identify:
        - Areas with high and low concentrations of projects
        - Average install costs for different project types, including variations by geography, socioeconomic makeup of communities, and other factors
        - Contractors that have installed several projects
        - Contractors that installed projects early in the program but have not participated in a while (to understand why)
        - Additional information that informs the effect of incentive programs on the value chain and customer experiences
    - Consumer and Contractor Sentiment data, such as:
        - TECH contractor office hours
        - Emails to SIO customer support
        - BDC polling on electrification
    - Contractor service offerings, territories, and customer reviews for contractors listed in the SIO contractor directory to understand niche community access to electrification services (e.g. rural and/or low-income communities)
- Collect data from existing literature, such as:
    - TECH Impact Evaluation
    - Peninsula Clean Energy whole home evaluation
    - Case studies from other states, including Maine, Massachusetts, and New York
- Identify data and service gaps for niches (e.g. low-income households and rural communities) that additional field research can help better understand.
- Develop and submit a *Summary of Existing Data and Research Gaps* to the CAM

Products:

- Summary of Existing Data and Research Gaps

Subtask 2.2: Conduct Consumer Field Research

The goal of this task is to collect data on positive and negative electrification experiences for end users.

The Recipient shall:

- Develop a *Consumer Research Methodology Memorandum*, including outreach and sampling plan to guide field research (virtually, in person, or over the phone) to understand attitudes and behaviors of various electrification end users across California investor-owned utilities (IOU) service territories and geographies, including niche communities (rural and/or low-income households).
- Develop *Consumer Survey Instruments and Interview Questions Memorandum* which describes and outlines:
    - The survey and interview questions, as appropriate, to be presented to volunteer electrification ambassadors. The team will seek to ensure a representative sample of electrification ambassadors representing various geographies, climate zones, rural/urban communities, languages spoken, and other factors.

    - The analysis of where the ambassadors are located in the state to identify if there are specific areas with little or no coverage of ambassadors. SB1221 mapping locations will be accounted for to provide reflections of the perspectives of those regions, as well. If niche areas are not well represented by ambassadors, an outreach plan to cultivate additional participation in those areas will be developed.

- Train up to 20 SIO ambassadors, located in geographically diverse areas, to conduct neighborhood surveys (in-person and digital). Surveys will focus on key influences (events, people, and messages) for shifting a household’s willingness to electrify. Within their community, each ambassador will aim for 20 completed surveys.
- Interview 10-15 pro-electrification chefs in BDC’s California Chefluencer network, to focus on and summarize common customer barriers and messaging they have found to be effective in their cooking demonstrations to get at the “last appliance” challenge of a whole home or neighborhood decarbonization project.
- Aggregate, code, and review data collected from the surveys and interviews into a *Consumer Research Pre-Analysis Findings Memorandum*.

Products:
- Consumer Research Methodology Memorandum
- Consumer Survey Instruments and Interview Questions Memorandum
- Consumer Research Pre-Analysis Findings Memorandum

Subtask 2.3: Analyze Consumer Experience, Sentiments and Impacts
The goals of this task are to (1) conduct a thematic and sentiment analysis of data collected in Tasks 2.1 and 2.2 and (2) summarize findings in a way that can be incorporated into the Social Feasibility Framework.

The Recipient shall:
- Conduct thematic analysis of field data to understand variations in awareness, knowledge, attitudes, and behaviors of end users as they vary based on specific niche or other positionalities.
- Analyze sentiment data collected through field research to understand perspectives of various electrification end users across California IOU service territories and geographies, including niche communities (rural and/or low-income households).
    - Compare electrification sentiments of specific measures to single buildings to whole neighborhoods
    - Compare electrification sentiments across demographic categories, building types, and geographics (including rural communities)
- Analyze data to understand the effect of education and/or electrification experiences on end user sentiment
    - Compare perceptions of electric equipment for respondents who have not had education and experience (e.g. perceptions of electric home appliances among people who currently have natural gas or propane, or chef sentiments toward induction prior to using the technology) and those of respondents who have had education and/or experience with electric equipment (e.g., consumers who have installed a heat pump or switched from a gas to an induction stove).

    - Where possible, analyze sentiment shift following electrification education (via an event, outreach effort, resource, referral)
    - Where possible, analyze sentiment shift following electrification experience (via a demonstration or direct interaction with electric equipment)
- Analyze user data from SIO website to assess negative experiences with electrification.
- Collect and describe the analyses and results in a *Consumer Research Findings Memorandum.*

Products:
- Consumer Research Findings Memorandum

TASK 3: VALUE CHAIN RESEARCH AND ANALYSIS
The goals of this task are to (1) identify the key factors that shape decisions for stakeholders to carry, sell, recommend, and/or install electric equipment, and (2) provide recommendations regarding which leverage points will reduce frictions to conversion.

Subtask 3.1: Conduct Value Chain Stakeholder Field Research
The goal of this task is to collect data to illuminate the challenges facing key stakeholders along the electrification value chain, including utilities, original equipment manufacturers (OEMs), distributors, contractors, and other building industry stakeholders.

The Recipient shall:
- Prepare a *Value Chain Research Methodology Memorandum*, which will include an outreach and sampling plan that describes the recruitment materials specific to each group of stakeholders.
- Develop *Value Chain Survey Instruments and Interview Questions Memorandum.*
- Conduct field research (conducted virtually, in person, via the phone or online survey) to understand attitudes and behaviors of various stakeholders along the value chain. Potential stakeholders may include:
    - Heat pump for space and water heating and induction stove OEMs in BDC's network (e.g. A.O. Smith, Bosch, Bradford White, Carrier, Daikin, Fujitsu, Johnson Controls, Lennox, LG, Mitsubishi, Rheem, Samsung, Trane, Copper)
    - Contractors and Distributors (from the contractors in the SIO Network)
- Collect electrification project data from a subset of contractors (e.g., up to 20) contractors to understand influence of project process and cost on client's satisfaction (e.g. timeline for project, cost, rebate/ incentive process)
    - Aggregate, code, and review data collected and submit *Value Chain Research Pre-Analysis Findings Memorandum*.
    - Note: It is assumed, in order to improve overall results and responsiveness, contractors will be surveyed once, with that survey including questions about their observations concerning negative electrification experiences for clients (e.g. call backs, canceled projects, poor reviews). Recipient will analyze the surveys within Task 2.3 as appropriate)

Products:
- Value Chain Research Methodology Memorandum
- Value Chain Survey Instruments and Interview Questions Memorandum

- Value Chain Research Pre-Analysis Findings Memorandum

Subtask 3.2: Analyze the Building Electrification Value Chain
The goals of this task are to (1) analyze value chain research conducted in Task 3.1 and (2) summarize findings in a way that can be incorporated into the Social Feasibility Framework. Recipient will conduct interview and survey data analysis using best practices in qualitative research, including thematic and sentiment analysis.

The Recipient shall:
- Analyze collected value chain data to identify:
  - Key decision-making factors
  - Pain points - challenges associated with the shift away from gas end uses
  - The effect of education and/or electrification experiences on value chain stakeholders to carry, promote, install, and/or sell electric equipment (OEMs, distributors, contractors).
  - Barriers to servicing or accessing niche communities (e.g. rural and/or low-income households)
- Describe findings from the data analysis in a *Value Chain Research Findings Memorandum*.
- Include progress on these activities in a *Task 3 CPR Report* and attend CPR meetings in accordance with Subtask 1.3 (CPR Meetings).

Products:
- Value Chain Research Findings Memorandum
- Task 3 CPR Report

TASK 4: GAS USAGE ANALYSIS
The goal of this task is to develop gas and electric impacts modeling tools that can be used in the Social Feasibility Framework (Task 5.1).

Subtask 4.1: Review Existing Gas Use Data
The goal of this task is to review existing data on gas usage to better understand potential gas usage data needs for modeling the potential impacts of building electrification.

The Recipient shall:
- Research existing empirical gas usage data through interviews with the gas IOUs and the CEC.
  - Interview the gas IOUs to understand the customer gas usage data that they collect, such as daily gas usage data by gas meter.
  - Interview relevant staff from the CEC to understand what gas usage data was recorded as part of the California Residential Appliance Saturation Study and the California Commercial End-Use Survey.
  - Interview relevant staff from the CEC to understand what other empirical gas usage data may be available in CEC data.
- Review the ResStock and ComStock energy simulation databases developed and maintained by the National Laboratory of the Rockies (NLR) and detail the simulated gas usage data available in these databases.

- Develop a *California Gas Usage Data Summary* that clearly documents the available customer gas usage data from these data sources, including both empirical data and simulations.

Products:

- California Gas Usage Data Summary

Subtask 4.2: Gas Use Modeling and Analysis

The goal of this task is to analyze gas usage data to better understand how customers use gas in their homes and commercial buildings and to predict the electric load impacts of building electrification. This task will lead to the development of modeling tools to support robust estimation of bill impacts, electric grid impacts, and societal cost impacts from building electrification.

The Recipient shall:

- Develop a *Customer End Use Estimation Model:*
    - Key inputs for this model will be customer gas usage, customer electricity usage, customer building data (e.g., building type, square footage), location data (e.g., county or climate zone), and weather data (e.g., historical temperature data corresponding to the gas usage data).
    - This module will use the above input data to predict the presence of customer installed equipment, including gas vs. electric space heating, gas vs. electric water heating, and the presence of air conditioning. The module will also explore whether robust prediction can be developed for cooking and clothes drying end uses.
    - This module will also estimate the disaggregation of total gas usage to different gas end uses.
    - Using the disaggregated gas usage data and equipment efficiencies, the model will also estimate annual and peak electric load impacts from electrification.
- Evaluate the benefits of hourly vs. daily vs. monthly gas data in predicting gas end uses:
    - Leverage the *Customer End Use Estimation Model* to test whether the model would better predict the presence of customer equipment if more granular temporal data on gas usage were available.
    - Develop and test separate models using hourly, daily, and monthly gas usage data from NLR building simulation databases. All three models would have access to the same hourly historical temperature data from public data sources.
    - Use these findings to provide recommendations regarding the collection of temporal gas data.
    - Consider how customer end use estimation may inform the social feasibility framework; for example, certain customer outreach strategies may be better suited for customers with certain kinds of equipment.
- Develop a *Gas Usage Modeling Report* that details the results of this task.

Products:

- Customer End Use Estimation Model
- Gas Usage Modeling Report

TASK 5: SOCIAL FEASIBILITY FRAMEWORK

The goals of this task are to (1) create a framework for assessing and improving the social feasibility of the gas system transition, and (2) test its efficacy on a planned gas decommissioning site.

Task 5.1: Develop a Social Feasibility Framework

The goal of this task is to develop a framework for assessing and improving the social feasibility of the gas system transition for use by utilities, program administrators, CBOs and other stakeholders.

The Recipient shall:

- Develop a *Social Feasibility Framework* through*:*
  - Synthesis of findings and conclusions from Tasks 2, 3 and 4 to understand major contributing factors for customer and community willingness to electrify gas end uses
  - Creation of a method for assessing existing social feasibility with specific direction for addressing project differences such as scale (e.g. Neighborhoods vs. Individual Households); Demographics (e.g. income-level, disadvantaged community classification, owner vs. renter); Location (e.g. rural, suburban, or urban; climate zone, IOU territory)
  - Creation of a method for improving social feasibility with specific direction for addressing project differences such as scale, demographics, and location.
  - Inclusion of a list of recommendations of appropriate and effective interventions to be deployed by utilities, community-based organizations, and program administrators in areas with low social feasibility to increase customer willingness to accept, participate in, and advocate for the transition from gas to electric alternatives.

Products:

- Social Feasibility Framework

Task 5.2: Test, Validate and Refine the Framework

The goal of this task is to test the Social Feasibility Framework and the Customer End Use Estimation Model on example gas transition sites to demonstrate their use and integration into site identification, consumer engagement, and implementation.

The Recipient shall:

- Identify available data based on public SB 1221 mapping data.
- Request confidential data from the gas IOUs as needed to support site identification and evaluation.
- Develop an *Integrated Evaluation Framework,* which will illustrate how two key products from this research, the Social Feasibility Framework (from Task 5.1) and the Customer End Use Estimation Model (from Task 4.2), can be integrated with SB 1221 data to support site identification and project evaluation and to provide considerations for project implementation.
- Identify a small set of up to three (3) example projects to examine.

    - If the priority neighborhood decarbonization zones have been developed as part of SB 1221, these will be highlighted for the example projects.
- Develop *Integrated Evaluation Report*, which will:
    - Document the results of using the integrated evaluation framework to support project evaluation and inform considerations for project implementation, and
    - Provide recommendations for future work to integrate social feasibility consideration into the planning and implementation of targeted electrification projects.
- Include progress on these activities in a *Task 5 CPR Report* and attend CPR meeting in accordance with subtask 1.3 (CPR Meetings).

Products:
- Integrated Evaluation Framework
- Integrated Evaluation Report
- Task 5 CPR Report

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 July 15th 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), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:
- Initial Project Benefits Questionnaire
- Annual Survey(s)

- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

TASK 7: KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the scientific and techno-economic analysis and tools developed under this agreement are utilized in the energy policy, and/or planning decisions at the state and/or local levels, academic community and/or commercial sector.

The Recipient Shall:

- Develop and submit a *Knowledge Transfer Plan* that identifies the proposed activities the recipient will conduct to meet the goal of the task. The *Knowledge Transfer Plan* should include at a minimum:
  - Specific policy and planning efforts this project is expected to inform.
  - Specific stakeholder groups and energy policy and planning practitioners who will utilize the results of this project.
  - Proposed activities the recipient will conduct to ensure the tools and results from this project will be utilized and adopted by the groups identified above.
- Present the *Draft Knowledge Transfer Plan* to the TAC for feedback and comments.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the *Draft Knowledge Transfer Plan*. This document will identify:
  - TAC comments the recipient proposes to incorporate into the *Final Knowledge Transfer Plan*.
  - TAC comments the recipient does not propose to incorporate with and explanation why.
- Submit the *Final Knowledge Transfer Plan* to the CAM for approval.
- Implement the activities as described in the *Final Knowledge Transfer Plan.*
- Develop a *Knowledge Transfer Summary Report* that includes high level summaries of the activities, results, and lessons learned of tasks performed relating to implementing the *Final Knowledge Transfer Plan*. This report should not include any proprietary information.
- When directed by the CAM, develop presentation materials for an CEC- sponsored conference/workshop(s) on the project.
- Provide at least six (6) *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:

- Knowledge Transfer Plan (draft and final)
- Summary of TAC Comments
- Knowledge Transfer Summary Report (draft and final)
- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.