# GRANT FUNDING OPPORTUNITY

**Retrofitting Existing Residential Buildings with Innovative Envelope Solutions**

 **EPIC Program**



**GFO-24-310**

**Addendum 01**

<https://www.energy.ca.gov/funding-opportunities/solicitation>

**State of California**

**California Energy Commission**

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| **Attachments**

| Attachment Number | Title of Section |
| --- | --- |
| 1 | Executive Summary Form |
| 2 | Project Narrative Form |
| 3 | Project Team Form |
| 4 | Scope of Work Template |
| 5 | Project Schedule |
| 6 | Budget  |
| 7 | CEQA Compliance Form  |
| 8 | Past Projects Information Form |
| 9 | Commitment and Support Letters Form ***(requires signature)*** |
| 10 | Project Performance Metrics |
| 11 | Applicant Declarations ***(requires signature)*** |
| 12 | References for Calculating Energy End-Use and GHG Emissions |
| 13  | CEQA Reference Guide  |

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# I. Introduction

## Purpose of Solicitation

The purpose of this solicitation is to fund applied research and development (ARD) and technology demonstration and deployment (TDD) projects that improve the customer value proposition of end-use efficiency measures through envelope solutions for the existing residential building sector.

With more than 14 million existing residential units in California, a variety of building decarbonization strategies and the California Building Energy Code (Title 24) are needed to reduce building sector greenhouse gas (GHG) emissions. Although new construction must meet Title 24, existing buildings are required to conform to Title 24 standards onlywhen specific or significant renovations trigger code compliance. Since older existing buildings are leakier and less efficient, tighter and more energy efficient building envelopes are particularly valuable to reduce heating and cooling loads, improve occupant comfort, and reduce infiltration of outside air. Retrofits in existing buildingsoffer significant opportunities to address decarbonization, energy use and costs, occupant health and comfort, and GHG emissions. However, existing building retrofits face considerable challenges as well, from high upfront costs, occupant disturbance, and remediation concerns to split incentives for renter-occupied homes. Overcoming these challenges is crucial to meeting the state’s GHG reduction goals of limiting statewide GHG emissions to at least 85 percent below 1990 levels by 2045[[1]](#footnote-2) while realizing the myriad benefits for existing buildings.

This solicitation focuses on energy efficiency and building decarbonization by targeting pre-2000 era residential existing building envelopes. The envelope includes the windows, walls, attics, ceilings, and roofs. Projects must develop and demonstrate new envelope technologies/techniques and manufacturing processes to validate the technology in real-life situations with the goals of improving the value proposition and driving uptake for existing building envelope retrofits. These outcomes should be realized through a) lowering costs, b) reducing heating, ventilation, and air conditioning (HVAC) energy consumption, c) reducing GHG emissions, d) reducing occupant disruption, and e) improving occupant comfort and building resilience. Projects must fall within the following project groups:

**Group 1**: Residential Opaque Envelope Retrofits - Value Proposition Improvement

**Group 2**: Residential Vacuum Insulated Glass Retrofits - Value Proposition Improvement

**Group 3:** Residential Envelope Retrofits with Advanced Building Construction Techniques

**Group 4**: Residential Window Retrofits using Existing Frames

See Section II of this solicitation for eligibility requirements. Applications will be evaluated as described in Section IV of this solicitation.

Applicants may submit multiple applications, though each application must address only one of the project groups identified above. If an applicant submits multiple applications that address the same project group, each application must be for a distinct project (i.e., no overlap with respect to the technical tasks described in the Scope of Work).

Prospective applicants looking for partnering opportunities for this funding opportunity should register on the California Energy Commission’s Empower Innovation website at www.empowerinnovation.net.

## Key Words/Terms

| **Word/Term** | **Definition** |
| --- | --- |
| Advanced Building Construction (ABC) Methods | Methods that offer high-performing envelopes, faster renovation, and improved construction processes with less disruption to building occupants. Compared with current envelope efficiency improvement methods, these methods can help keep costs more affordable for developers and consumers, which can help increase scalability and repeatability, and drive technology adoption. Methods can include the use of new building materials, robotics, offsite manufacturing, 3-D printing, digitization, and others. Adapted: DOE’s Advanced Building Construction Fact Sheet https://www.energy.gov/eere/buildings/articles/advanced-building-construction-fact-sheet  |
| Applicant | An entity that submits an application to this solicitation. |
| Application | An applicant’s written response to this solicitation. |
| Authorized Representative | The person submitting the application who has authority to enter into an agreement with the CEC.  |
| California Native American Tribe/Tribe | A Native American Tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004 (Pub. Resources Code, § 21073). |
| California Tribal Organization | A corporation, association, or group controlled, sanctioned, or chartered by a California Native American tribe that is subject to its laws, the laws of the State of California, or the laws of the United States. |
| CAM | *Commission Agreement Manager,* the person designated by the CEC to oversee the performance of an agreement resulting from this solicitation and to serve as the main point of contact for the grant recipient. |
| CAO | *Commission Agreement Officer*, the person designated by the CEC to oversee the internal administrative processes and to serves as the main point of contact for solicitation applicants. |
| CBO | *Community Based Organization*, a public or private nonprofit organization of demonstrated effectiveness that: 1. Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community or similar community.
2. Has an official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.
3. Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.
 |
| CEC | State Energy Resources Conservation and Development Commission or, the California Energy Commission. |
| CEC Funds | *CEC funds* are EPIC grant funds awarded under this solicitation. Also referred to as grant funds. |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| Days | *Days refers to calendar days.* |
| Disadvantaged Community | Communities designated pursuant to Health and Safety Code section 39711 as representing the top 25% scoring census tracts from CalEnviroScreen along with other areas with high amounts of pollution and low populations as identified by the California Environmental Protection Agency.(https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40) |
| Energy Equity | The fair distribution of benefits and burdens from energy production and consumption. |
| EPIC | *Electric Program Investment Charge,* the source of funding for the projects awarded under this solicitation. |
| IOU | *Investor-owned utility,* an electrical corporation as defined in California Public Utilities Code section 218. For purposes of this solicitation, it includes Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. |
| Low-Income Community | Communities within census tracts with median household incomes at or below 80 percent of the statewide median income or the applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development. (https://www.hcd.ca.gov/grants-and-funding/income-limits)  |
| Major Subrecipient  | A Subrecipient that is budgeted to receive $100,000 or more of CEC funds, not including any equipment or match funds that may be provide by the Subrecipient.  |
| Manufactured Home | A Manufactured Home has dwelling units of at least 320 square feet in size with a permanent chassis to assure the initial and continued transportability of the home. All transportable sections of manufactured homes built in the U.S. after June 15, 1976 must contain a [certification label](https://www.hud.gov/sites/documents/Hud.pdf). The label certifies that the manufacturer has built the home in accordance with U.S. Department of Housing and Urban Development’s (HUD) Manufactured Home Construction and Safety Standards (the Standards). The Standards cover Body and Frame Requirements, Thermal Protection, Plumbing, Electrical, Fire Safety and other aspects of the home, published under 24 CFR Part 3280.Source: HUDhttps://www.hud.gov/program\_offices/housing/mhs/csp/mfsheet#:~:text=What%20is%20a%20Manufactured%20Home,under%2024%20CFR%20Part%203280. |
| Multi-Family Building or Multi-Family Home (MF) | A **Multi-Family Building** is any of the following: * A building of Occupancy Group R-2, other than a hotel/motel building or timeshare property,
* A building of Occupancy Group R-3 that is a nontransient congregate residence, other than boarding houses of more than 6 guests and alcohol or drug abuse recovery homes of more than 6 guests, or

• A building of Occupancy Group R-4.Source: [2022 Single-Family Residential Compliance Manual](https://www.energy.ca.gov/publications/2022/2022-single-family-residential-compliance-manual-2022-building-energy-efficiency)https://www.energy.ca.gov/publications/2022/2022-single-family-residential-compliance-manual-2022-building-energy-efficiency |
| NOPA | *Notice of Proposed Award,* a public notice by CEC staff that identifies proposed grant recipients. |
| Pre-Commercial Technology |  A technology that has not reached commercial maturity or been deployed at scales sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable the appraisal of operational and performance characteristics, or of financial risks. |
| Pilot Test | Small scale testing in a laboratory or testing on a small portion of the production line of the affected industry. Pilot tests help verify the design and validity of an approach, and adjustments can be made at this stage before full-scale demonstrations |
| Principal Investigator | The technical lead for the applicant’s project, who is responsible for overseeing the project; in some instances, the Principal Investigator and Project Manager may be the same person.  |
| Project Manager | The person designated by the applicant to oversee the project and to serve as the main point of contact for the CEC. |
| Project Partner | A person or entity that contributes financially or otherwise to the project (e.g., match funding, provision of a test, demonstration, or deployment site) and does not receive CEC funds.  |
| Recipient |  A person or entity receiving a grant award under this solicitation. “Recipient” may be used interchangeably with “grant recipient”. |
| R-value | A unit of thermal resistance used for comparing insulating values of different materials. It is a measure of the effectiveness of insulation in stopping heat flow. The higher the R-value for a material, the greater its insulating properties and the slower the heat can flow through it. The specific value best suited to insulate a home depends on climate, type of heating system, and other factors. |
| Single-Family Building or Single-Family Home (SF) | A **Single-Family Building** is any of the following: * A residential building of Occupancy Group R-3 with two or fewer dwelling units,
* A building of Occupancy Group R-3, other than a multi-family building or hotel/motel building,
* A townhouse,
* A building of Occupancy Group R-3.1, or
* A building of Occupancy Group U when located on a residential site.

Source: [2022 Single-Family Residential Compliance Manual](https://www.energy.ca.gov/publications/2022/2022-single-family-residential-compliance-manual-2022-building-energy-efficiency)https://www.energy.ca.gov/publications/2022/2022-single-family-residential-compliance-manual-2022-building-energy-efficiency |
| Solicitation | This entire document, including all attachments, exhibits, addenda, written notices, and questions and answers (“solicitation” may be used interchangeably with “Grant Funding Opportunity” or “GFO”).  |
| **Solar Heat Gain Coefficient (SHGC)** | **The amount of heat gained or lost through windows due to solar radiation into the building. The higher the number, the more heat gained through the window.**  |
| Subrecipient  | A person or entity that receives grant funds directly from a grant Recipient and is entrusted to make decisions about how to conduct some of the grant’s activities. A Subrecipient’s role involves discretion over grant activities and is not merely just selling goods or services. |
| Sub-Subrecipient | Has the same meaning as a Subrecipient except that it receives grant funds from a Subrecipient or any lower tier level of a Sub-Subrecipient. |
| State | State of California |
| TRL | Technology readiness levels are a method for estimating the maturity of technologies during the acquisition phase of a program.Source: U.S. Department of Energy, “Technology Readiness Assessment Guide”.<https://www2.lbl.gov/dir/assets/docs/TRL%20guide.pdf> |
| U-Factor | A measure of how well heat is transferred by the entire window - the frame, sash, and glass - either into or out of the building. U-value is the opposite of R-value. The lower the U-factor number, the better the window will keep heat inside a home on a cold day. |
| Vendor | A person or entity that sells goods or services to the grant Recipient, Subrecipient, or any lower-tiered level of Sub-Subrecipient, in exchange for some of the grant funds, and does not make decisions about how to perform the grant’s activities. The Vendor’s role is ministerial and does not involve discretion over grant activities. |
| **Visible Light Transmittance (VT)** | **A measure of the amount of visible light that is transmitted through a window. Higher values indicate that more light is transmitted through the window.** |

## Project Focus

Projects under this solicitation must focus on developing and demonstrating new envelope technologies/techniques and manufacturing processes to improve the value proposition of existing residential building envelope retrofits. These projects will target the pre-2000 era residential existing building stock and must be cost-effective using life cycle cost methodology with a life cycle benefit/cost ratio greater than one. See **Common Group Requirements section** below for details on the Life Cycle Cost Effectiveness Methodology, emissions calculations, and approved simulations programs.

### COMMON GROUP REQUIREMENTS

Applicants for all project groups must include **a Life Cycle Cost Effectiveness Analysis and a Direct Building-Based Emissions Analysis in their proposals as part of the Project Narrative section. These analyses must utilize the methodologies and simulation software programs described below. Additional requirements specific to each project group are further described below.**

1. Life Cycle Cost Effectiveness Methodology

For this cost-effectiveness analysis, applicants must utilize a CEC-approved simulation software tool (see [**Building Energy Efficiency Standards**](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/)website for the approved software tools), such as 2025 CBECC-Res or CBECC-Com, or another software tool, such as EnergyPlus, capable of generating annual 8760 hourly kWh and therms analysis and utilizing 16 California-specific climate zones (CZ). ASHRAE CZs shall not be used for this analysis. For electricity, the resulting 8760 kWh analysis must be coupled with appropriate Time-of-Use (TOU) rates, using the demonstration site Investor-Owned Utility (IOU) (Southern California Edison, SDG&E, or PG&E) rate schedules. Likewise, for gas, the annual 8760 therms usage must be coupled with appropriate gas TOU rates. Alternatively, the annual kWh and therms may be grouped in “peak, mid-peak, and off-peak” bins for summer and winter seasons, and then these bins may be coupled with appropriate TOU rates as described above to calculate the annual energy costs and savings.

**Utilizing this energy cost-effectiveness approach, applicants should develop a 30-year life cycle net present value analysis, which includes the measures’ first costs as well as the annual energy savings, annual maintenance costs (or savings), and other operating and maintenance costs (or savings), using a three-percent real discount rate. Utilizing this approach, applicants should develop a benefit/cost ratio for each measure, and the entire building if applicable. Similarly, utilizing the present values of all costs and benefits, applicants should develop a simple payback period for each measure, and the entire building if applicable. Ideally, the project will produce a benefit/cost ratio of greater than one, and a simple payback period of less than seven years.** Utilizing the life cycle methodology described above to determine the cost-effectiveness of the technology, applicants should assume the following cost scenarios:

* + - Current high cost of insulation (Group 1)/ windows (Group 2 and 4).
		- A mature future market for insulation (Group 1)/ windows (Group 2 and 4), assuming product costs based on mass-scale product availability of the novel technologies.
		- For Group 3, capture the cost reductions per the Advanced Building Construction methods[[2]](#footnote-3) (ABC) techniques/strategies within the cost/benefit analysis.
1. Direct Building-Based Emissions Calculation Methodology

Calculating the carbon savings from measures must use a time-varying approach, similar to the approach used by currently CEC-approved tools (see [**Building Energy Efficiency Standards**](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/)website for the current approved tools**),** such as the 2025 CBECC software. CBECC couples the 8760 annual kWh and natural gas savings with the California-specific “long-term marginal emission rates”, also developed for every hour of the year. Researchers may use the CBECC software or other CEC-approved building simulation tools to calculate the carbon emission savings for each individual measure or for a multitude of measures impacting the whole building.

Alternatively, researchers may use third-party building simulation tools, such as EnergyPlus, by incorporating sidebar calculations within the software program or as an external calculation, such as an Excel spreadsheet, which must couple the 8760 annual hourly kWh and therms savings with appropriate California-specific long-term marginal emissions rates for electricity and natural gas, similar to the emissions factors that are incorporated in the 2025 CBECC software. In addition to generating 8760 hourly load profiles for kWh and therms, the third-party software programs must be able to utilize the California-specific 16 CZs for simulations. Since California’s climate and grid emissions profiles differ greatly from the national average, applicants **shall not utilize non-California-specific (e.g., national) CZs and emission rates** for these research projects.

1. Approved Simulation Software Programs

Energy savings calculations (kWh, kW, therms) must be performed using a CEC-approved compliance software program, such as the 2025 CBECC-Res and CBECC-Com, or other CEC-approved programs (see [**Building Energy Efficiency Standards**](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-1)websitefor thecurrent approved software programs**)**. Third-party simulation software programs capable of generating annual 8760-hour kWh and therms reports, such as EnergyPlus, may be used if the program is capable of utilizing California’s 16 CZs; **ASHRAE CZs shall not be used** for these projects.

### Group 1: **Residential Opaque Envelope Retrofits - Value Proposition Improvement**

This Technology Demonstration and Deployment group will target the demonstration of novel high-performance opaque envelope technologies and strategies for existing building components that may include walls, attics, ceilings, and roofs. Projects will demonstrate technologies in **single-family (SF), manufactured, and multi-family (MF) residential homes**, possess a current technology readiness level[[3]](#footnote-4) (TRL) of 6-7, and have a clear pathway to raise the TRL by at least two levels.

Group 1 goals are to a) test and demonstrate improved insulation performance ([~~between~~] **no less than** R-8**/inch for non-VIP** and R-14**/inch for VIP products. These products must be available up to a thickness of 4 inches in 0.5-inch increments, either as one component or as layers attached to each other**); b) advance retrofit insulation technologies and strategies by addressing technical and cost challenges; c) test and demonstrate the field performance of the advanced insulation technology in SF, manufactured, and MF homes; d) decrease combined HVAC gas and HVAC electric energy consumption by at least 10 percent; and e) reduce occupant disruption, installation time, and installation complexity.

[~~P~~]**Ideally p**rojects in this group must be no more time-consuming or invasive to installthan traditional retrofit methods, like drill and fill where occupants have to vacate their residence, are.

* 1. Projects in this group must meet **all** of the following requirements and must be included in the Scope of Work.
1. Technology Requirements

Technology features **must include at least one of the following**:

1. Insulation products with simple installation and finishing techniques that require little or no on-site modifications, minimize demolition and reconstruction, and avoid teardowns.
2. Strategies or technologies that reduce the invasiveness and/or displacement of occupants, reduce installation time, and improve precision of opaque envelope product installation to ensure high product performance and lower cost.
3. Manufacturing processes that can increase production and availability and/or reduce costs of novel technology using existing methods and machinery or novel manufacturing processes (e.g., rapid prototyping, 3-D printing, easy fabrication, other automation processes).

And proposed technologies **must target all** the following capabilities:

1. Minimum high-performance requirements [~~between~~] **of no less than** R-8**/**inch **for non-VIP products** and R-14**/**inch **for VIP** for insulation products. **These products must be available up to a thickness of 4 inches in 0.5-inch increments, either as one component or as layers attached to each other. Final installed performance R-value must be, at a minimum, Title 24 (T24) code compliant for the envelope component in the climate zone where the building is located.** [~~The product performance must be available in at least 0.5-inch increments.~~]
2. Must be demonstrated in and able to be applied to walls, ceilings, attics, and/or roofs and be suitable for stucco and either wood or vinyl siding construction practices.
3. A longevity of at least 40 years from the date of installation, with no more than 35 percent degradation in the R-value performance at the end of the 40-year period.
4. A fault-tolerant, self-correcting, or self-healing novel opaque envelope product in order to minimize the potential for or impact of installation errors and penetrations during installation and by occupants during the normal course of occupancy.
5. **Ability to cut and fit the novel insulation products in the field. If cutting and fitting in the field is not possible, identify remedies for situations where field cutting is required, including, but not limited to, combining novel technologies with legacy technologies and calculating weighted average R-values for the entire building.**
6. Project Requirements

Proposed work must include all of the following activities:

1. Independent lab test to compare the performance of Title 24 compliant requirements and the proposed technology prior to field installation to verify that the energy performance goals **of the selected insulation product (non-VIP or VIP)** [~~listed in Table 1~~] can be met.
2. Independent field test and demonstration of lower heating and cooling building energy consumption compared to existing conditions and the Title 24 compliant requirements (minimum 12 months pre- and post- installation, including summer, winter, and shoulder seasons).
3. Evaluation of strategies to improve costs, including installation, labor, and materials relative to current T24 compliant technologies, and, using the life cycle cost methodology described above in the Common Group Requirements Section I.C.i., delineation of the improved cost effectiveness associated with those strategies.
4. Modeled performance of both the standard Title 24 compliant building and the retrofitted building in all climate zones using CEC approved modeling software.
5. Measurement and assessment of the impacts of the retrofit on thermal comfort, noise, building resilience, and HVAC sizing needs, both pre- and post-retrofit.
6. **Development of guidelines that can be used by building occupants and installers for 1) fault detection of failed components that include vacuum and 2) cost-effective vacuum restoration of the failed product in the field, or other novel techniques for restoring the failed product performance. For non-vacuum technologies where component failure is not a concern, this requirement does not apply.**
7. Market deployment plan to address market penetration barriers, including, but not limited to, the following components:
* Strategies for obtaining additional manufacturing partner(s), scaling up manufacturing, and/or scaling up deployment of the new technology;
* Market analysis and strategies to increase market share and address market penetration barriers and customer purchasing habits, including via program delivery, and financing models (e.g., delivery through energy efficiency programs); and
* A workforce and education plan for contractors, installers, and users for how to use the new technology and develop installation best-practice guidelines.

Projects are also encouraged to include the following features:

1. Technologies that have lower embodied carbon and life cycle carbon emissions than technologies currently on the market.
2. Technologies that are composed of or include recycled materials, are sourced from sustainable materials, and have end-of-life recycling or reuse options.
	1. The Project Narrative Attachment must discuss, in addition to the Scoring Criteria, the following in the sections identified:

Technical Merit:

1. Provide analysis on how the selected technology may meet or exceed the **performance** criteria **described** [~~listed in Table 1~~] and summarize the information in Table **1.**[~~2. If the target cost metric for the selected technology is different than indicated in Table 1, provide justification for an alternate cost target for the technology that meets the performance metric and~~] **For the** life cycle cost effectiveness **analysis,** **please follow the guidelines described** [~~discussed~~] in the Common Group Requirements Section I.C.i.
2. Discuss how costs and installation time, as well as other benefits, of the novel insulation technology can potentially improve the value proposition to drive adoption of the high performing insulation technology and increase insulation retrofits.
3. Discuss which technology feature(s) in Group 1, Section 1.I.a.–1.I.c., the project will address and how it will do so.
4. **For applications seeking reduced match, demonstrate how the project will provide benefits to the tribe or disadvantaged and/or low-income community.**

Technical Approach:

1. If applicable, discuss how the novel technology(ies) can minimize potential installation errors or impact of occupant actions that may reduce technology performance. For technology(ies) that are prone to field failures or actions of the building occupants, discuss the project’s approach to determining cost-effective fault detection and restoration of the failed product in the field. If not applicable, briefly describe best installation practices for the novel product to maximize product performance.
2. **Discuss whether the novel technology can be used as continuous insulation or as cavity insulation, or describe other suitable practices.** **Researchers must ensure that insulation that is installed on the interior side of the walls does not cause moisture issues in the wall cavity or cause moisture issues in roof deck assembly.**
3. Estimate and discuss how technology costs (capital and/or installation) will be reduced to make the novel technology more cost competitive with current technology. Identify specific measures that facilitate the cost reduction.
4. Discuss approach for developing a market deployment plan.
5. Identify proposed sites. Site combinations may be modified subject to CEC Commission Agreement Manager (CAM) approval.
* Demonstration sites must include
	+ a minimum of ten SF and/or manufactured homes with a conditioned floor area of at least 1,000 square feet each with at least two additional backup SF sites **or**
	+ two MF low-rise buildings with a minimum of sixteen total units with one additional MF building backup site.
* Applications that identify sites and/or have site commitment letters are preferred. If all demonstration sites have not been identified at the time of application submittal, Applicants must demonstrate the ability to recruit the minimum number of required sites. For example, a letter of support from a utility partner or a Community-Based Organization (CBO) that agrees to recruit the required number of sites and identifies which sites would be likely candidates could demonstrate that ability.
* Demonstration sites must include at least two units, one vented and one unvented attic, be located in a California cooling climate zone (CZs 4 and 8-15) that can demonstrate the benefits of using novel insulation technologies in both the roof deck and wall.
* Demonstration buildings located in CZ 1, 2, 3, or 16 must have novel wall insulation but cannot include roof deck insulation.
	+ - * + If proposed sites are located in a tribe or disadvantaged and/or low-income community, **a** proposed **CBO or local for-profit organization that** **can fulfill the role of a** CBO[~~(s)]~~ must be identified and the **organization’s** [~~CBO’s~~] role and involvement in the project (e.g., site recruitment, tech transfer, workforce development) described.
* All demonstration sites must be located in an Electric IOU service territory (Pacific Gas and Electric Co., San Diego Gas and Electric Co., and/or Southern California Edison) and **cannot be located in mild south coast** CZs (CZ 5, 6, and 7)**.**
1. Identify proposed project partners and manufacturers, as applicable.

[**~~Table 1: Group 1 Performance and Cost Targets~~**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ~~Baseline Performance~~~~(R-value/inch)~~ | ~~Current Cost~~ | ~~Target Performance~~ ~~(R-value/inch)~~ | ~~Target Cost~~  |
| ~~Insulation~~  | ~~≤ R-6~~ | ~~$14-17.25 per square foot\*~~ | ~~R-8 to R-14~~ | ~~≤ $14 per square foot~~ |

~~\*Opaque Envelopes: Pathway to Building Energy Efficiency and Demand Flexibility, DOE 2021~~]

**Table 1:**[**~~2~~**] **Performance Metrics for Group 1 Applicant Technology**

| Performance Metric | Baseline Performance | Target Performance | Evaluation Method | Metric Significance |
| --- | --- | --- | --- | --- |
| Cost per square foot  |  |  |  |  |
| R-Value |  |  |  |  |
| Product stability/durability/robustness (lifetime- years) |  |  |  |  |
| Installation time  |  |  |  |  |
| Installation cost |  |  |  |  |
| Occupant invasiveness(# hours or days vacated or disrupted) |  |  |  |  |
| Other, specify |  |  |  |  |

### Group 2: Residential Vacuum Insulated Glass Retrofits - Value Proposition Improvement

This Technology Demonstration and Deployment group will target the demonstration of vacuum insulated glass (VIG) windows for retrofits to existing **SF and MF** residential buildings. The research will seek to address high costs, durability concerns, standardized testing procedures, and other challenges and demonstrate the performance and benefits of VIGs to improve their value proposition and market adoption.

Group 2 goals are to a) advance VIG window technologies by addressing technical and cost challenges; b) test and demonstrate the field performance of advanced VIG systems (≤U-0.18 existing frame and ≤U-0.13 complete changeout); c) decrease combined gas and electric energy consumption for HVAC by at least 15 percent; d) reduce installation time and complexity to decrease occupant disruption or disturbance; e) develop energy model software metrics, including U-factor, solar heat gain coefficient (SHGC), visible light transmittance (VLT), and air leakage for Title 24 inclusion; and f) accelerate high-performance window uptake in the retrofit market through direct partnerships with manufacturers, suppliers, and others.

* + 1. Projects in this group **must** meet **all** of the following requirements and must be included in the Scope of Work:
1. Technology Requirements

VIG technologies must target **all the performance goals** listed below and in Table 3.

Research projects in this group must demonstrate and evaluate **BOTH** of the following VIG installation methods in SF and MF residential buildings:

1. Method 1: VIG windows retrofitted into the frame of existing windows. The new VIG window combined with the existing frame must achieve a U-factor of no greater than 0.18. There are two options under this method.
	* Option 1: The existing sashes, spacer, and all other existing components are removed with the exception of the existing frame. The new VIG window and the frame are fitted inside the existing frame and fastened into the wall studs.
	* Option 2: The existing window sashes are removed and replaced with VIG sashes. [~~The researchers must also evaluate whether they can cost-effectively improve the thermal performance of the existing frame.~~]

**The researchers must also evaluate whether they can cost-effectively improve the thermal performance of the existing frame.** Under this method, the new VIG window combined with the existing frame must achieve a U-factor of no greater than 0.18. A performance of greater than 0.18 **can only be considered** if the applicant justifies why VIG retrofits and measures to improve the existing frame cannot achieve this metric.

1. Method 2: Clean changeout of the existing windows. Under this method, the entire existing window and frame are removed and replaced with new VIG units and new frames to achieve a U-factor ≤ 0.13 for the entire fenestration product. The researchers will evaluate cost effectiveness of this option, considering both higher window efficiencies and installation costs as described in Life Cycle Cost Effectiveness Methodology above in Section I.C.i.
2. Project Requirements

Proposed work must include [**~~ONE OR MORE~~** ~~activity(ies) from a - c~~ **~~AND~~**] **ALL** of the activities [~~in d - k~~] below:

1. Demonstrate innovation in thermal performance improvements (e.g., spacers, seals, innovative pillar designs, frames).
2. Demonstrate innovation in improved materials or processes for glass or edge sealing and other durability improvements.
3. Demonstrate novel installation techniques, strategies, and manufacturing processes to lower labor, installation, and production costs.
4. Independently lab test to compare the performance of Title 24 compliant requirements with the proposed technology prior to field installation to verify that the energy performance goals listed in Table **2**[~~3~~] can be met.
5. Independently field test and demonstrate lower heating and cooling building energy consumption compared to the existing conditions and the Title 24 compliant requirements (minimum 12 months pre- and post- installation, including summer, winter, and shoulder seasons).
6. Evaluate VIG durability, stability, longevity, and mechanical strength using standard testing procedures approved for use with VIG window technology OR develop new standard procedures that can be used specifically for VIGs, as appropriate. Evaluations must include seal longevity (targeting 40-year life), accelerated testing, strategies for identifying seal failure, and remedies for replacement or repair.
7. **Develop guidelines that can be used by building occupants and installers for 1) fault detection and loss of VIG IGU vacuum and 2) cost-effective restoration of the failed components in the field, or other novel techniques for restoring VIG vacuum.**
8. Conduct a cost analysis [~~of~~] **comparing the** current Title 24 compliant windows [~~and]~~**with** both the complete changeout and the existing frame methods to include materials and installation costs per square foot or per window.
9. **Provide a life cycle cost analysis using two baselines for U-factor and SHGC of the existing windows and Title 24 compliant windows.**
10. **Develop energy model software metrics that include U-factor, SHGC, VT, and air leakage for Title 24 inclusion.**
11. Model performance of standard Title 24 compliant building and the retrofitted building in all CZs using CEC-approved modeling software.
12. Measure and assess impact of retrofit on thermal comfort, noise, building resilience, and HVAC sizing needs pre- and post-retrofit.
13. Partnership with a VIG window manufacturer with a demonstrated interest in manufacturing the technology at the project end.
14. Develop a market deployment plan with strategies to address market penetration barriers, including, but not limited to:
* Acquiring additional manufacturing partners to scale up manufacturing and deployment of the new technology.
* Analyzing market issues and developing strategies to increase market share and resolve market penetration barriers and customer purchasing habits. These strategies should include program delivery models and tactics for scaling technologies (e.g., delivery through energy efficiency programs, financing strategies) as well as builders’ product availability and performance concerns.
* Engaging partners to facilitate and accelerate market adoption, such as IOUs for potential integration into energy efficiency incentive programs.
* Developing a workforce and education plan for contractors, installers, and users for how to use the new technology and develop best-practice installation guidelines.

1. The Project Narrative Attachment must discuss, in addition to the Scoring Criteria, the following in the sections identified:

Technical Merit:

1. Provide analysis on how the selected technology may meet or exceed the criteria listed in Table **2**[~~3]~~ and summarize the information in Table **3.**[~~4. If cost metrics are not achievable, provide justification for an alternate cost target for the technology that meets the performance metric and~~] **For the** life cycle cost effectiveness **analysis, please follow the guidelines** **described** [~~discussed]~~ in the Common Group Requirements Section I.C.i.
2. Discuss costs, installation time, and any other benefits of VIG technology that can potentially improve the value proposition and drive adoption of VIG retrofits.
3. Discuss [~~which additional~~] **how the project addresses** technology feature**s/activities**[~~(s)~~] in Group 2 Project Requirements, Section 1.II.a. - 1.II.c. [~~, that the technology will address and how the technology will address it/them~~.] **If the project addresses only 2 of the 3 features, applicants must explain a) which 2 features are addressed, b) why the third feature cannot be addressed in the project, and c) why their project is still a good candidate for meeting Group 2’s goals. Provide all assumptions used to justify the technology and approach.**
4. **For applications seeking reduced match, demonstrate how the project will provide benefits to the tribe or disadvantaged and/or low-income community**.

Technical Approach:

1. Discuss the approach that will be used to evaluate VIG durability, stability, longevity, and mechanical strength, as described in Group 2, Project Requirements, Section 1.II.f.
2. Discuss the strategies for improving the overall thermal performance U-factor of the entire fenestration in regard to the existing frame that is left in place, thermal break, cladding, or other techniques for Method 1.
3. Discuss National Fenestration Rating Council (NFRC) procedures for VIG window certification and plans for using available procedures or developing new ones, as needed, to simplify NFRC certification.
4. Discuss approach for developing a marketing deployment plan.
5. Identify proposed site locations. Site combinations may be modified subject to CEC CAM approval.
* At least 7 SF units **AND** **at least 8 units in** 2 MF buildings [~~with a minimum of 8 total units~~] and at least one additional SF **unit** and one additional MF building backup site **for each installation method,** to ensure that the minimum **number of demonstration sites** continues to be met throughout the project term. Sites must be in as least 2 different CZs.
* Method 1 must have a minimum of 3 SF and 4 MF units
* Method 2 must have a minimum of 2 SF and 2 MF units
* Applications that identify sites and/or have site commitment letters are preferred. If all demonstration sites have not been identified at the time of application submittal, Applicants must demonstrate the ability to recruit the minimum number of required sites. For example, a letter of support from a utility partner or a CBO that agrees to recruit the required number of sites and identifies which sites would be likely candidates could demonstrate that ability.
	+ - If proposed sites are located in a Tribe or disadvantaged and/or low-income community(ies), the proposed **CBO or local for-profit organization that** **can fulfill the role of a** CBO[~~(s)~~] **must be** identified, and the **organization's** [~~CBO’s~~] role and involvement in the project (e.g., site recruitment, tech transfer, workforce development) described.
* Demonstration sites must be located in an Electric IOU service territory (Pacific Gas and Electric Co., San Diego Gas and Electric Co., and/or Southern California Edison) and **cannot** be located in the mild south coast (CZs 5, 6, and 7).
1. Identify proposed project partners/manufacturers.

**Table 2[~~3~~]: Group 2 Performance [~~and Cost Targets]~~**

|  |  |  |
| --- | --- | --- |
|  | **Method 1Existing frame** | **Method 2Complete changeout** |
| Whole Window (U-factor) (R-value) | ≤ 0.18≥ 5.6 | ≤ 0.13≥ 7.7 |
| [~~Installed Target Cost Premium\* ($)~~ ] | [~~$8 per square foot~~ ] | [~~$10 per square foot~~ ] |

[~~\* Baseline is total installed cost for Title 24 compliant double pane windows~~]

 **Table 3**:**[~~4~~] Performance Metrics for Group 2 Applicant Technology**

| Performance Metric | Baseline Performance | Target Performance | Evaluation Method | Metric Significance |
| --- | --- | --- | --- | --- |
| Method 1 Installed Cost per square foot or per window |  |  |  |  |
| Method 2 Installed Cost per square foot or per window |  |  |  |  |
| Method 1 Installed Labor Cost per square foot or per window |  |  |  |  |
| Method 2 Installed Labor Cost per square foot or per window |  |  |  |  |
| U-Factor (R-Value) |  |  |  |  |
| Solar Heat Gain Coefficient (SHGC) |  |  |  |  |
| Visible Light Transmittance (VT) |  |  |  |  |
| Condensation Index |  |  |  |  |
| Product Stability/Durability/ Robustness (lifetime- years) |  |  |  |  |
| Installation Time and installation Cost |  |  |  |  |
| Occupant Invasiveness(# hours/days vacate or disrupt) |  |  |  |  |
| Sound (dB) |  |  |  |  |
| Other, specify |  |  |  |  |

### Group 3: Residential Envelope Retrofits with Advanced Building Construction Techniques

This Technology Demonstration and Deployment group will support demonstrations that use Advanced Building Construction methods (ABC) and techniques to apply high-performance envelope solutions to improve the value proposition of building retrofits and drive the uptake of retrofits that are comprehensive in nature. *Proposed technologies and solutions in this group* ***must*** *have received prior state or federal funding (e.g., E-ROBOT, ABC FOA, BENEFIT FOA; see Applicant Requirements, Section II.A.1. for a full list of Agencies and other requirements)*. This demonstration group seeks novel technologies/methods not previously demonstrated in California. However, if the technology/method has been demonstrated in California, applicants must describe the number, scale, locations, and success of these demonstration(s).

Technologies and approaches should improve building envelope performance while improving affordability, increasing the ease and speed of renovations, and minimizing disruption and/or displacement to the building occupants, as compared to the current technology solutions, and be suitable for California CZs, building stock, and the retrofit market. Projects in this group must have the potential to streamline processes and be scaled up.

Group 3 goals are to a) simplify installation processes and decrease occupant disruption or disturbance, b) reduce retrofit time, c) improve building performance, resilience, and occupant comfort, and d) increase the number of both single envelope retrofits and comprehensive building retrofits.

As a part of the application package, Applicants must provide evidence of prior funding for the proposed technologies via at least one of the following:

* + A reference letter from the funding agency listed in Section II.A.1. discussing the proposed technology, results, and project potential.
	+ A published report demonstrating the proposed technology’s success, the funding source, results, and project potential.
	+ Other documentation that a) verifies funding by one of the agencies listed in Section II.A.1., b) describes the technology that has received funding, and c) identifies where the technology has been demonstrated, the level of success of the demonstration(s), and the potential for scaling.
1. Projects in this group must meet **all** of the following requirements and must be included in the Scope of Work.

Projects in this group must advance envelope energy-saving components or envelope system packages, which include a combination of high-performance energy efficiency measures (See Table **4**[~~5~~] for minimum performance requirements). For the **latter, at least one of the combination measures must be an envelope measure**. Example projects may include, but are not limited to:

* Panelized envelope systems and air sealing;
* Wall insulation and window upgrades;
* Attic and wall insulation and air sealing; and
* Attic and wall insulation and duct sealing.

Proposed work must include **ONE OR MORE activity(ies) a - d** **AND** **ALL** activities e - **g** [~~h~~]:

1. Innovative advanced envelope manufacturing strategies and technologies that promote affordability and scalability, such as rapid prototyping for customization of energy-saving retrofits or installation-ready systems created offsite (e.g., prefabrication, 3D printing).
2. Automation technology or processes/strategies to make envelope retrofit processes smoother, quicker, lower cost, easier to implement, and more productive and efficient. This may include a combination of the use of robotic or digital tools to assist with:
* Identifying problem areas for retrofits;
* Creating simpler, non-invasive solutions;
* Completing retrofits more safely and quickly;
* Ensuring better quality installations;
* Gaining access to challenging/difficult-to-access locations; and
* Prefabrication of retrofit components.
1. Novel envelope technology or processes that promote easier installations without complicated teardown or reconstruction and are fault-tolerant or self-correcting to minimize the potential for reducing technology performance.
2. Novel non-destructive testing or sensing technologies and tools that can diagnose the building envelope defects, provide building envelope visualization, and apply minimally invasive techniques to correct defects (e.g., air leaks, moisture, insulation deficiencies) or make the application of retrofit solutions less time consuming, less invasive, and easier to implement.
3. Independent field testing and demonstrations of reduced heating and cooling building energy consumption compared to both the existing conditions and the Title 24 compliant requirements (minimum 12 months pre- and post- installation, including summer, winter, and shoulder seasons).
4. Model performance of a standard Title 24 compliant building and the retrofitted building in all CZs using CEC-approved modeling software.
5. Analysis of the ABC method or strategy proposed, including, but not limited to:
* The cost of each measure (e.g., per unit), installation time, occupant disturbance, and comfort compared to current measures.
* The most applicable building sector(s) for which the technology is suitable, and the impact potential of the envelope retrofit combinations at a larger-scale in the sector(s).
	+ Measurement and assessment of the retrofit on air quality (e.g., CO2, PM, NOX) and related impacts (e.g., thermal comfort, noise, building resilience, energy or load reduction, and HVAC sizing needs) pre- and post-retrofit.

Applicants are encouraged to partner with programs such as U.S. Department of Energy’s (DOE’s) Low-Income Home Energy Assistance Program, DOE’s Weatherization Assistance Program, and CEC’s Equitable Building Decarbonization Program to identify demonstration sites most suitable for retrofits in this group and leverage funding opportunities.

2. The Project Narrative Attachment must discuss, in addition to the Scoring Criteria, the following in the sections identified:

Technical Merit

1. Discuss why the combinations of energy efficiency measures were selected, how the ABC method and technique will be used to apply the measure(s), and how this will improve the value proposition and drive uptake of envelope retrofits. **If the target performance metric for the selected technology or approach does not meet the minimum performance metrics indicated in Table 4, but the technology or approach being used can simplify installation processes, decrease occupant disruption, and/or reduce retrofit time, the applicant must provide justification for a) why it does not meet the minimum performance, b) how it can simplify installation processes, decrease occupant disruption, and/or reduce retrofit time, c) how it will benefit California Electric IOU ratepayers, such as GHG reductions and energy and cost savings, and d) why their project is still a good candidate for meeting Group 3’s goals. Provide all assumptions used to justify the technology or approach.**
2. Discuss which project focus in Group 3, Section 1.a. - 1.d., the proposed technology will address and how it will address it/them.
3. **For applications seeking reduced match, demonstrate how the project will provide benefits to the tribe or disadvantaged and/or low-income community.**

Technical Approach

1. Discuss how the ABC technique or strategy proposed can be used to streamline the retrofit process of the specific measures proposed, its potential applicability for other retrofit measures, and the most applicable building types for the ABC technique/strategy.
2. Identify a minimum of 5 proposed **residential** demonstration sites and one additional backup site. **A demonstration site is one residential unit. For SF or manufactured homes, the minimum is 5 homes. For MF buildings, while multiple buildings may be selected for the demonstration, the minimum is one building with at least 5 units all within the same building (e.g., 1 MF building with 5 units, or 2 MF buildings with 5 units in the first building and 3 units in the second building (8 total units)). Demonstration sites may include a mix of building types, if more than 5 sites will participate in the demonstration AND if the minimum is met for at least 1 of the building types (e.g., 5 MF units and 1 SF unit OR 5 SF units and 1 MF unit). Site combinations may be modified subject to CEC Commission Agreement Manager (CAM) approval.**
* Applications that identify sites and/or have site commitment letters are preferred. If all demonstration sites have not been identified at the time of application submittal, Applicants must demonstrate the ability to recruit the minimum number of required sites. For example, a letter of support from a utility partner or a CBO that agrees to recruit the required number of sites and identifies which sites would be likely candidates could demonstrate that ability.
* If proposed sites are located in a tribe or disadvantaged and/or low-income community(ies), the proposed **CBO or local for-profit organization that** **can fulfill the role of a** CBO [~~partner(s)~~] must be identified and the **organization’s** [~~CBO’s~~] role and involvement in the project (e.g., site recruitment, tech transfer, workforce development) described.
* Demonstration sites must be located in an Electric IOU service territory (Pacific Gas and Electric Co., San Diego Gas and Electric Co., and/or Southern California Edison).

**Table 4[~~5~~]: Group 3 Performance Targets**

| Measures | Minimum performance |
| --- | --- |
| **Insulation**  | R-7/inch  |
| **Whole Window** | Energy Star V7.0 U-0.22  |
| **Air Sealing**  | ≤3 ACH50  or 50% reduction over baseline |

### Group 4: Residential Window Retrofits using Existing Frames

This Applied Research and Development group will study and develop a high-performing insulating glass unit (IGU) focusing on spacer and frame components and assemblies, novel existing frame improvement methods/strategies for existing frame retrofits, and an air infiltration test procedure that can be integrated into the Title 24 building compliance software. The entire fenestration product installed in the existing frame **must achieve a U-factor of 0.22 or lower**. The retrofit research will address thermal improvements to the IGU, existing frame, air infiltration associated with installations, installation accessories and techniques, cost, and ease of installation.

If demonstrated as a pilot, the pilot must be located in a California tribe or disadvantaged and/or low-income community(ies) and benefit this community in order to have the **match fund requirement waived.**

Group 4 goals are to a) lower cost, b) improve thermal performance (≤U-0.22), c) simplify installation to decrease occupant disruption or disturbance, and d) develop an air infiltration guideline and test procedure for Title 24 software integration.

1. Projects in this group must meet **ALL** of the following requirements and must be included in the Scope of Work.

The project **must include,** but is not limited to, the following activities:

1. Applied research to improve IGU air infiltration and thermal performance (e.g., spacers, breaks, seals, frames, air sealing).
2. Novel strategies or technologies for improving the thermal performance of the existing frame (both wood and vinyl).
3. Installation process and practice improvements that reduce time and increase the likelihood of defect-free installations, potentially via the use of AI, robotics, or digital tools.
4. Pre- and post-installation measurement and verification (minimum 9 months each including summer, winter, and shoulder months) of thermal performance, air infiltration, and indoor air pollutants.
5. Development of an infiltration reduction guideline and test procedure method that could be integrated into the Title 24 building energy compliance software tool. The software should be able to capture energy savings associated with air infiltration from windows in the Title 24 energy modeling tool.
6. Analysis of energy impacts, costs, and savings associated with thermal performance and air infiltration improvements (both separately and combined) compared to baseline Title 24 code-compliant windows and currently installed windows (if applicable).
7. Development of a best practices installation guideline to ensure defect-free installations to the greatest extent possible.
8. The Project Narrative Attachment **must** discuss, in addition to the Scoring Criteria, the following in the section identified:

Technical Merit:

1. Provide analysis on how the selected technology may meet or exceed the 0.22 thermal installed whole window performance criteria and summarize the information in Table **5**[~~6~~].
2. **For applications seeking the match to be waived, demonstrate how the project will provide benefits to the tribe or disadvantaged and/or low-income community.**

Technical Approach:

1. Describe the approach to improve the installation process for better and quicker installations.
2. Discuss the approach to improve the IGU air infiltration, the IGU thermal performance, the existing frame thermal performance, and the strategies for reducing installation error impacts and installation time.
3. Identify if demonstration will be a lab or a pilot demonstration and identify the location.
* Pilot demonstrations located in and benefitting a tribe or disadvantaged and/or low-income community(ies) may be eligible to have the match fund requirement waived and receive preference points. Benefits to the identified comunity(ies) must be well described.
* Pilot demonstration sites must be located in an Electric IOU service territory (Pacific Gas and Electric Co., San Diego Gas and Electric Co., and/or Southern California Edison) but lab demonstrations do not need to meet this requirement.

**Table 5:[~~6~~] Performance Metrics for Group 4 Applicant Technology**

| PerformanceMetric | Baseline Performance | Target Performance | EvaluationMethod | MetricSignificance |
| --- | --- | --- | --- | --- |
| Installed Cost per square foot or per window |  |  |  |  |
| Whole Window R-Value (wood and vinyl frame) |  |  |  |  |
| Whole Window U-Factor (wood and vinyl frame) |  |  |  |  |
| Solar Heat Gain Coefficient (SHGC) |  |  |  |  |
| Visible Light Transmittance (VT) |  |  |  |  |
| Condensation Index |  |  |  |  |
| Product Stability/Durability/ Robustness (lifetime- years) |  |  |  |  |
| Installation Time and installation Cost |  |  |  |  |
| Occupant Invasiveness(#hours/days vacated or disrupted) |  |  |  |  |
| Other, specify |  |  |  |  |

## Funding

1. **Amount Available and Minimum/ Maximum Funding Amounts**

There is **up to $10,000,000** available for grants awarded under this solicitation. The total, minimum, and maximum funding amounts for each project group are listed below.

| Project Group | Available CEC funding | Minimum CEC award  | Maximum CEC award  | Minimum total match share percentage  |
| --- | --- | --- | --- | --- |
| Group 1: Residential Opaque Envelope Retrofits - Value Proposition Improvement | $2,000,000 | $1,000,000 | $2,000,000 | 20%\* |
| Group 2: Residential Vacuum Insulated Glass Retrofits - Value Proposition Improvement | $3,500,000 | $1,000,000 | $1,750,000 | 20%\* |
| Group 3: Residential Envelope Retrofits with Advanced Building Construction Techniques | $4,000,000 | $1,000,000 | $2,000,000 | 20%\* |
| Group 4: Residential Window Retrofits using Existing Frames | $ 500,000 | $ 250,000 | $ 500,000 | 20%\*\* |

\* For projects in Groups 1-3 that are **ALL** located ~~[~~**~~ALL~~]** in **and** benefitting **disadvantaged and/or low-income** communities or a tribe **and** have **a CBO or a local for-profit organization that can fulfill the role of a CBO,** [~~community-based organization involvement~~] **the match requirement** will **be** reduce**d** [~~match]~~ to 10%. All other Group 1-3 projects will have a 20% match requirement.

\*\* Match is waived if the Group 4 project is a pilot demonstration located in **and** benefitting a **disadvantaged and/or low-income c**ommunity or tribe. All other Group 4 projects will have a 20% match requirement.

1. **Match Funding Requirement**
* Applications for all groups must include a minimum **20%** total match share percentage for this solicitation. If **Group 1, 2, and 3 projects** are demonstrated in **and** benefitting a tribe or disadvantaged and/or low-income communities AND **include either a CBO or a local for-profit organization that can fulfill the role of a CBO** [**~~have CBO involvement~~**], **the** match **requirement** is reduced to 10 percent. **Group 4** will have the match requirement waived if the project is a pilot demonstration located in **and** benefitting a tribe or disadvantaged and/or low-income community. **To qualify for the reduced or waived match, applications must demonstrate how the project will benefit the tribe or disadvantaged and/or low-income community in the Project Narrative.**

Total match share percentage is calculated by dividing the total match share contributions by the total CEC funds requested plus total match share contributions:

$\frac{Total Match Share Contributions}{CEC Funds Requested+ Total Match Share Contributions}$ X 100 = Total Match Share percentage

For the definition of match funding see Section I K.

1. **Change in Funding Amount**

Along with any other rights and remedies available to it, the CEC reserves the right to:

* Increase or decrease the available funding and the minimum/maximum grant award amounts described in this section.
* Allocate any additional or unawarded funds to passing applications, in rank order.
* Reallocate funding between any of the groups *(if applicable)**.*
* Aggregate funds from multiple groups to fully fund the highest ranked passing applications, regardless of group. *(if applicable)*
* Reduce funding to an appropriate amount if the budgeted funds do not provide full funding for agreements. In this event, the proposed grant recipient and Commission Agreement Manager (CAM) will attempt to reach agreement on a reduced Scope of Work commensurate with available funding.

## Key Activities Schedule

Key activities, dates, and times for this solicitation and for agreements resulting from this solicitation are presented below. An addendum will be released if the dates change for activities that appear in **bold.**

| ACTIVITY | DATE | TIME[[4]](#footnote-5)  |
| --- | --- | --- |
| Solicitation Release | May 5, 2025 |  |
| **Pre-Application Workshop**  | **May 19, 2025** | **10 a.m.-** **12 p.m.** |
| **Deadline for Written Questions[[5]](#footnote-6)** | **May 26, 2025** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers  | Week of June **23** [~~9]~~, 2025 |  |
| **Support for Application Submission in ECAMS** | Ongoinguntil**[~~June 30~~] July 25, 2025** | **5:00 p.m.[[6]](#footnote-7)** |
| **Deadline to Submit Applications** | **[~~June 30~~] July 25, 2025** | **11:59 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | Week of [~~Sept 15~~] **October 6,**, 2025 |  |
| Anticipated Energy Commission Business Meeting Date | ~~[November 20, 2025~~] **December 8, 2025** |  |
| Anticipated Agreement Start Date | ~~[January 5~~] **February 16**, 2026 |  |
| Anticipated Agreement End Date  | September 30, 2030 |  |

## Notice of Pre-Application Workshop

CEC staff will hold one Pre-Application Workshop to discuss this solicitation with potential applicants. Participation is optional but encouraged. The Pre-Application Workshop will be held remotely. Applicants may attend the workshop via the internet (Zoom, see instructions below), or via conference call on the date and at the time and location listed below. Please refer to the CEC's website at www.energy.ca.gov/contracts/index.html to confirm the date and time. Please be aware that the meeting will be recorded.

**Date and time:** May 19, 2025, Time 10 a.m-12 p.m.

**Zoom Instructions:**

To join the Zoom meeting, go to https://zoom.us/joinand enter the Meeting ID below and select “join from your browser.” Participants will then enter the meeting password listed below and their name. Participants will select the “Join” button.:

**Meeting ID: 873 4683 4442**

**Meeting Password:** **429361**

**Topic:** **GFO-24-310 Retrofitting Existing Residential Buildings with Innovative Envelope Solutions**

**Telephone Access Only:**

Call **1-888 475 4499** (Toll Free) or **1-877 853 5257** (Toll Free). When prompted, enter the meeting number above. International callers may select a number from the Zoom International Dial-in Number List at: https://energy.zoom.us/u/adjzKUXvoy. To comment, dial \*9 to “raise your hand” and \*6 to mute/unmute your phone line.

**Access by Mobile Device:**

Download the application from the Zoom Download Center, https://energy.zoom.us/download.

**Technical Support** **for Pre-Application Workshop:**

* For assistance with problems or questions about joining or attending the meeting,

please call Zoom Technical Support at **1-888-799-9666 ext. 2.** You may also contact the CEC’s Public Advisor’s Office at publicadvisor@energy.ca.gov, or (916) 957-7910.

* System Requirements: To determine whether your computer is compatible, visit:

 https://support.zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows-macOS-and-Linux.

* If you need a reasonable accommodation to participate, please Erica Rodriguez by e-mail at Erica.Rodriguez@energy.ca.gov or (916) 764-5705 at least five days in advance.

## Questions

During the solicitation process, for questions only related to submission of application in the new ECAMS system, please contact ECAMS.SalesforceSupport@energy.ca.gov. Through that email address applicants will be able to access a team of technical assistants who can answer questions about application submission. Please also see Section III.B for additional information about the ECAMS system.

For all other questions, including all technical and administrative questions that are not related to submission of applications in the ECAMS system, please contact the Commission Agreement Officer listed below:

Natalie Johnson, Commission Agreement Officer

California Energy Commission

715 P, MS-18

Sacramento, California, 95814

E-mail: natalie.johnson@energy.ca.gov

Applicants may ask questions at the Pre-Application Workshop and may submit written questions via email. However, all **technical** questions must be received by the deadline listed in the “Key Activities Schedule” above. Questions received after the deadline may be answered at the CEC's discretion. **Non-technical** questions (e.g., administrative questions concerning application format requirements or attachment instructions) may be submitted to the CAO at any time prior to 5:00 p.m. of the application deadline date. Similarly, questions related to submission of applications in the ECAMS system may be submitted to ECAMS.SalesforceSupport@energy.ca.gov at any time prior to 5:00 p.m. of the application deadline date.

The questions and answers will also be posted on the CEC’s website at: https://www.energy.ca.gov/funding-opportunities/solicitations.

If an applicant discovers a **conflict, discrepancy, omission, or other error** in the solicitation at any time prior 5:00 p.m. of the application deadline date, the applicant may notify the CAO in writing and request modification or clarification of the solicitation. The CEC, at its discretion will provide modifications or clarifications by either an addendum to the solicitation or by written notice to all entities that requested the solicitation. At its discretion, the CEC may, in addition to any other actions it may choose, re-open the question/answer period to provide all applicants the opportunity to seek any further clarification required.

**Any verbal communication with a CEC employee or anyone else concerning this solicitation is not binding on the State and will in no way alter a specification, term, or condition of the solicitation. Therefore, all communication should be directed in writing to the assigned CAO.**

## Applicants’ Admonishment

This solicitation contains application requirements and instructions. Applicants are responsible for **carefully reading** the entire solicitation, asking appropriate questions in a timely manner, ensuring that all solicitation requirements are met, submitting all required responses in a complete manner by the required date and time, and **carefully rereading** the solicitation before submitting an application. In particular, please carefully read the **Screening and Scoring Criteria and** **Grounds to Reject an Application or Cancel an Award** in Part IV, and the relevant EPIC Grant terms and conditions located at: https://www.energy.ca.gov/funding-opportunities/funding-resources.

Applicants are solely responsible for the cost of developing applications. This cost cannot be charged to the State. **All submitted documents will become publicly available records** and property of the State after the CEC posts the Notice of Proposed Award or the solicitation is cancelled. Only submit information you want made public. Applicants shall not submit any confidential information as part of their applications. **No portion of your application will be considered confidential.**

## Additional Requirements regarding environmental review

1. Time is of the essence. CEC funds available under this solicitation have encumbrance deadlines.  This means that the CEC must approve proposed awards at a business meeting (usually held monthly) in order to avoid expiration of the funds.
2. Environmental Review. Prior to approval and encumbrance, the CEC must comply with the California Environmental Quality Act (CEQA) and other requirements. To comply with CEQA, the CEC must have CEQA-related information from applicants and sometimes other entities, such as local governments, in a timely manner. Unfortunately, even with this information, the CEC may not be able to complete its CEQA review prior to the encumbrance deadline for every project. For example, if a project requires an Environmental Impact Report, the process to complete it can take many months. For these reasons, it is critical that applicants organize applications in a manner that minimizes the time required for the CEC to comply with CEQA and provide all CEQA-related information to the CEC in a timely manner such that the CEC is able to complete its review in time for it to meet its encumbrance deadline.
3. Reservation of right to cancel proposed award. In addition to any other right reserved to it under this solicitation or that it otherwise has, if the CEC determines, in its sole and absolute discretion, that the CEQA review associated with a proposed project would not likely be completed prior to the encumbrance deadline referenced above, and that the CEC’s ability to meet its encumbrance deadline may thereby be jeopardized, the CEC may cancel a proposed award and award funds to the next highest scoring applicant, regardless of the originally proposed applicant’s diligence in submitting information and materials for CEQA review. Examples of situations that may arise related to CEQA review include but are not limited to:
* Example 1: If another state agency or local jurisdiction, such as a city or county, has taken the role of lead agency under CEQA, the CEC’s review may be delayed while waiting for a determination from the lead agency.
* Example 2: If the proposed work is part of a larger project for which a detailed environmental analysis has been or will be prepared by another state agency or local jurisdiction, the CEC’s review may be delayed as a result of waiting for a supplemental or initial analysis, respectively, from the other agency.
* Example 3: If the nature of the proposed work is such that a project is not categorically or otherwise exempt from the requirements of CEQA, and an Initial Study or other detailed environmental analysis appears to be necessary, the CEC’s review, or the lead agency’s review, may take longer than the time available to encumber the funds. If an Initial Study, Negative Declaration, Mitigated Negative Declaration, Environmental Impact Report, or similar document[[7]](#footnote-8) has already been completed by another state agency or a local jurisdiction, serving as the lead agency, the applicant must ensure that such an analysis covers the work in the proposed project, or must obtain a revised analysis and determination from the lead agency reviewing the proposed project.
* Example 4: If the proposed project clearly falls under a statutory or categorical exemption, or is project for which another state agency or local jurisdiction has already completed its environmental review and adopted CEQA findings that the project will cause no significant effect on the environment, the project will likely have greater success in attaining rapid completion of CEQA requirements.

The above examples are not exhaustive of instances in which the CEC may or may not be able to comply with CEQA within the encumbrance deadline and are only provided as further clarification for potential applicants. Applicants are encouraged to contact potential lead and responsible agencies under CEQA as early as possible. Please plan applications accordingly.

## Background

1. **Electric Program Investment Charge (EPIC) Program**

This solicitation will award projects funded by the EPIC, an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.[[8]](#footnote-9) The purpose of the EPIC program is to benefit the ratepayers of three investor-owned utilities (IOUs), including Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. The EPIC funds clean energy technology projects that meet the guiding principles of (1) improving safety, (2) increasing reliability, (3) increasing affordability, (4) improving environmental sustainability, and (5) improving equity, all as related to California's electric system.[[9]](#footnote-10) In addition to providing IOU ratepayer benefits, funded projects must lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state’s statutory energy goals.[[10]](#footnote-11) The EPIC program is administered by the CEC and the IOUs.

* **Program Areas, Strategic Objectives, and Funding Initiatives**

EPIC projects must fall within the following **program areas** identified by the CPUC:

* Applied research and development;
* Technology demonstration and deployment; and
* Market facilitation.

In addition, projects must fall within one of the general focus areas (**“strategic objectives”**) identified in the CEC’s EPIC Investment Plans[[11]](#footnote-12) [[12]](#footnote-13) [[13]](#footnote-14) and within one or more specific focus areas (**“funding initiatives”**) identified in the plan. This solicitation targets the following program areas, strategic objective, and funding initiative:

2021- 2025 Electric Program Investment Charge (EPIC) Fourth Investment Plan

* **Program Areas**: Applied Research and Development; Technology Demonstration and Deployment
* **Strategic Objective** Improve the Customer Value Proposition of End-Use Efficiency and Electrification Technologies
	+ **Funding Initiative 26**: Innovative Solutions for Improving the Value Proposition for Building Envelope Upgrades

**Applicable Laws, Policies, and Background Documents**

This solicitation addresses the energy goals described in the following laws, policies, and background documents.

**Laws/Regulations**

* **Disadvantaged & Low-income Communities**

At least 25% of available Electric Program Investment Charge (EPIC) technology demonstration and deployment funding must be allocated to project sites located in, and benefiting, disadvantaged communities; and an additional minimum 10% of funds must be allocated to projects sites located in and benefiting low-income communities.[[14]](#footnote-15) The CEC in administering EPIC must also take into account adverse localized health impacts of proposed projects to the greatest extent possible,[[15]](#footnote-16) and give preference for funding to clean energy projects that benefit residents of low-income or disadvantaged communities.[[16]](#footnote-17)

The CEC is committed to ensuring all Californians have an opportunity to participate in and benefit from programs and services. While it is not required to complete the project within a disadvantaged community, demonstration projects located and benefiting disadvantaged and/or low-income communities will be considered under the scoring criteria for this solicitation.

Disadvantaged Communities are those designated pursuant to Health and Safety Code section 39711 as representing the 25% highest scoring census tracts in CalEnviroScreen or other areas with high amounts of pollution and low populations as identified by CalEPA. Please see https://calepa.ca.gov/envjustice/ghginvest/ for the most current CalEPA designations.

“Low-income communities” are defined as communities within census tracts with median household incomes at or below either of the following levels:

1. Eighty percent of the statewide median income.
2. The applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development (HCD) and filed with the Office of Administrative Law pursuant to subdivision (c) of Section 50093 of the Health and Safety Code.

Please see California Air Resources Board’s latest California Climate Investments Priority Populations map to view communities defined as low-income at: <https://gis.carb.arb.ca.gov/portal/apps/experiencebuilder/experience/?id=6b4b15f8c6514733972cabdda3108348>. Also visit the California Department of Housing & Community Development site for the current HCD State Income Limits at: https://www.hcd.ca.gov/grants-and-funding/income-limits.

Another resource is the Healthy Places Index Tool for California, located at: https://healthyplacesindex.org/.

* **Assembly Bill (AB) 32[[17]](#footnote-18) - Global Warming Solutions Act of 2006**

AB 32created a comprehensive program to reduce greenhouse gas (GHG) emissions in California. GHG reduction strategies include a reduction mandate of 1990 levels by 2020 and a cap-and-trade program. AB 32 also designates the California Air Resources Board (CARB) as the state agency charged with monitoring and regulating sources of greenhouse gas (GHG) emissions and requires CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs. CARB must update the plan at least once every five years.

Additional information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32>

https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan

Applicable Law: California Health and Safety Code §§ 38500 et. seq.

* **Senate Bill (SB) 32 - California Global Warming Solutions Act of 2006: emissions limit**

SB 32 expands on AB 32 by requiring that CARB ensure statewide GHG emissions are reduced to 40% below the 1990 level by no later than December 31, 2030. SB 32 further requires that these emission reductions are achieved in a manner that benefits the state’s most disadvantaged communities and is transparent and accountable to the public and the Legislature.

Additional information: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=201520160SB32

Applicable Law: California Health and Safety Code § 38566.

* **AB 758[[18]](#footnote-19) - Building Efficiency**

AB 758 directs CEC to collaborate with the California Public Utilities Commission and stakeholders to develop a comprehensive program to achieve greater energy and water savings in existing residential and nonresidential buildings. This resulted in the Existing Buildings Energy Efficiency Action Plan, adopted in 2015 and updated in 2016 and 2019, which provided a framework for state and local governments, building industries, and other stakeholders, to increase energy efficiency in existing residential, commercial, and public buildings.

Additional information: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=200920100AB758; <https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings>

Applicable Law: California Public Resources Code § 25943, California Public Utilities Code §§ 381.2 and 385.2

* **AB 3232 Zero - Emissions Buildings and Sources of Heat Energy**

AB 3232 requires the CEC by January 1, 2021, to evaluate the possibility of the state to reduce greenhouse gas emissions from the state’s residential and commercial building stock by at least 40% below 1990 levels by January 1, 2030. It also requires the commission to include in the 2021 edition of the integrated energy policy report and all subsequent integrated energy policy reports a report on the emissions of greenhouse gases associated with the supply of energy to residential and commercial buildings.

Additional information: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\_id=201720180AB3232

* **SB 350[[19]](#footnote-20) - Clean Energy and Pollution Reduction Act of 2015**

SB 350, among other directives, expanded on AB 758 by directing CEC to establish annual targets to achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. This resulted in the Senate Bill 350 Doubling of Energy Efficiency by 2030(Doubling Report), which expanded the focus of the Existing Buildings Energy Efficiency Action Plan from existing buildings to include agriculture, industry, newly constructed buildings, conservation voltage reduction, and fuel substitution. CEC subsequently consolidated the Existing Buildings Energy Efficiency Action Plan, Doubling Report, and energy efficiency equity efforts to form a comprehensive roadmap to achieving the state’s energy efficiency and building decarbonization goals in the 2019 California Energy Efficiency Action Plan.

SB 350 also requires retail sellers of electricity and local publicly owned electricity increase their procurement of eligible renewable energy resources and provided for the transformation of the Independent System Operator into a regional organization.

Additional information: <https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB350>; <https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings>

Additional information: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=202120220SB1020

Applicable Law: California Health and Safety Code §§ 38561 et. Seq.

* **California Energy Code**

The Energy Code is a component of the California Building Standards Code and is published every three years through the collaborative efforts of state agencies including the California Building Standards Commission and the CEC. The Code ensures that new and existing buildings achieve energy efficiency and preserve outdoor and indoor environmental quality through use of the most energy efficient technologies and construction.

Additional information: <http://www.energy.ca.gov/title24/>

Applicable Law: California Code of Regulations, Title 24, Part 6 and associated administrative regulations in Part 1

**Policies/Plans**

* + **California’s Existing Buildings Energy Efficiency Action Plan**

The Existing Buildings Energy Efficiency Action Plan provides a 10-year roadmap to activate market forces and transform California’s existing residential, commercial, and public building stock into high performing and energy efficient buildings. The Plan provides a comprehensive framework centered on five goals, each with an objective and a series of strategies to achieve it. Each strategy includes industry and/or government implementation partners. Water related items are addressed in several of the strategies from the Existing Buildings Energy Efficiency Action Plan including but not limited to strategies 1.5, 2.2, 4.1, and 5.7 from the plan.

Additional Information:

https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings

Refer to the link below for information about past CEC research projects and activities:

* http://www.energy.ca.gov/research/
* https://www.energy.ca.gov/programs-and-topics/programs/electric-program-investment-charge-epic-program
* <https://www.energizeinnovation.fund/projects>

## Match Funding

* **“Match funds”** includes cash or in-kind (non-cash) contributions provided by the applicant, subrecipients, or other parties including pilot testing, demonstration, and/or deployment sites (e.g., test site staff services) that will be used in performance of the proposed project.

“Match funds” do not include: CEC awards, EPIC funds received from other sources, future/contingent awards from other entities (public or private), the cost or value of the project work site, or the cost or value of pre-existing equipment or materials acquired before the agreement term.

Definitions of “match funding” categories are listed below:

* + - **“Cash”** **match** means funds that are in the grant recipient’s possession or proposed by a match partner and clearly identified in a support letter, and are reserved for the proposed project, meaning that they have not been committed for use or pledged as match for any other project. Cash match can include funding awards earned or received from other agencies for the proposed technologies or study (but not for the identical work). Proof that the funds exist as cash is required. Cash match will be considered more favorably than in-kind contributions during the scoring phase.
		- **“In-Kind”** **match** can be in the form of goods or services that are not reimbursed with CEC funds such as labor (if reasonable and justified), donated space, equipment and supplies acquired during the agreement term, services provided by a third-party or subrecipient, and other expendable property in support of the project. The value of in-kind match is based on the fair market value of the goods and services provided at the time it is claimed as match. The value of existing equipment must be prorated for its use in the project and depreciated or amortized over the term of the project using generally accepted accounting principles (GAAP). Labor rates for hours donated by non-employees who are not paid for their time must be consistent with those paid for similar work. Cost allocations must be reasonable and allocable to the proposed project. In-kind match share must be included in the agreement budget.

The grant recipient is expected to maintain appropriate documentation to support the fair market value of all in-kind match including match donated by third parties or major subrecipients.

* Match funds must be spent only during the agreement term, either before or concurrently with CEC funds or in accordance with an approved Match Fund Spending Plan. Match funds also must be reported in invoices submitted to the CEC.
* All applications that include match funds must submit commitment letters, **including applicant, subrecipients**, sub-subrecipients, and vendors that: (1) identify the source(s) of the funds; (2) justify the dollar value claimed; (3) provide an unqualified (i.e., without reservation or limitation) commitment that guarantees the availability of the funds for the project; and (4) provide a strategy for replacing the funds if they are significantly reduced or lost. Please see Commitment and Support Letters Form Attachment. Commitment and support letters must be submitted with the application to be considered.
* Any match pledged in an application must be consistent. For example, in the ECAMS system and in the Budget Attachment applicants will be asked to enter the project’s total match funding. The amounts listed in those places should be consistent with the amount or dollar value described in the commitment letter(s) (e.g., if $5,000 “cash in hand” funds are pledged in a commitment letter, the match amounts entered in the ECAMS system and in the Budget must match this amount). If the amounts listed in an application are inconsistent, the total amount pledged in the commitment letter(s) will be considered for match funding points.

Examples of preferred match share:

* + - **“Travel”** refers to all travel required to complete the tasks identified in the Scope of Work. Travel includes in-state and out-of-state, and travel to conferences. CEC funds are limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage). Use of match funds for out-of-state travel is encouraged, as the CEC discourages and may not approve the use of its funds for such travel. If an applicant plans to travel to conferences, including registration fees, they must use match funds.
		- **“Equipment” is** an item with a unit cost of at least $5,000 and a useful life of at least one year. **Purchasing equipment with match funding is encouraged** as there are no disposition requirements at the end of the agreement for such equipment. Typically, grant recipients may continue to use equipment purchased with CEC funds if the use is consistent with the intent of the original agreement.
		- **“Materials”** under Materials and Miscellaneous are items under the agreement that do not meet the definition of Equipment (unit cost of at least $5,000 and a useful life of at least one year). **Using match funds for purchasing items such as laptops, notebooks and/or personal tablets is encouraged, as Energy CEC funds for these purchases is not allowed.**

## Funds Spent in California

* Only CEC funds may count towards funds spent in California total.
* "Spent in California" means that:
	+ (1) Funds in the "Direct Labor category and all categories calculated based on direct labor (e.g., fringe benefits, indirect costs and profit) are paid to individuals that pay California state income taxes on wages received for work performed under the agreement. Payments made to out-of-state workers do not count as “funds spent in California.” However, funds spent by out-of-state workers in California (e.g., hotel and food) can count as “funds spent in California.”; AND
	+ (2) Business transactions (e.g., material and equipment purchases, leases, and rentals) are entered into with a business located in California.
	+ (3) Total should include any applicable, subrecipients, sub-subrecipients, and vendors.
* Airline ticket purchases for out-of-state travel and payments made to out-of-state workers are not considered funds “spent in California.” However, funds spent by out-of-state workers in California (e.g., lodging) and airline travel originating and ending in California are considered funds “spent in California.” A business located in California means: 1) businesses registered with Secretary of State AND 2) transaction is with a location in California that is directly related to the grant project (e.g., direct purchase of material and equipment to be used in the grant) and results in the support of California business and jobs.
	+ Example 1: CEC funds will be spent on temperature sensors.  The temperature sensors are manufactured in Washington. The grant recipient orders the temperature sensors directly from a CA based supply house.  The invoice shows that the transaction occurred with the CA based supply house. This transaction is eligible and can be counted as funds spent in CA.
	+ Example 2: CEC funds will be spent on temperature sensors. The temperature sensors are manufactured in Washington. The grant recipient orders the temperature sensors directly from Washington.  The manufacturer has training centers in CA that instructs purchasers on how to use the sensors. The invoice shows that the transaction occurred in Washington. This transaction is not eligible and cannot be counted as funds spent in CA.
1. **CEC’s Rights and Remedies**

Any process explained in this solicitation is in addition to, and does not restrict, any other rights and remedies available to the CEC.

# II. Eligibility Requirements

## Applicant Requirements

1. **Eligibility**

This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities.[[20]](#footnote-21) In accordance with CPUC Decision 12-05-037, funds administered by the CEC may not be used for any purposes associated with local publicly owned electric utility activities.

Additional applicant eligibility requirement for Group 3:

1. Projects must have previously received a funding award from one of the following California, U.S. federal agencies, or other agency funding energy research listed below:
	* California Energy Commission (CEC)
	* U.S. Department of Energy (DOE)
	* U.S. Department of Defense (DOD)
	* U.S. Army Corps of Engineers
	* National Aeronautics and Space Administration (NASA)
	* National Science Foundation (NSF)
	* U.S. National Institute of Health (NIH)
	* New York State Energy Research and Development Authority (NYSERDA)
	* Minnesota Conservation Applied Research and Development (MN CARD) Grant Program
	* **Massachusetts Clean Energy Center (MassCEC)**
2. Applicant proposal must include one of the following:
* A reference letter from one of the funding agencies listed above discussing the proposed technology, results, and project potential.
* A published report demonstrating the proposed technology’s success, the funding source, results, and project potential.
* Other documentation that shows the funding agency is one of that listed above, a description of the technology that received the funding, where the technology has been demonstrated, the level of success of the demonstration(s), and the potential for scaling.
1. **Terms and Conditions**

Each grant agreement resulting from this solicitation will include terms and conditions that set forth the grant recipient’s rights and responsibilities. By submitting an application in the ECAMS system, each applicant agrees to enter into an agreement with the CEC to conduct the proposed project according to the terms and conditions that correspond to its organization, without negotiation: (1) University of California and California State University terms and conditions; (2) U.S. Department of Energy terms and conditions; (3) Special Terms and Conditions for California Native American Tribes and Tribal Organizations with Sovereign Immunity in addition to the standard terms and conditions; or (4) standard terms and conditions. All terms and conditions are located at <https://www.energy.ca.gov/funding-opportunities/funding-resources>. Please refer to the applicable EPIC Grant terms and conditions. Failure to agree to the terms and conditions by taking actions such as failing to provide the required authorizations and certifications or indicating that acceptance is based on modification of the terms may result in **rejection** of the application. Applicants **must** **read** the terms and conditions carefully.The CEC reserves the right to modify the terms and conditionsprior to executing grant agreements.

If a California Native American Tribe (Tribe) or California Tribal Organization with sovereign immunity is listed as a proposed awardee in the Notice of Proposed Award, CEC staff must receive the following before bringing the proposed award to a CEC Business Meeting:

1. A resolution or other authorizing document by the governing body of the Tribe or California Tribal Organization authorizing the Tribe or California Tribal Organization to enter into the proposed agreement, including accepting the Special Terms and Conditions for California Native American Tribes and Tribal Organizations with Sovereign Immunity.

2. A limited waiver of sovereign immunity in the form and manner required by tribal law; and

3. A resolution or other authorizing document delegating authority to execute the agreement to an appropriate individual.

The above requirements may be provided in one or more documents. The document(s) will be included as an exhibit to the resulting grant agreement.

Delay in award. Any delay in the Tribe or Tribal Organization’s ability to provide such documentation may result in delayed award of the grant agreement.

Reservation of right to cancel proposed award. Funds available under this solicitation have encumbrance deadlines which the CEC must meet in order to avoid expiration of the funds. In addition to any other rights reserved to it under this solicitation or that it otherwise has, the CEC reserves the right to cancel a proposed award if it determines, in its sole and absolute discretion, that the documentation described above would likely not be provided prior to an encumbrance deadline, and that the CEC’s ability to meet its encumbrance deadline may thereby be jeopardized. In this instance, the CEC may cancel the proposed award and award funds to the next highest scoring applicant.

1. **California Secretary of State Registration**

All corporations, limited liability companies (LLCs), limited partnerships (LPs) and limited liability partnerships (LLPs) that conduct intrastate business in California are required to be registered and in good standing with the California Secretary of State prior to its project being recommended for approval at an CEC Business Meeting.  If not currently registered with the California Secretary of State, applicants and project team members (e.g., subrecipients and even match fund partners) are encouraged to contact the Secretary of State’s Office as soon as possible to avoid potential delays in beginning the proposed project(s) (should the application be proposed for funding).  Applicants should provide the exact legal names of entities included in their applications, along with any fictitious business names. Fictitious business names must be currently valid, i.e., not expired with the Secretary of State. As part of the CEC’s due diligence, particularly during the agreement development phase, CEC staff may request the supporting documentation regarding the above registration requirements.

For more information, contact the Secretary of State’s Office via its website at www.sos.ca.gov.  Sole proprietors do not have to be registered with the California Secretary of State. However, the local government may require a business license and if using a fictitious business name, registration of the name may be required. Sole proprietors must be able to provide evidence of required licenses and/or registration with the appropriate local government, or evidence that such licenses and/or registration is not required, to the CEC prior to the project being recommended for approval at a CEC Business Meeting.

1. **Russia Sanctions**

The budget must NOT identify that CEC funds will be spent outside of the United States or for out-of-country travel. However, match funds may cover these costs if there are no legal restrictions. Recent legal restrictions may include Russian Sanctions as described below:

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. “Economic Sanctions” refers to sanctions imposed by the U.S. government in response to Russia’s actions in Ukraine, as well as any sanctions imposed under state law. The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions.

Accordingly, should the State determine Recipient is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The State shall provide Recipient advance written notice of such termination, allowing Recipient at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the State.

## Project Requirements

1. **Applied Research and Development AND Technology Demonstration and Deployment Stage**

Groups 1, 2, and 3

Projects must fall within the “technology demonstration and deployment” stage, which involves the installation and operation of pre-commercial technologies or strategies at a scale sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable appraisal of operational and performance characteristics, and of financial risks.**[[21]](#footnote-22)**

Group 4

Projects must fall within the “applied research and development” stage, which includes activities that support pre-commercial technologies and approaches that are designed to solve specific problems in the electricity sector. Applied research and development activities include early pilot-scale testing activities that are necessary to demonstrate the feasibility of pre-commercial technologies. By contrast, the “technology demonstration and deployment” stage involves the installation and operation of pre-commercial technologies or strategies at a scale sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable appraisal of the operational and performance characteristics and the financial risks.**[[22]](#footnote-23)**

1. **Ratepayer Benefits, Technological Advancements, and Breakthroughs**

California Public Resources Code Section 25711.5(a) requires EPIC-funded projects to:

* Benefit electricity ratepayers; and
* Lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state’s statutory energy goals.

EPIC's mandatory guiding principle are to provide ratepayer benefits, which is defined as (1) improving safety, (2) increasing reliability, (3) increasing affordability, (4) improving environmental sustainability, and (5) improving equity, all as related to California's electric system.

Accordingly, the Project Narrative Form Attachment and the “Goals and Objectives” section of the Scope of Work Template Attachment must describe how the project will: (1) benefit California IOU ratepayers by improving safety, increasing reliability, increasing affordability, improving environmental sustainability, and improving equity, all as related to California's electric system; and (2) lead to technological advancement and breakthroughs to overcome barriers to achieving the state’s statutory energy goals. Any estimates of energy and water savings or GHG impacts must be calculated using the References for Calculating Electricity End-Use, Electricity Demand, and GHG Emissions Attachment.

1. **Technology Transfer Expenditures**

To maximize the impact of EPIC projects and to promote the further development and deployment of EPIC-funded technologies, a minimum of 5 percent of CEC funds requested should go towards technology transfer activities. Appropriate technology transfer activities for this solicitation are listed in the Scope of Work Template Attachment. The Budget Forms Attachment should clearly distinguish funds dedicated for technology transfer.

1. Measurement and Verification Plan

The Project Narrative Form Attachment must include a Measurement and Verification Plan that describes how actual project benefits will be measured and quantified, such as by pre- and post-project measurable metrics for the following:

* Group 1, 2 and 3: electricity use (kilowatt-hours, kilowatts), fossil gas use (therms, BTU/hr), electricity and gas cost savings, air emissions (e.g., CO2, NOx, PM), and other benefits.
* Group 4: electricity use (kilowatt-hours, kilowatts), fossil gas use (therms, BTU/hr), electricity and gas cost savings, and other benefits.

The activities proposed in the Measurement and Verification Plan must be included in the “Technical Tasks” section of the Scope of Work Template Attachment

1. Community Based Organizations

Community Based Organizations (CBO) should meet, and will be evaluated on the following criteria for this solicitation:

1. Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community or similar community.
2. Have official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.
3. Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.

# Application Submission Instructions

## Application Format, Page Limits

All items listed below are required as part of the application package. Failure to provide any items may result in disqualification of the application. Attachment requirements are expanded and explained below in this section and in the attachments themselves.

|  |  |  |
| --- | --- | --- |
| **Item** | **Attachment Number**  | **Page Limitation** |
| Executive Summary | Attachment 1 | Two pages |
| Project Narrative | Attachment 2 | Twenty pages  |
| Project Team | Attachment 3 | Two pages for each resume |
| Scope of Work | Attachment 4 | Thirty pages |
| Project Schedule | Attachment 5 | Four pages |
| Budget  | Attachment 6 | None |
| CEQA Compliance Form | Attachment 7 | None |
| Past Project Information | Attachment 8 | Two pages for each project description |
| Commitment and Support Letters  | Attachment 9 | Two pages, excluding the cover page |
| Project Performance Metrics | Attachment 10 | None |
| Applicant Declaration | Attachment 11 |  |
| References for Calculating Energy End-Use and GHG Emissions (optional) | Attachment 12 | None |
| \*CEQA Reference Guide  | Attachment 13 | Not Applicable  |

\*Only for reference and not required to be included as part of application package

## Method For Delivery

The only method of submitting applications to this solicitation is Energy Commission Agreement Management System (ECAMS), available at: https://ecams.energy.ca.gov.

The CEC is providing a team of technical assistants to support applicants with this new process. Please email ECAMS.SalesforceSupport@energy.ca.gov for support.

ECAMS allows applicants to complete and submit their application to the CEC prior to the date and time specified in this solicitation. Files uploaded to the system must be in Microsoft Word XP (.doc format) or newer and Excel Office Suite formats unless originally provided in the solicitation in another format.  Attachments requiring signatures, such as match funding commitment letters, may be scanned and submitted in PDF format.  Completed Budget Forms, Attachment, must be in Excel format.

The deadline to submit applications through ECAMS system is 11:59 p.m. on the Deadline to Submit Applications date shown in the Key Activities Schedule. ECAMS automatically closes at 11:59 pm. If the full submittal process has not been completed before 11:59 p.m., your application will not be considered.

The CEC strongly encourages Applicants to upload and submit all applications by 5:00 p.m. because CEC staff will not be available after 5:00 p.m. or on weekends to assist with the upload process. And please note that while we endeavor to assist all would-be applicants, we can’t guarantee staff will be available for in-person consultation on the due date, so please plan accordingly.

Please give yourself ample time to complete all steps of the submission process: do not wait until right before the deadline to begin the process. Due to factors outside the CEC’s control and unrelated to ECAMS, upload times may be much longer than expected. For example, unexpected issues could occur, causing long delays that prevent timely submission. Please plan accordingly. For instructions on how to apply using the ECAMS system, please see the How to Apply document available on the CEC website at: **https://www.energy.ca.gov/funding-opportunities/funding-resources**, under General Funding Information, Energy Commission Agreement Management System (ECAMS).

First time users must register as a new user to access the system. There will be two types of user accounts to establish: 1) An organizational account, for the entity applying to the solicitation; and 2) user accounts for individuals who will be submitting the application on behalf of the organization.

Applicants will be required to upload all attachments marked “required” in the system in order for the application to be submitted.

## Application Content

Below is a general description of each required section of the application. Please reference each individual attachment for a detailed description of the information requested by that attachment. Completeness in submitting all the information requested in each attachment will be factored into application scoring.

1. Executive Summary Form (Attachment 1)

The Executive Summary includes: a project description; the project goals and objectives to be achieved; an explanation of how the goals and objectives will be achieved, quantified, and measured; and a description of the project tasks and overall management of the agreement.

1. Project Narrative Form (Attachment 2)

This form includes the majority of the applicant’s responses to the Scoring Criteria in Section IV. The following must also be addressed for both Applied Research & Technology Demonstration projects:

* 1. **Group Specific Questions**
		+ Include required group specific information (see Section I.C.) in the specified sections.
1. Project Team Form (Attachment 3)

Identify by name all key personnel[[23]](#footnote-24) assigned to the project, including the project manager and principal investigator (if applicable), and individuals employed by any major subrecipient (a major subrecipient is a subrecipient receiving $100,000 or more of Commission funds). Clearly describe their individual areas of responsibility. Include the information required for each individual, including a resume (maximum two pages).

1. Scope of Work Template (Attachments 4)

Applicants must include a completed Scope of Work for each project, as instructed in the template. The Scope of Work identifies the tasks required to complete the project.

Electronicfiles for the Scope of Work must be in **MS Word** file format**.**

1. Project Schedule (Attachment 5)

The Project Schedule includes a list of all products, meetings, and due dates. All work must be scheduled for completion by the “Key Dates” section of this solicitation manual.

Electronic files for the Project schedule must be in MS Excel file format.

1. Budget Forms (Attachment 6)

Because this solicitation is utilizing the new ECAMS system for submitting applications, applicants have two options for uploading a budget:

1. **Option 1: Prime Applicant’s budget is both keyed directly into ECAMS and uploaded as an MS Excel attachment; the Prime Major Subrecipient(s) budgets are uploaded as MS Excel attachments.** The new ECAMS system allows applicants to build the prime applicant’s budget directly into the system. At this time, there is no way to input major subrecipient budgets directly into the system. Instructions for inputting budget items into the ECAMS system are included at: https://www.energy.ca.gov/funding-opportunities/funding-resources.
2. **Option 2: Upload all budgets (Prime and Major Subrecipients) as MS Excel attachments** and leave the ECAMS budget sections blank.

Instructions for completing the budgets can be found in Budget Category Guidance at the ECAMS Resources page. **Read the instructions tab on the MS Excel attachments Attachment 6 before completing the worksheets**. Complete and submit information on **all** budget worksheets. The salaries, rates, and other costs entered on the worksheets will become a part of the final agreement.

1. All project expenditures (match share and reimbursable) must be made within the Anticipated Agreement Start and End dates listed in the “Key Activities Schedule” of this solicitation manual. Match share requirements are discussed in Part I.D and I.K of this solicitation. The entire term of the agreement and projected rate increases must be considered when preparing the budget.
2. The budget must reflect estimates for **actual** costs to be incurred during the agreement term. The CEC may only approve and reimburse for actual costs that are properly documented in accordance with the grant agreement terms and conditions. Rates and personnel shown must reflect the rates and personnel the applicant would include if selected as a Recipient.
3. The rates proposed, except for Direct Labor and Fringe Benefits, are considered capped and may not change during the agreement term. Except for Direct Labor and Fringe Benefits, the grant recipient will only be reimbursed for actual rates and not to exceed the capped rates. The rates proposed for Direct Labor and Fringe Benefits are treated as estimates; a grant recipient can invoice at higher rates as long as it is only invoicing for actual expenditures it has made. If an applicant, by law, cannot agree to Direct Labor and Fringe Benefits rates being treated as estimates, the applicant can request to modify this term. This modification may be negotiated if the applicant is proposed for award. The CEC retains the sole right to refuse to agree to any requested modifications. The budget

must NOT include any grant recipient profit from the proposed project, either as a reimbursed item, match share, or as part of overhead or general and administrative expenses (subrecipient profit is allowable, though the maximum percentage allowed is 10% of the total subrecipient rates for labor, and other direct and indirect costs as indicated in the Category Budget tab). Please review the terms and conditions and budget forms for additional restrictions and requirements.

1. The budget must allow for the expenses of all meetings and products described in the Scope of Work. Meetings may be conducted at the CEC or by conference call, as determined by the CAM.
2. Applicants must budget for permits and insurance. Permitting costs may be accounted for in match share. Permit costs and the expenses associated with obtaining permits are not reimbursable with CEC funds, with the exception of costs incurred by University of California grant recipients.
3. The budget must NOT identify that CEC funds will be spent outside of the United States or for out-of-country travel.  However, match funds may cover these costs if there are no legal restrictions.
4. **Prevailing wage requirement:** Projects that receive an award of public funds from the CEC often involve construction, alteration, demolition, installation, repair or maintenance work over $1,000. For this reason, projects that receive an award of public funds from the CEC are likely to be considered public works under the California Labor Code. See Chapter 1 of Part 7 of Division 2 of the California Labor Code, commencing with Section 1720 and Title 8, California Code of Regulations, Chapter 8, Subchapter 3, commencing with Section 16000.

Projects deemed to be public works require among other things the payment of prevailing wages, which can be significantly higher than non-prevailing wages.

By accepting this grant, the grant recipient as a material term of this agreement shall be fully responsible for complying with all California public works requirements including but not limited to payment of prevailing wage. Therefore, as a material term of this grant, the grant recipient must either:

(a) Proceed on the assumption that the project is a public work and ensure that:

1. prevailing wages are paid; and
2. the project budget for labor reflects these prevailing wage requirements; and
3. the project complies with all other requirements of prevailing wage law including but not limited to keeping accurate payroll records, and complying with all working hour requirements and apprenticeship obligations;

or,

 (b) Timely obtain a legally binding determination from the Department of Industrial Relations or a court of competent jurisdiction before work begins on the project that the proposed project is not a public work.

1. California Environmental Quality Act (CEQA) Compliance Form (Attachment 7)

The CEC requires the information on this form to facilitate its evaluation of proposed activities under CEQA (California Public Resources Code Section 21000 et. seq.), a law that requires state and local agencies in California to assess the potential environmental impacts of their proposed actions. The form will also help applicants to determine CEQA compliance obligations by identifying which proposed activities may be exempt from CEQA and which activities may require additional environmental review. If proposed activities are exempt from CEQA (such as paper studies), the worksheet will help to identify and document this. This form must be completed regardless of whether the proposed activities are considered a “project” under CEQA.

Failure to complete the CEQA process in a timely manner after the CEC’s Notice of Proposed Award may, in the CEC’s sole discretion and without limiting any of the CEC’s other rights and remedies, result in the cancellation of a proposed award and allocation of funding elsewhere, such as to the next highest-scoring project.

1. Past Projects Information (Attachment 8)

The Past Projects Information Form asks for information about the Applicant and its major subrecipients’ past agreements with the CEC and other entities.

1. Commitment and Support Letter Form (Attachment 9)

A commitment letter commits an entity or individual to providing the service or funding described in the letter. A support letter details an entity or individual’s support for the project. Commitment and Support Letters must be submitted with the application. Letters that are not submitted by the application deadline will not be reviewed and counted towards meeting the requirement specified in the solicitation.

* + 1. Commitment Letters

Applicants must submit a **match funding** commitment letter from each entity that is committing to providing match funding. Each commitment letter must be signed by an authorized representative of the entity or by the individual that is making the commitment. A commitment letter must include all of the following: (1) identification of the source(s) of the funds; (2) a justification of the dollar value claimed; (3) an unqualified (i.e. without reservation or limitation) commitment that guarantees the availability of the funds for the project; and (4) a strategy for replacing the funds if they are significantly reduced or lost.

* If the project involves **pilot testing or demonstration** activities, the applicant must include a site commitment letter signed by an authorized representative of the proposed test or demonstration site. The letter must: (1) identify the location of the site (street address, parcel number, tract map, plot map, etc.) consistent with ECAMS and the CEQA Compliance Form (Attachment) or provide justification if the exact site location is presently undetermined; and (2) unconditionally commit to providing the site for the proposed activities if recipient is awarded a CEC grant.
* **Project partners** that are making contributions other than match funding or a test or demonstration site, and are not receiving CEC funds, must submit a commitment letter signed by an authorized representative that: (1) identifies how the partner will contribute to the project; and (2) unconditionally commits to making the contribution if Recipient is awarded a CEC grant.
	+ 1. Support Letters

All applicants must include at least one support letter from a project stakeholder (i.e., an entity or individual that will benefit from or be involved in the project) that: (1) describes the stakeholder’s interest or involvement in the project; (2) indicates the extent to which the project has the support of the relevant industry and/or organizations; and (3) describes any support it intends (but does not necessarily commit) to provide for the project, such as funding or the provision of a test or demonstration site.

1. Project Performance Metrics (Attachment 10)

The purpose of this questionnaire is to identify and document performance targets for the project. The performance targets should be a combination of scientific, engineering and techno-economic metrics that provide the most significant indicator of the research or technology’s potential success. The metrics should provide constructive targets for the performance of the technology or project and how the metric will be measured and evaluated, during the project and after the project is complete.

1. Applicant Declaration (Attachment 11)

This form requests the applicant make certain declarations under penalty of perjury. This form must be signed by an authorized representative of the applicant’s organization.

1. References for Calculating Energy End-Use and GHG Emissions (Attachment 12)

Any estimates of energy savings or GHG impacts described in the application should be calculated as specified on this form, to the extent that the references apply to the proposed project.

1. CEQA Reference Guide (Attachment 13)

Applicants may use this attachment as a reference guide to complete the CEQA compliance form (Attachment 7) for projects. The included form is not required for applicant submission.

# Evaluation and Award Process

## Application Evaluation

Applications will be evaluated and scored based on responses to the information requested in this solicitation and on any other information available, such as past performance of CEC agreements. To evaluate applications, the CEC will organize an Evaluation Committee that consists of primarily, or all CEC staff. The Evaluation Committee may use additional technical expert reviewers to provide an analysis of applications.

1. **Stage One: Application Screening**

The Evaluation Committee will screen applications for compliance with the Screening Criteria in **Section E** of this Part. **Applications that fail any of the screening criteria will be rejected.**

1. **Stage Two: Application Scoring**

Applications that pass Stage One will be submitted to the Evaluation Committee for review and scoring based on the Scoring Criteria in **Section F** of this Part.

* The scores for each application will be the average of the combined scores of all Evaluation Committee members.
* **A minimum score of 70.0 points** is required for criteria 1-7 to be eligible for funding. In addition, the application must receive a minimum score of **52.50 points for criteria 1−4** to be eligible for funding.

## Ranking, Notice of Proposed Award, and Agreement Development

1. **Ranking and Notice of Proposed Award**

Applications that receive at least the minimum required score for all criteria will be ranked according to their score by group.

* CEC staff will post a **Notice of Proposed Award (NOPA)** that includes: (1) the total proposed funding amount; (2) the rank order of applicants; and (3) the amount of each proposed award. The CEC will post the NOPA on its website and will e-mail it to all entities that submitted an application. Proposed awards must be approved by the CEC at a business meeting.

**Debriefings:** Applicants may request a debriefing after the release of the NOPA by e-mailing the CAO listed in Part I. A request for debriefing must be received **no later than 30 calendar days** after the NOPA is released. *The purpose of the debriefing is to provide the applicant feedback on contributing factors to their score and opportunities for improvement on future applications. Debriefings are not intended to be a comprehensive examination of all deficiencies within an application.*

* In addition to any of its other rights, the CEC reserves the right to:
	+ Allocate any additional funds to passing applications, in rank order;
	+ Aggregate funds from multiple groups to fully fund the highest ranked passing application(s), regardless of group. (if applicable); and
	+ Negotiate with successful applicantstomodify the project scope, schedule, project team entity that will receive the award, project location and/or level of funding.
1. **Agreements**

Applications recommended for funding in a NOPA will be developed into a proposed grant agreement to be considered at a CEC Business Meeting. Grant recipients may begin the project only after full execution of the grant agreement (i.e., approval at a CEC business meeting and signature by the grant recipient and the CEC).

* **Agreement Development:** The Contracts, Grants, and Loans Office will send the grant recipient a grant agreement for approval and signature. The agreement will include the applicable terms and conditions and will incorporate this solicitation and the application by reference. The CEC reserves the right to modify the award documents (including the project scope, level of funding and terms and conditions) prior to executing any agreement.
* **Performance Evaluation:** An applicant receiving an award under this solicitation is subject to evaluation of performance under the resulting agreement. The CEC reserves the right to utilize the performance evaluation to screen and score future funding applications.
* **Failure to Execute an Agreement:** If the CEC is unable to successfully execute an agreement with an applicant in a timely manner, it reserves the right to cancel the pending award and use the funds elsewhere, such as to fund the next highest-ranked, eligible application.

## Grounds to Reject an Application or Cancel an Award

Applications that do not pass the screening stage will be rejected. In addition, the CEC reserves the right to reject an application and/or to cancel an award for any reason, including any of the following:

* The application contains false or intentionally misleading statements or references that do not support an attribute or condition contended by the applicant.
* The application is intended to erroneously and fallaciously mislead the State in any way.
* The application does not comply or contains caveats that conflict with the solicitation, and the variation or deviation is material.
* The applicant has previously received funding through an EPIC or Public Interest Energy Research (PIER) agreement, has received the royalty review letter (which the CEC annually sends out to remind past award recipients of their obligations to pay royalties), and has not responded to the letter or is otherwise not in compliance with repaying royalties.
* The applicant has received unsatisfactory agreement performance evaluations from the CEC or another California state agency.
* The applicant is a business entity required to be registered with the California Secretary of State and is not in good standing.
* The applicant has not demonstrated that it has the financial capability to complete the project.
* The applicant fails to meet CEQA compliance within sufficient time for the CEC to meet its encumbrance deadline or any other deadlines, as the CEC in its sole and absolute discretion may determine.
* The applicant has included a statement or otherwise indicated that it will not accept the terms and conditions, or that acceptance is based on modifications to the terms and conditions. If an applicant, by law, cannot agree to certain terms and conditions, the applicant can request a modification. This modification may be negotiated if the applicant is proposed for award. The CEC retains the sole right to refuse to agree to any requested modifications.

## Miscellaneous

1. **Solicitation Cancellation and Amendment**

It is the policy of the CEC not to solicit applications unless there is a bona fide intention to award an agreement. However, if it is in the State’s best interest, the CEC reserves the right, in addition to any other rights it has, to do any of the following:

* Cancel this solicitation;
* Revise the amount of funds available under this solicitation;
* Amend this solicitation as needed; and/or
* Reject any or all applications received in response to this solicitation.

If the solicitation is amended, the CEC will post an addendum on CEC’s website at: https://www.energy.ca.gov/funding-opportunities/solicitations. The CEC will not reimburse applicants for application development expenses under any circumstances, including cancellation of the solicitation.

1. **Modification or Withdrawal of Application**

Applicants may recall or modify a submitted application within ECAMS before the deadline to submit applications. Applications cannot be changed after that date and time. An application cannot be “timed” to expire on a specific date. For example, a statement such as the following is non-responsive to the solicitation: “This application and the cost estimate are valid for 60 days.”.”

1. **Confidentiality**

Though the entire evaluation process from receipt of applications up to the posting of the NOPA is confidential, **all submitted documents will become publicly available records** and property of the State after the CEC posts the NOPA or the solicitation is cancelled. **The CEC will not accept or retain applications that identify any portion as confidential unless the applicant clarifies in writing that marking the material as confidential was a mistake and the material can be made public.**

1. **Solicitation Errors**

If an Applicant discovers any ambiguity, conflict, discrepancy, omission, or other error in the solicitation at any time prior to 5:00 p.m. of the application deadline date, the Applicant should immediately notify the CEC of the error in writing and request modification or clarification of the solicitation. The CEC will provide modifications or clarifications by written notice to all entities that requested the solicitation. The CEC will not be responsible for failure to correct errors.

1. **Immaterial Defect**

The CEC may waive any immaterial defect or deviation contained in an application. The CEC’s waiver will not modify the application or excuse an applicant proposed for funding from full compliance with solicitation requirements.

1. **Tiebreakers**

If the score for two or more applications are tied, the application with a higher score in the XX criterion will be ranked higher. If still tied, an objective tie-breaker (such as a random drawing) will be utilized.

1. **Clarification Interviews**

The Evaluation Committee may conduct optional Clarification Interviews with applicants to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.

1. **Opportunity to Cure Administrative Errors**

The CEC understands and appreciates the significant time and expense applicants spend preparing applications.  An administrative error that prevents an applicant from submitting a complete application frustrates both the CEC and applicants.  The purpose of this process is to reduce the number of applications screened out or receiving a significantly reduced score for administrative errors while maintaining a fair competition.  This process also ensures better competition and thus better projects to benefit California.

After the application deadline, an applicant might identify, or the Evaluation Committee may find what reasonably appears to be, an administrative error.  For purposes of this solicitation only, an administrative error is defined as an applicant’s inadvertent mistake that prevents materials in existence as of the application deadline from appearing in its submitted application.  Examples include, but are not limited to, accidentally:

* Scanning and submitting every other page in a document instead of every page.
* Submitting the wrong document.
* Leaving out a document.

If the Evaluation Committee find what reasonably appears to be an administrative error, they can communicate with the applicant to confirm.  If an applicant finds an administrative error in its application, it should immediately contact the Commission Agreement Officer listed in the “Contact Information/Questions” section of this solicitation.

If an administrative error has been identified and communicated to the Commission Agreement Officer, the CEC may, but is not required to, allow the applicant a period of time to provide the missing materials.  Reasons why the CEC might NOT allow an applicant to fix an administrative error include, but are not limited to:

* The funds have a deadline that does not allow time to fix the error.
* The application has been screened out or does not receive a passing score for reasons unrelated to the administrative error, making irrelevant any efforts to fix the error.
* The applicant brings the error to the CEC’s attention too late in the solicitation process (e.g., after awards have been approved at a Business Meeting).

If the Evaluation Committee allows an applicant the opportunity to fix an administrative error, the Commission Agreement Officer will communicate in writing to the applicant’s project manager listed the deadline by which the applicant must provide the missing materials.  Reasonable efforts will be made to confirm receipt of the notice, but actual notice cannot be guaranteed and the obligation is on the applicant to ensure the proper contact(s) are listed and available to respond.  The Evaluation Committee will not consider any materials submitted after the deadline.

This process only allows applicants to submit materials in existence as of the application deadline.  This process does NOT allow applicants to submit material created or modified after the application deadline. The CEC has sole discretion to determine whether materials submitted are eligible for consideration by the Evaluation Committee under this opportunity to cure.

Applicants must include the following certification along with the materials it submits to fix an administrative error and must explain why the materials were not provided due to an inadvertent administrative error:

“I certify on behalf of the applicant that the materials provided herein existed at the time of the application deadline, have not been modified since, and were not originally provided due to an inadvertent administrative error as described herein.”

The Evaluation Committee is not responsible for finding, or communicating with the applicant about, any errors in an application.  Applicants remain solely responsible for submitting applications, including any material submitted to fix an administrative error, that meet all solicitation requirements.

## Stage One: Application Screening

| **Screening Criteria** *The Application must pass ALL criteria to progress to Stage Two.* | **Pass/Fail** |
| --- | --- |
| 1. The application is received by the due date and time specified in the “Key Activities Schedule” in Part I of this solicitation and is received in the required manner (e.g., no emails or faxes).
 | [ ]  Pass [ ]  Fail |
| 1. The application addresses only one of the eligible project groups, as indicated by the information the Applicant enters into the ECAMS system.
 | [ ]  Pass [ ]  Fail |
| 1. If the applicant has submitted more than one application for the same project group, each application is for a distinct project (i.e., no overlap with respect to the technical tasks described in the Scope of Work, Attachment).

*The CEC may conduct a clarification interview with an applicant to clarify and/or verify information in its applications to help CEC determine whether each application is for a distinct project. The final determination shall be made solely by CEC.* | [ ]  Pass [ ]  Fail |
| 1. The Application includes Commitment Letters that total the minimum of 20*%* in match share of the total requested CEC funds.

**Groups 1, 2, and 3:** If project demonstration/deployment sites are located in and benefiting a Tribe, Disadvantaged Community, and/or Low-Income Community **AND include either a CBO or a local for-profit organization that can fulfill the role of a CBO** [**~~with CBO involvement~~**], Match requirement is 10% of the requested CEC funds.**Group 4:** If pilot demonstrations are located in and benefiting a Tribe, Disadvantaged Community, and/or Low-Income Community, Match fund requirement is waived.  | [ ]  Pass [ ]  Fail |
| 1. If the project involves technology pilot demonstration/ demonstration/ deployment activities.
* The application identifies one or more demonstration/ deployment site locations.
* All demonstration/deployment sites are located in a California electric IOU service territory (PG&E, SDG&E, or SCE).
 | [ ]  Pass [ ]  Fail |

**Screening Criteria for Past Performance**

| **Screening Criteria** |  |
| --- | --- |
| **Applicant Past Performance with Energy Commission**An applicant may be disqualified under this solicitation due to severe performance issues under one or more prior or active CEC agreements. This past performance screening criterion does not apply to applicants that do not have any active or prior agreements with the CEC. The applicant—defined for the purpose of this past performance screening criterion as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the Energy Commission (e.g., contract, grant, or loan) and entered into an agreement(s) with the Commission and demonstrated **severe performance issues** characterized by significant negative outcomes including:* Significant deviation from agreement requirements that were caused by factors that are, or should have been, within applicant’s control;
* Termination with cause;
* Demonstrated poor communication, project management, and/or inability, due to circumstances within applicant’s control, or which should have been within applicant’s control, from materially completing the project;
* Deliverables were not submitted to the CEC or were of significantly poor quality. For example, applicant delivered poorly written reports that required significant rework by staff prior to acceptance or publication; and
* Severe audit findings not resolved to CEC’s satisfaction. Severe audit findings may include but are not limited to: incomplete or unsatisfactory deliverables; grant funds used inappropriately (i.e., other than as represented); or questioned costs.
 |  |
| **Must pass to continue with Scoring Criteria** | **Pass/Fail** |

## Stage Two: Application Scoring

Applications that pass ALL Stage One Screening Criteria and are not rejected as described in Section IV.C. will be evaluated based on the Scoring Criteria and the Scoring Scale below (with the exception of criteria 6−7, which will be evaluated as described in each criterion). Each criterion has an assigned number of possible points and is divided into multiple sub-criteria. The sub-criteria are not equally weighted. The Project Narrative Attachment must respond to each sub-criterion, unless otherwise indicated.

**Scoring Scale**

|  |  |  |
| --- | --- | --- |
| **% of Possible Points** | **Interpretation** | **Description**  |
| 0% | Not Responsive | Response does not include or fails to address the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 10-30% | Minimally Responsive | Response minimally addresses the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 40-60% | Inadequate | Response addresses the requirements being scored, but there are one or more omissions, flaws, or defects or the requirements are addressed in such a limited way that it results in a low degree of confidence in the proposed solution. |
| 70% | Adequate | Response adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 75% | Between Adequate and Good | Response better than adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 80% | Good | Response fully addresses the requirements being scored with a good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 85% | Between Good and Excellent | Response fully addresses the requirements being scored with a better than good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 90% | Excellent | Response fully addresses the requirements being scored with a high degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 95% | Between Excellent and Exceptional | Response fully addresses the requirements being scored with a better than excellent degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 100% | Exceptional | All requirements are addressed with the highest degree of confidence in the applicant’s response or proposed solution. The response exceeds the requirements in providing multiple enhancing features, a creative approach, or an exceptional solution. |

**Scoring CRITERIA for Groups 1, 2, and 3**

**The Project Narrative Attachment** must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation. Any estimates of energy savings or GHG impacts should be calculated as specified in the References for Calculating Energy End-Use and GHG Emissions Attachment, to the extent that the references apply to the proposed project.

| **Scoring Criteria** | **Possible Points** |
| --- | --- |
| 1. **Technical Merit**
2. The proposed project provides a clear and concise description of the technological, scientific knowledge advancement, and/or innovation that will overcome barriers to achieving the State’s statutory energy goals.
3. Describes the competitive advantages of the proposed technology over state-of-the-art (e.g., efficiency, emissions, durability, cost).
4. Provides the proposed technical specifications and describe how the project will meet or exceed the technical specifications by the end of the project.
5. Describes the technology readiness level (TRL) the proposed technology has achieved and the expected TRL by the end of the project.
6. Describes at what scale the technology has been successfully demonstrated, including size or capacity, number of previous installations, location and duration, results, etc.
7. Describes how the proposed demonstration will lead to increased adoption of the technology in California.
8. Provides information described in Section I.C.
 | **15** |
| 1. **Technical Approach**
2. The application describes the technique, approach, and methods to be used in performing the work described in the Scope of Work.
3. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative.
4. The application identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded.
5. Identifies and discusses factors critical for success, in addition to risks, barriers, and limitations (e.g., loss of demonstration site, key subrecipient). Provides a plan to address them.
6. Discusses the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule and the key activities schedule in Section I.E.
7. Describes the technology transfer plan to assess and advance the commercial viability of the technology.
8. Provides a clear and plausible measurement and verification plan that describes how energy savings and other benefits specified in the application will be determined and measured.
9. Provides information documenting progress towards achieving compliance with the California Environmental Quality Act (CEQA) by addressing the areas in Section I.I and Section III.C.7.
10. Provides information described in Section I.C.
 | **25** |
| 1. **Impacts and Benefits for California IOU Ratepayers**
2. Explains how the proposed project will benefit California Investor-Owned Utility (IOU) ratepayers and provides clear, plausible, and justifiable (quantitative preferred) potential benefits. Estimates the energy benefits including:
	* annual electricity and thermal savings, energy cost reductions, peak load reduction and/or shifting, infrastructure resiliency, infrastructure reliability.

**In addition, estimates the non-energy benefits including:** * greenhouse gas emission reductions, air emission reductions (e.g., NOx), and/or **increased health, comfort, and safety**.
1. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe.
2. Explains the path-to-market strategy including near-term (i.e., initial target markets), mid-term, and long-term markets for the technology, size and penetration or deployment rates, and underlying assumptions.
3. Identifies the expected financial performance (e.g., payback period, ROI) of the demonstration at scale.
4. Identifies the specific programs which the technology intends to leverage. *(e.g., feed-in tariffs, IOU rebates, demand response, storage procurement) and extent to which technology meets program requirements.*
 | **20** |
| 1. **Team Qualifications, Capabilities, and Resources**

Evaluations of ongoing or previous projects including project performance by applicant and team members will be used in scoring for this criterion. 1. Identifies credentials of applicant and any subrecipient and sub-subrecipient key personnel, including the project manager, principal investigator and technology and knowledge transfer lead *(include this information in the Project Team Form Attachment).*
2. Demonstrates that the project team, *(TDD only) including Community-Based Organization* ***(CBO)******or******local for-profit organization that can fulfill the role of a CBO,*** has appropriate qualifications, experience, financial stability, and capability to complete the project.
3. Explains the team structure and how various tasks will be managed and coordinated.
4. Describes the facilities, infrastructure, and resources available that directly support the project.
5. Describes the team’s history of successfully completing projects in the past 10 years including subsequent deployments and commercialization.
 | **15** |
| **Total Possible Points for criteria 1− 4****(Minimum Passing Score for criteria 1− 4 is 70% or 52.50)** | **75** |
| 1. **Budget and Cost-Effectiveness**
2. Budget forms are complete for the applicant and all subrecipients, as described in the Budget instructions.
3. Justifies the reasonableness of the requested funds relative to the project goals, objectives, and tasks.
4. Justifies the reasonableness of direct costs (e.g., labor, fringe benefits, equipment, materials & misc. travel, and subrecipients).
5. Justifies the reasonableness of indirect costs (e.g., overhead, facility charges (e.g., rent, utilities), burdens, subrecipient profit, and other like costs).
6. Justifies how the proposed project, including the amount of match funds, optimizes the use of CEC funds to achieve program objectives.
7. Justifies the appropriateness of match funds with respect to the project’s potential risks and benefits, including level of commitment, type of match (e.g., cash, in-kind), sources, and match funding replacement strategy.
 | **10** |
| 1. **CEC Funds Spent in California**

Projects that maximize the spending of CEC funds in California will receive points as indicated in the table below (see Funds Spent in California section for more details).

|  |  |
| --- | --- |
| **Percentage of CEC funds spent in CA vs Total CEC funds requested**(derived from Budget Attachment) | **Percentage of Possible Points** |
| >60%  | 20% |
| >65%  | 30% |
| >70% | 40% |
| >75%  | 50% |
| >80% | 60% |
| >85%  | 70% |
| >90% | 80% |
| >95%  | 90% |
| >98% | 100% |

 | **10** |
| 1. **Ratio of Direct Labor to Indirect Costs**

The score for this criterion will be calculated by the following formula:$$\frac{Total Direct Labor}{Total Direct Labor + Total Fringe + Total Indirect + Total Profit}$$This ratio will then be multiplied by the maximum possible points for this criterion and rounded to two decimal places.NOTE: For the purposes of this criterion, the CEC will include the facility charges (e.g., rent, utilities, etc.), burdens and other like costs that are budgeted as direct costs into the indirect costs in the formula. | **5** |
| **Total Possible Points for Criteria 1-7****(Minimum Passing Score for Criteria 1 – 7 is 70% or 70.00 points)** | **100** |
| **Preference Points** Applications must meet all minimum passing scores (Scoring Criteria 1-4 and 1-7) to be eligible for preference points. |

**Preference Points**

| **Scoring Criteria** | **Possible Points** |
| --- | --- |

|  |  |
| --- | --- |
| 1. **Disadvantaged & Low-Income Communities**

Applications proposing projects located in and benefiting low-income and/or disadvantaged communities within IOU service territories may qualify for additional preference points. In order to receive or qualify for additional points, the proposed project **must demonstrate benefits to the disadvantaged and/or low-income communities by describing** the following: 1. Identifies how the proposed project, will lead to increased deployment of the technology or solution to benefit disadvantaged and/or low-income communities, including specific entities that will receive these benefits (e.g., businesses, local government, homeowners, residents).
2. Identifies how the proposed project will have a positive economic impact on low-income and/or disadvantaged communities including customer bill savings, job creation, partnering and contracting with micro- and small-businesses, and economic development.
3. Describes potential negative impacts or risks of the proposed technology or solution to disadvantaged and/or low-income communities and how they will be assessed and mitigated.
4. Describes how the proposed project will increase access to clean energy or sustainability technologies within disadvantaged and/or low-income communities and how the project activities will benefit the communities.
5. Identifies and describes how community input will be solicited and considered in the design of the project, and how outreach and engagement will be conducted during project implementation.
6. Includes letters of support from technology partners, community-based organizations/**local for-profit organization that can fulfill the role of a CBO**, environmental justice organizations, or other partners that demonstrate their belief that the proposed project will lead to increased equity and is both feasible and commercially viable in the identified low-income and/or disadvantaged communities.
 | **10** |

**Scoring CRITERIA for group 4**

**The Project Narrative Attachment** must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation. Any estimates of energy savings or GHG impacts should be calculated as specified in the References for Calculating Energy End-Use and GHG Emissions Attachment, to the extent that the references apply to the proposed project.

| **Scoring Criteria** | **Possible Points** |
| --- | --- |
| 1. **Technical Merit**
2. The proposed project provides a clear and concise description of the technological, scientific knowledge advancement, and/or innovation that will overcome barriers to achieving the State’s statutory energy goals.
3. Describes the competitive advantages of the proposed technology over state-of-the-art (e.g., efficiency, emissions, durability, cost).
4. Provides the proposed technical specifications and describe how the project will meet or exceed the technical specifications by the end of the project.
5. Describes the technology readiness level (TRL) the proposed technology has achieved and the expected TRL by the end of the project.
6. Provides information described in Section I.C.
 | **15** |
| 1. **Technical Approach**
2. The application describes the technique, approach, and methods to be used in performing the work described in the Scope of Work.
3. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative.
4. The application identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded.
5. Identifies and discusses factors critical for success, in addition to risks, barriers, and limitations (e.g., loss of demonstration site, key subrecipient). Provides a plan to address them.
6. Discusses the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule and the key activities schedule in Section I.E.
7. Describes the technology transfer plan to assess and advance the commercial viability of the technology.
8. Provides information described in Section I.C.
 | **25** |
| 1. **Impacts and Benefits for California IOU Ratepayers**
2. Explains how the proposed project will benefit California Investor-Owned Utility (IOU) ratepayers and provides clear, plausible, and justifiable (quantitative preferred) potential benefits. Estimates the energy benefits including:
	* annual electricity and thermal savings, energy cost reductions, peak load reduction and/or shifting, infrastructure resiliency, infrastructure reliability.

**In addition, estimates the non-energy benefits including:** * greenhouse gas emission reductions, air emission reductions (e.g., NOx), and/or increased health, comfort, and safety.
1. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe.
2. Explains the path-to-market strategy including near-term (i.e., initial target markets), mid-term, and long-term markets for the technology, size and penetration or deployment rates, and underlying assumptions.
 | **20** |
| 1. **Team Qualifications, Capabilities, and Resources**

Evaluations of ongoing or previous projects including project performance by applicant and team members will be used in scoring for this criterion. 1. Identifies credentials of applicant and any subrecipient and sub-subrecipient key personnel, including the project manager, principal investigator and technology and knowledge transfer lead *(include this information in the Project Team Form Attachment).*
2. Demonstrates that the project team has appropriate qualifications, experience, financial stability and capability to complete the project.
3. Explains the team structure and how various tasks will be managed and coordinated.
4. Describes the facilities, infrastructure, and resources available that directly support the project.
5. Describes the team’s history of successfully completing projects in the past 10 years including subsequent deployments and commercialization.
 | **15** |
| **Total Possible Points for criteria 1− 4****(Minimum Passing Score for criteria 1− 4 is 70% or 52.50)** | **75** |
| 1. **Budget and Cost-Effectiveness**
2. Budget forms are complete for the applicant and all subrecipients, as described in the Budget instructions.
3. Justifies the reasonableness of the requested funds relative to the project goals, objectives, and tasks.
4. Justifies the reasonableness of direct costs (e.g., labor, fringe benefits, equipment, materials & misc. travel, and subrecipients).
5. Justifies the reasonableness of indirect costs (e.g., overhead, facility charges (e.g., rent, utilities), burdens, subrecipient profit, and other like costs).
6. Justifies how the proposed project, including the amount of match funds, optimizes the use of CEC funds to achieve program objectives.
7. Justifies the appropriateness of match funds with respect to the project’s potential risks and benefits, including level of commitment, type of match (e.g., cash, in-kind), sources, and match funding replacement strategy.
 | **10** |
| 1. **CEC Funds Spent in California**

Projects that maximize the spending of CEC funds in California will receive points as indicated in the table below (see Funds Spent in California section for more details).

|  |  |
| --- | --- |
| **Percentage of CEC funds spent in CA vs Total CEC funds requested**(derived from Budget Attachment) | **Percentage of Possible Points** |
| >60%  | 20% |
| >65%  | 30% |
| >70% | 40% |
| >75%  | 50% |
| >80% | 60% |
| >85%  | 70% |
| >90% | 80% |
| >95%  | 90% |
| >98% | 100% |

 | **10** |

| **Scoring Criteria** | **Possible Points** |
| --- | --- |
| 1. **Ratio of Direct Labor to Indirect Costs**

The score for this criterion will be calculated by the following formula:$$\frac{Total Direct Labor}{Total Direct Labor + Total Fringe + Total Indirect + Total Profit}$$This ratio will then be multiplied by the maximum possible points for this criterion and rounded to two decimal places.**NOTE**: For the purposes of this criterion, the CEC will include the facility charges (e.g., rent, utilities, etc.), burdens and other like costs that are budgeted as direct costs into the indirect costs in the formula. | **5** |
| **Total Possible Points for Criteria 1-7(Minimum Passing Score for Criteria 1 – 7 is 70% or 70.00 points)** | **100** |
| **Preference Points** Applications must meet all minimum passing scores (Scoring Criteria 1-4 and 1-7) to be eligible for preference points. |

**Preference Points (Pilot Demonstration Projects Only)**

| **Scoring Criteria** | **Possible Points** |
| --- | --- |

|  |  |
| --- | --- |
| 1. **Disadvantaged & Low-Income Communities**

Applications proposing **pilot demonstration** projects located in and benefiting low-income and/or disadvantaged communities within IOU service territories may qualify for additional preference points. In order to receive or qualify for additional points, the proposed project **must demonstrate benefits to the disadvantaged and/or low-income communities by describing** the following: 1. Identifies how the proposed project, will lead to increased deployment of the technology or solution to benefit disadvantaged and/or low-income communities, including specific entities that will receive these benefits (e.g., businesses, local government, homeowners, residents).
2. Identifies how the proposed project will have a positive economic impact on low-income and/or disadvantaged communities including customer bill savings, job creation, partnering and contracting with micro- and small-businesses, and economic development.
3. Describes potential negative impacts or risks of the proposed technology or solution to disadvantaged and/or low-income communities and how they will be assessed and mitigated.
4. Describes how the proposed project will increase access to clean energy or sustainability technologies within disadvantaged and/or low-income communities and how the project activities will benefit the communities.
5. Includes letters of support from technology partners, community-based organizations, environmental justice organizations, or other partners that demonstrate their belief that the proposed project will lead to increased equity and is both feasible and commercially viable in the identified low-income and/or disadvantaged communities.
 | **10** |

1. The California Crisis Act. Chapter 337 of 2022 (Assembly Bill 1279, Muratsuchi) https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=202120220AB1279 [↑](#footnote-ref-2)
2. In this Solicitation, Advanced Building Construction methods are methods that offer high-performing envelopes, faster renovation, and construction with less disruption to building occupants. These methods can help keep costs more affordable for developers and consumers, which can help increase scalability and repeatability, and drive technology adoption. Methods can include the use of new building materials, robotics, offsite manufacturing, 3-D printing, digitization, and others. [↑](#footnote-ref-3)
3. Source: U.S. Department of Energy, “Technology Readiness Assessment Guide”. https://www2.lbl.gov/dir/assets/docs/TRL%20guide.pdf [↑](#footnote-ref-4)
4. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-5)
5. This deadline does not apply to non-technical questions (e.g., administrative questions concerning application format requirements or attachment instructions), including questions regarding application submission in the ECAMS system or to questions that address an ambiguity, conflict, discrepancy, omission, or other error in the solicitation. Such questions may be submitted to the CAO listed in Section G at any time prior to 5:00 p.m. of the application deadline date. Please see Section G for additional information. [↑](#footnote-ref-6)
6. Please see Section I.G Questions and Section III.B Method for Delivery for more information. [↑](#footnote-ref-7)
7. This catch-all refers to other types of environmental reviews, such as those prepared under the National Environmental Policy Act (NEPA). [↑](#footnote-ref-8)
8. See CPUC “Phase 1” Decision 11-12-035, December 15, 2011, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/156050.PDF. [↑](#footnote-ref-9)
9. CPUC Decision 21-11-028, Appendix A https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M425/K515/425515575.PDF (revising former guiding principles within CPUC “Phase 2” Decision 12-05-037, Ordering Paragraph 2 http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF). [↑](#footnote-ref-10)
10. California Public Resources Code, Section 25711.5(a), https://leginfo.legislature.ca.gov/faces/codes\_displaySection.xhtml?sectionNum=25711.5&lawCode=PRC. [↑](#footnote-ref-11)
11. 2018-20 EPIC Triennial Investment Plan, https://www.energy.ca.gov/publications/2017/electric-program-investment-charge-proposed-2018-2020-triennial-investment-plan as modified and approved by CPUC decision 18-01-008, July 11, 2018, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M206/K319/206319491.PDF. [↑](#footnote-ref-12)
12. California Energy Commission Proposed EPIC Interim Investment Plan 2021, https://efiling.energy.ca.gov/GetDocument.aspx?tn=236882 and approved by CPUC decision 21-07-006, July 15, 2021, https://docs.cpuc.ca.gov/SearchRes.aspx?docformat=ALL&docid=394265545. [↑](#footnote-ref-13)
13. 2021-2025 EPIC Investment Plan, https://efiling.energy.ca.gov/GetDocument.aspx?tn=240609. [↑](#footnote-ref-14)
14. Public Resources Code § 25711.6. [↑](#footnote-ref-15)
15. Public Resources Code § 25711.5. [↑](#footnote-ref-16)
16. Public Resources Code § 25711.6. [↑](#footnote-ref-17)
17. AB 32 (Statutes of 2006, chapter 488) [↑](#footnote-ref-18)
18. AB 758 (Statutes of 2009, chapter 470) [↑](#footnote-ref-19)
19. SB 350 (Statutes of 2015, chapter 547) [↑](#footnote-ref-20)
20. A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3. [↑](#footnote-ref-21)
21. See CPUC “Phase 2” Decision 12-05-037 at pp. 39-40 and 90, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-22)
22. See CPUC “Phase 2” Decision 12-05-037 at pp. 90, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-23)
23. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-24)