California ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

California Energy Commission
July 08, 2026 Business Meeting
Backup Materials for Guidehouse Inc.

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

1. Proposed Resolution
2. Contract Request Form
3. Scope of Work

CALIFORNIA ENERGY COMMISSION

PROPOSED RESOLUTION: Guidehouse Inc.

RESOLUTION NO: 26-0708-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 800-26-001 with Guidehouse Inc. for a $1,498,079 contract to provide technical support on energy efficiency methodologies, electrification and decarbonization analyses, demand response and demand flexibility, decarbonization impacts to energy systems, and enhancing the CEC's analytical products and processes; 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 08 day of July 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 July 08, 2026.

Kim Todd
Secretariat

STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

CEC-94 (Revised 01/2026)

CONTRACT REQUEST FORM (CRF)

A. New Agreement Number

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

New Agreement Number: 800-26-001

B. Division Information

1. Division Name: Energy Assessments Division
2. Agreement Manager: Brian Samuelson
3. MS-Not Applicable
4. Phone Number: 916-891-8749

C. Contractor's Information

1. Contractor's Legal Name: Guidehouse Inc.

D. Title of Project

Title of project: Energy Efficiency Technical Support 2026

E. Term and Amount

1. Start Date: August 3, 2026
2. End Date: July 31, 2029
3. Amount: $1,498,079

F. Business Meeting Information

1. Operational agreement to be approved by Executive Director? No
2. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
3. The Proposed Business Meeting Date: 07-08-26
4. Consent or Discussion? Consent
5. Business Meeting Presenter Name: N/A
6. Time Needed for Business Meeting: N/A
7. The email subscription topic is: Efficiency Topics, Decarbonization Topics

Project Description:

Guidehouse Inc. Proposed resolution approving Agreement 800-22-007 with Guidehouse Inc. for a $1,498,079 contract to provide technical support on energy efficiency methodologies, electrification and decarbonization analyses, demand response and demand flexibility, decarbonization impacts to energy systems, and enhancing CEC's analytical products and processes. (COIA Funding) Contact: Brian Samuelson

G. California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
No

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: Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because: Work under contract is to provide technical support to

CEC staff with forecasting and tracking energy efficiency savings, demand response and demand flexibility analysis and modeling.

2. **If Agreement is considered a "Project" under CEQA answer the following questions.**

a) Agreement **IS** exempt?

No

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?

No

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: None

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.

Not applicable

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

Enter Yes or 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). 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	Budget
TRC Engineers, Inc.	$ 180,000
Jai John Mitchell dba Jai J. Mitchell Analytics	$ 46,500

J. 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 Partner Legal Company to report

K. 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
COIA	2026-2027	BL#370.800	$500,000
COIA	2027-2028	BL#370.800	$500,000
COIA	2028-2029	BL#370.800	$498,079

TOTAL Amount: $1,498,079

R&D Program Area: N/A

Explanation for "Other" selection N/A

Reimbursement Contract #: N/A

Federal Agreement #: N/A

L. Contractor's Contact Information

1. Contractor's Administrator/Officer

Name: Amul Sathe

Address: 400 Capitol Mall, Room #08-102

City, State, Zip: Sacramento, CA 95814

Phone: 415-399-2180

E-Mail: amul.sathe@guidehouse.com

2. Contractor's Project Manager

Name: Neil Podkowsky

Address: 400 Capitol Mall, Room #08-102

City, State, Zip: Sacramento, CA 95814

Phone: 602-528-8028

E-Mail: npodkowsky@guidehouse.com

M. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	RFP-25-801, 3 Bids
Non Competitive Bid *(Attach DGS-GSPD-09-007 https://www.dgs.ca.gov/PD/Forms)*	Not Applicable
Exempt	Not Applicable

N. Contractor Entity Type

Contractor Entity Type	Yes or No?
Private Company *(including non-profits)*	Yes
CA State Agency *(including UC and CSU)*	No
Government Entity *(i.e. city, county, federal government, air/water/school district, joint power authorities, university from another state)*	No

O. Is Contractor a certified Small Business (SB), Micro Business (MB) or Disabled Veterans Business Enterprise (DVBE)?

The contractor is a certified: N/A.

P. Civil Service Considerations

a. Not Applicable (Agreement is with a CA State Entity or a membership/co-sponsorship)? No

b. Public Resources Code 25620, et seq., authorizes the Commission to contract for the subject work. (PIER) No

c. The Services Contracted: Yes

If no, go to the next question. If yes, which of the following applies to the contract? More than one can apply, list each answer choice, and separate them with a comma:

- are not available within civil service

- cannot be performed satisfactorily by civil service employee
- are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system

The following applies to the contract: are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system.

d. The Services are of such an urgent, temporary, or occasional nature that the delay to implement under civil service would frustrate their very purpose?

Urgent.

Justification:

Work for this contract is highly specialized and technical nature that the expert knowledge, expertise, and ability are not available through the civil service system.

Q. Payment Method

1. Is the payment method Reimbursement, Advanced Payment, or Other?
   Remimbursement
   If Other, explain:
2. If Reimbursement, is it in arrears based on Itemized Monthly, Itemized Quarterly, Flat Rate, or One-time?
   Itemized Monthly

R. Retention

Is Agreement subject to retention? Yes

If Yes, Will retention be released prior to Agreement termination? Yes

S. Justification of Rates

Based on expected hours by task and classifications required to perform the tasks.

T. Disabled Veteran Business Enterprise Program (DVBE)

Provide requested additional information.

1. Exempt (Interagency/Other Government Entity) No
2. Meets DVBE Requirements DVBE Yes
   Amount: $ 46,500 DVBE %: 3.1
3. Is the Contractor Certified DVBE or Subcontracting with a DVBE? If subcontracting with a DVBE, provide the name of the DVBE company. If none applies, enter “Not Applicable”.

   Jai John Mitchell dba Jai J. Mitchell Analytics

4. Contractor selected through CMAS or MSA with no DVBE participation No
5. Requesting DVBE Exemption (attach CEC 95) No

U. Miscellaneous Agreement Information

1. Will there be Work Authorizations? Yes
2. Is the contractor providing confidential information? No
3. Is the contractor going to purchase equipment? No
4. What is the check frequency of the progress reports? Monthly, Quarterly, or Other? If Other, please provide explanation.

   Monthly

5. Will a final report be required? Yes
6. Is the Agreement, with amendments, longer than three years? If yes, why?

   No

V. The following items should be attached to this CRF (as applicable)

List all items that should be attached to this CRF 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	DGS-GSPD-09-007, NCB Request	No
4	CEC 95, DVBE Exemption Request	No
5	Awardee CEQA Documentation	No
6	Resumes	Yes
7	CEC 105, Questionnaire for Identifying Conflicts	Yes

Approved By

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

Agreement Manager:

Approval Date:

Office Manager:

Approval Date:

Deputy Director:

Approval Date:

EXHIBIT A
SCOPE OF WORK

TASK LIST

Task #	Task Name
1	Agreement Management
2	Improve Analytical Methods for Forecasting Energy Savings, Impacts, and Greenhouse Gas (GHG) Reductions from Energy Efficiency (EE) and Fuel Substitution (FS) Programs and Incremental Codes and Standards (PiCS)
3	Electrification Potential and GHG Emission Analysis
4	Demand Flexibility Potential and Scenarios Analysis
5	Common Platform Implementation Support

ACRONYMS/GLOSSARY

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

Acronym/Word	Definition
CAO	Commission Agreement Officer
CAM	Commission Agreement Manager
CPUC	California Public Utilities Commission
EM&V	Evaluation, Measurement, and Verification
CEC	State Energy Resources Conservation and Development Commission or as commonly called, the California Energy Commission
EE	Energy Efficiency
GHG	Greenhouse Gas
IEPR	Integrated Energy Policy Report
WA	Work Authorization

BACKGROUND

With the passage of Senate Bill (SB) 350 - the Clean Energy and Pollution Reduction Act, the California Energy Commission (CEC) is required to establish annual targets for statewide EE savings and demand reduction that will achieve a cumulative doubling of statewide EE savings in electricity and natural gas final end uses by January 1, 2030. In addition, the CEC assesses the effects of EE savings, electrification, and demand response on electricity demand statewide in local service areas and on an hourly and seasonal basis. The CEC provides to the

legislature recommendations and an update on progress toward achieving this goal every two years in the Integrated Energy Policy Report (IEPR).

CEC staff and consultants hired under prior Request for Proposals (RFPs) are presently doing work on:

- Updating EE savings methodologies
- Updating electrification and decarbonization analyses
- Identifying cost effectiveness methods that could be applied to non-investor-owned utility entities
- Reviewing and making recommendations on improving California-specific evaluation, measurement, and verification (EM&V) studies and practices
- Researching demand response and demand flexibility challenges and potential demand side flexibility scenarios

Additional work is still needed on the following areas:

- EE, electrification, and demand flexibility analysis
- Decarbonization impacts to energy systems
- Enhancing, streamlining, and integrating CEC analytical products

The Contractor shall provide technical assistance for the following tasks, as directed by the Commission Agreement Manager (CAM).

WORK AUTHORIZATIONS

No work shall be undertaken unless authorized by the CAM through a specific written document called a “work authorization (WA)”, except for Administrative Task 1.
The CAM will prepare and issue the written WAs and shall set a maximum price, budget, and schedule for the work to be performed. The CAM will work, in consultation with the Contractor, to assign work to either the Contractor or a Subcontractor.

GENERAL REQUIREMENTS OR GOALS AND OBJECTIVES

The objective of this WA contract is to provide technical assistance to the Energy Assessments Division (EAD) by employing analytical methods for forecasting EE savings mandated by Senate Bill 350 (SB 350, De León, Chapter 547, Statutes of 2015); tracking EE savings from market-based activities, electrification and GHG emissions, and demand response and demand flexibility analysis; developing a common platform for long term statewide energy demand scenarios; and managing the Subcontractor products.

ADMINISTRATIVE TASKS

TASK 1.1 KICK-OFF MEETING

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

Expected Total Hours: 50

Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director

The Contractor shall:

Attend a "kick-off" meeting with the CAM, and the Contracts Agreement Officer (CAO). The meeting will be held in Sacramento, CA and the CAM will designate the specific location. The Contractor shall include their Project Manager, Contracts Administrator, Accounting Officer, and others designated by the CAM in this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting.

- If necessary, prepare an updated Schedule of Deliverables based on the decisions made in the kick-off meeting.

The CAM shall:

- Arrange the meeting including scheduling the date and time.
- Provide an agenda to all potential meeting participants prior to the kick-off meeting.

Deliverables:

- An Updated Schedule of Deliverables (if applicable).

TASK 1.2 INVOICES

Expected Total Hours: 200

Expected General Classifications: Accountant, Analyst, Scientist, Engineer, Project Manager, Director

The Contractor shall:

- Prepare invoices for all reimbursable expenses incurred performing work under this Agreement in compliance with the Exhibit B of the Terms and Conditions of the Agreement. Invoices shall be submitted with the same frequency as progress reports (task 1.4). Invoices must be submitted to the CEC's Accounting Office.

Deliverables:

Invoices

TASK 1.3 MANAGE SUBCONTRACTORS

The goal of this task is to ensure quality products, to enforce Subcontractor Agreement provisions, and in the event of failure of the Subcontractor to satisfactorily perform services, recommend solution to resolve the problem.

Expected Total Hours: 200

Expected General Classifications: Project Manager, Director

The Contractor shall:

- Manage and coordinate Subcontractor activities. The Contractor is responsible for the quality of all Subcontractor work and the CEC will assign all work to the Contractor. If the Contractor decides to add new Subcontractors, they shall 1) comply with the Terms and Conditions of the Agreement, and 2) notify the CAM who will follow the CEC's process for adding or replacing Subcontractors.

TASK 1.4 PROGRESS REPORTS

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement.

Expected Total Hours: 200

Expected General Classifications: Project Manager, Director

The Contractor shall:

- Prepare progress reports which summarize all Agreement activities conducted by the Contractor for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due within 15 calendar days after the end of the reporting period. The CAM will provide the format for the progress reports.

Deliverables:

Monthly Progress Reports

TASK 1.5 WORK AUTHORIZATIONS

The goal of this task is to develop and manage all technical and budgetary aspects of WA in accordance with the requirements of this Agreement for work to be performed under Technical Tasks 2 through 6.

Expected Total Hours: 150

Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director

The Contractor shall:

- Help prepare WAs in accordance with the contract requirements.
- The WA format and content shall be specified by the CAM.
- The WA end date should be no later than 60 days prior to the term end date of the Agreement.
- Submit all required WA Documents to the CAM.
- Administer WAs.
- Establish and maintain contractual agreements with entities performing work.
- Develop project schedules.

- Manage Subcontractor activities in accordance with the Agreement terms and conditions.
- Provide oversight and first-level review of reports and documentation, and comment on the content of deliverables.
- Review and approve all WA invoices.
- Provide audit and accounting services for all WAs.
- Immediately report any significant variances affecting performance of WAs and recommend mitigation actions for consideration by the Project Manager and CAM. Examples of significant variances include the inability to submit deliverables by key WA due dates, unavailability of key personnel that will affect timely submittal of deliverables, and key technical issues that would require change in scope, redirection of the effort, or discontinuation of the project.
- Coordinate with the CAM to close out completed WAs and remaining unallocated balances.
- Monitor and track each WA and the overall agreement.
- Provide updated WA project schedules, as needed, and determine if each WA is on schedule and deliverables are satisfactory.
- Determine the fiscal status of each WA and the overall Agreement.
- Prevent cost overruns.
- Track the start, progress, and closure of each WA.

Deliverables:

WA Documents

TASK 1.6 FINAL REPORT

Expected Total Hours: 150

Expected General Classifications: Project Manager, Director

The goal of this task is to prepare a comprehensive written final report that describes the original purpose, approach, results, and conclusions of the work completed under this Agreement. The final report shall be prepared in language easily understood by the public or layperson with a limited technical background.

The final report must be completed before the termination date of the Agreement in accordance with the schedule of deliverables.

The final report shall be a public document. If the Contractor has obtained confidential status from the CEC and will be preparing both a public and a confidential version of the final report, the Contractor shall perform the following subtasks for both the public and confidential versions of the final report.

Deliverables:

TECHNICAL TASKS

The Contractor shall be responsible for completing the tasks stated below and shall provide extensive technical guidance and assistance to the CEC throughout the duration of these tasks. The hours shown under each task would cover the term of the contract. With approval from the CAM through a WA, the Contractor will undertake the following tasks:

TASK 2: IMPROVE ANALYTICAL METHODS FOR FORECASTING ENERGY SAVINGS, IMPACTS, AND GHG REDUCTIONS FROM EE AND FS PICS

Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director

Using the SB 350 and Additional Achievable Energy Efficiency (AAEE) Tool Structure Report (2021), the 2021 IEPR Volume I and IV and 2023 IEPR, energy efficiency and fuel substitution calculation workbooks (found in the Reference Documents section), the contractor shall provide technical assistance to CEC staff. The scope of assistance includes developing analytical strategies and providing other support to update potential EE and FS PiCS savings and impacts for electricity and gas end uses of retail customers that will achieve a cumulative doubling of savings at the statewide level relative to the baseline efficiency savings specified in SB 350 by January 1, 2030. The cost, energy, and emission impacts from these decarbonization programs must be examined, particularly with a focus on equity concerns.

The software used for this work is primarily Microsoft Excel and scripts compiled in the R programming language. Staff expect to continue to work with this software, although there is an openness to migrating tools to a different environment where productivity could be significantly enhanced.

This work will require collaboration with the California Public Utilities Commission (CPUC), Community Choice Aggregators (CCAs), publicly owned utilities, and local authorities. The work includes updating the tools, data inputs, and background research used in tracking SB 350 savings and generating projections, as well as other energy forecasting products in the following areas, including but not limited to:

- Integration of verification methods using EM&V reports from utilities and individual customer billing and metered data when available.
- Integration of the California Technical Forum's eTRM (Electronic Technical Resource Manual) for documentation and all applicable measures, including, but not limited to, deemed measures and other SB 350 measures in current tools.
- Evaluation of the extent to which more granular historic EE data can be obtained from the CPUC and other sources for use in developing demand forecasts, including, but not limited to, building vintage and technology types.
- Evaluation of the extent to which more geographically disaggregated data can be analyzed to reflect localized impacts such as those resulting from CCA and Regional Energy Network (REN) programs and local ordinances.

- Evaluation of potential savings from emerging EE, electrification, and other decarbonization programs in all covered sectors.
- Evaluation of new and updated potential savings from appliance and building standards at the state and federal levels.
- Analyzing the impacts of changes in CPUC-regulated EE and other decarbonization programs resulting from CPUC's recent policy decisions, including, but not limited to, targeted electrification pilots, phasing out of gas EE, and elimination of line extension subsidies.
- Assessing the current programmatic hourly analysis and offering recommendations to incorporate improved load shapes, customer meter/billing data, and program data. Improvements may include greater geographical or technology level disaggregation, and long-term climate projections, as well as short-term weather variability.
- Assessing the long-term outlook for building and appliance standards beyond a 2030 time horizon, including energy savings decay and technology replacement.
- Analyze and compare data sets obtained from decarbonization program installations or other available sources with individual customer billing and metered data to inform the development of equipment installation detection algorithms for tracking purposes and for assessing program participation and naturally occurring market adoption.

TASK 3: ELECTRIFICATION POTENTIAL AND GHG EMISSIONS ANALYSIS

Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director

The Contractor shall assist with ongoing research and energy forecasting efforts in support of long-term decarbonization goals established by legislation and executive orders. In a 2022 letter to California Air Resources Board (CARB), Governor Newsom established a state goal of installing six million heat pumps by 2030. The cost, energy, and emission impacts from such decarbonization measures must be examined, particularly with a focus on equity. The contractor will leverage existing analytical tools and supplementary reports listed in the reference documents section.

The software used for this work is primarily Microsoft Excel and scripts compiled in the R programming language. Staff expect to continue to work with this software, although there is an openness to migrating tools to a different environment where productivity could be significantly enhanced.

The Contractor shall provide technical assistance in the following areas, including but not limited to:

- Identify methods to improve the current CEC Fuel Substitution Scenario Analysis Tool (FSSAT) and make the necessary updates to the FSSAT. These improvements include, but are not limited to, the following:
  - Generating inputs at greater levels of disaggregation and carrying that level of granularity throughout the FSSAT calculations where possible
  - Tracking and differentiating vintages of newly constructed buildings

    - Accounting for multiple cycles of equipment turnover; updating residential equipment stock
    - Updating characterization assumptions for residential and commercial equipment
    - Updating housing numbers
    - Improving modeling of propane and wood fuel substitution
    - Improving accounting for removed and installed equipment stock
    - Improving the characterization of the decarbonization potential, including hydrogen fuel substitution potential, across various non-residential subsectors, including but not limited to panel upgrades, equipment, and labor
    - Incorporating variable electricity generation emissions factors
- Detail the combined saturation of electrification measures, particularly the number of heat pumps installed, from PiCS Additional Achievable Fuel Substitution (AAFS) scenarios (see Task 2) and FSSAT scenarios. Produce detailed analysis using the best available data that combines outputs resulting from PiCS, and FSSAT-generated fuel substitution scenarios emulating naturally occurring market adoption or compliance with zero-emission appliance regulations.
- Propose performance improvements to staff's decarbonization modeling tools, products, and analyses using the CEC's Advanced Metering Infrastructure (AMI) data. For example, use such data for model calibration, detail the efficient and equitable targeting of potential customers and communities, and develop more accurate and recent hourly load profiles.
- Identify the implications of the costs of decarbonization when considering the near- and long-term impacts from decarbonization efforts on electric and (renewable) gas rates and the infrastructure costs occurring at and outside the scope of a building. Produce a tool that allows for detailed comparisons of energy cost impacts using various gas and hourly electric tariffs, including different rate designs.
- Identify improvements in understanding electrification measure impacts with additional geographic granularity amenable to substation allocation and gas and electric infrastructure transmission and distribution (avoided) costs.
- Incorporate any proposed changes to energy demand forecasting practices within the CEC that can be made to consider enhanced consideration of consumer behavior or historical electrification experience. Consider the use of backup fossil-gas technologies for electrified buildings.
- Review and propose methods to quantify the benefits of decarbonization, with a focus on equity indicators, using existing models and comparing them with existing marginal abatement cost estimates.
- Identify methods to enhance the analysis and characterization of electrification policies on new and existing buildings in the near and long term. For example, consider and identify the market impact of power-efficient appliances for specific end-use load profiles. Also, explore and implement methods that can characterize targeted electrification or strategic gas decommissioning policies.

- Identify and implement methods to improve the ability to observe hourly load impacts from electrification and the potential of load management strategies. Implement methods that improve the analysis of using different hourly emission factors. Implement analytical improvement to FSSAT's hourly module to help further align with other forecast tools and products.
- Prepare a modeling structure that improves the analysis of the long-term costs of electrification and considers efficiency and cost improvements stemming from market transformation.
- Identify leakage components in the natural gas system that should be considered volumetric, constant, and thus predicted by fuel combustion in buildings connected to the natural gas distribution system. Devise methods for projecting each type of leakage component as part of demand forecast.
- Analyze how measures that mitigate non-combustion GHG sources reduce GHG emissions and change energy demand impacts.
- Identify improvements in the modeling of added cooling load for heat pumps installed in buildings without prior access to air conditioning. Apply these modeling assumptions across the non-residential sectors, with a focus on commercial buildings.
- Prepare a comprehensive review of existing energy demand models, including FSSAT, that can model building electrification in California to compare the methodologies, data assumptions, and outputs used for data tracking, costs and GHG accounting, annual and hourly energy demand forecasting, and load bus allocation analysis.

TASK 4: DEMAND FLEXIBILITY POTENTIAL AND SCENARIOS ANALYSIS

Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director

Demand flexibility programs have been identified as an important source of electricity reliability, as well as cost and GHG emission reductions. The SB 846 (Dodd, Chapter 239, Statutes of 2022) Load-Shift Goal Report established a 2030 statewide 7,000 MW load-flexibility goal. Recent pending legislation, for example, Assembly Bill (AB) 44 (Schultz, Reg. Ses. 2025) and SB 541 (Becker, Reg. Ses. 2025), also seeks further analysis regarding the state's demand flexibility potential. The CEC seeks to further explore how various load-modifying and event-based programs can support increased renewable energy consumption, distributed energy resource adoption, utility and customer cost reductions, and help the state meet mid-century climate targets.

The software used for this work is primarily Microsoft Excel and scripts compiled in the R programming language. Staff expect to continue to work with this software, although there is an openness to migrating tools to a different environment where productivity could be significantly enhanced.

The Contractor shall provide technical assistance to the CEC staff on topics including, but not limited to:

- Enhance existing demand flexibility scenario analysis tools. The tools should continue to use inputs that include hourly end-use load profiles, different weather scenarios, other CEC tool outputs such as the FSSAT (see Task 3) and the programmatic SB 350 EE

and FS data integration being updated and enhanced in Task 2 and sector-based baseline consumption models.

- Continue developing and improving the iterative interaction of demand flexibility tools with CEC supply modeling tools.
- Develop new or enhance existing demand flexibility scenario tools as needed to incorporate consideration of various time-varying rates, such as those developed pursuant to the CEC's Load Management Standards or the CPUC's California Flexible Unified Signal for Energy (CALFUSE; R.22-07-005) framework.
- Develop end-use load shapes informed by possible load-shifting and -shedding in the future.
- Develop additional functionality for the demand flexibility tool based upon lessons learned since the SB 846 Load-Shift Goal Report and recent tracking efforts.
- Update the demand flexibility tool and input assumptions to enable setting localized load shift goals as may be required by SB 541.
- Explore the applicability and further develop the demand flexibility tool for use in the California Energy Demand Forecast and for other CEC products as may be needed pursuant to AB 44.
- Improve tool outputs that could be leveraged by other CEC forecasting and scenario analysis efforts, which can support policymaking decisions and program development.
- Update the calculation of end-user operational costs using hourly outputs, time-of-use rates, and additional emerging rate designs as they are developed.
- Pilot the use of interval meter data to create control groups for third-party demand response programs.

TASK 5: COMMON PLATFORM IMPLEMENTATION SUPPORT

Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director

The CEC's Common Platform is a general-purpose tool built using an ontology-based knowledge framework. It facilitates collaboration and provides unified, transparent access to various data sources that can be queried by staff to complete demand forecast analytical workflows. This task will support the CEC's analytical efforts to investigate options and costs to achieve California's energy policy goals and GHG emission reduction targets established through SB 350, SB 32, SB 1383, AB 3232, SB 100, SB 846, and various Executive Orders.

The Common Platform is built on the Resource Description Framework (RDF) and Web Ontology Language (OWL) using a webpage front-end user interface. The primary coding language used is SPARQL. Staff expect to continue to work with this configuration, although there is an openness to migrating methods where productivity could be significantly enhanced.

The Contractor shall work with CEC staff to scale, enhance, and automate the functionality and capability of the Common Platform, including, but not limited to, the following tasks:

- Organize, manage, and integrate data

- Enhance the Common Platform's Ontology and Knowledge Base with inference rules that will improve staff efficiency and enforce quality standards by applying logical rules that leverage historical patterns.
- Integrate unstructured data sources (e.g., memos, reports, audio, etc.) to provide a holistic view of an entire case study (e.g., automate the ingestion of pending Legislation regarding new policies and their potential impact on the CEC's Ontology, Knowledge Base, and staff's workflow).

- Develop models and scenario framework
  - Enhance predictive capabilities and automate complex modules by incorporating approved Machine Learning (ML) and Large Language Models (LLMs) to generate actionable recommendations.
  - Incorporate collaborative quality assurance and quality control processes to confirm a model's quality.
  - Investigate how to leverage data from the Common Platform to generate dynamic scenarios, context-specific situations that adapt based on conditions, that would inform layered decision logic.
  - Create opportunities to enhance productivity and collaboration by optimizing the user experience and promoting data accessibility, especially when linking or producing a multivariate forecasting model.

SCHEDULE OF DELIVERABLES AND DUE DATES

Note: Actual deliverables will be specified in each WA.

Task Number	Deliverable	Due Date
1.0	Agreement Management	
1.1	Kickoff Meeting, including meeting notes and next steps summary	Summer 2026
1.2	Prepare Invoices	Monthly
1.3	Manage Subcontractors	Ongoing
1.4	Monthly Progress Reports	Monthly
1.5	Work Authorizations	Ongoing
2	Improve Analytical Methods for Forecasting Energy Savings, Impacts, and Greenhouse Gas (GHG) Reductions from Energy Efficiency (EE) and Fuel Substitution (FS) Programs and Incremental Codes and Standards (PiCS)	TBD- based on WA timeline
3	Electrification Potential and GHG Emission Analysis	TBD- based on WA timeline
4	Demand Flexibility Potential and Scenarios Analysis	TBD- based on WA timeline
5	Common Platform Implementation Support	TBD- based on WA timeline