**Questions and Answers Document**

# **Disclaimer**

The following answers are based on California Energy Commission (CEC) staff’s interpretation of the questions received. The applicant is responsible for reviewing the Solicitation Manual and determining whether its proposed project is eligible for funding by reviewing the Eligibility Requirements within the solicitation. The CEC cannot give definitive advice as to whether a particular project is eligible for funding, because not all proposal details are known.

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# **Technical**

1. **Are dispatchable geothermal energy and other renewable technologies such as wind and solar eligible for this opportunity?**
   1. The purpose of this solicitation is to fund electric generation technologies that can use 100 percent renewable fuels such as gaseous and liquid fuels derived from renewable resources, including, but not limited to, hydrogen produced from biomass conversion processes and renewable electrolysis of water and biomethane produced from pyrolysis, gasification, and other renewable biomass pathways. The projects will address the evolving generation mix and ensure an ample supply of resources to meet the demands of the demonstration site (i.e., commercial or industrial building).

Geothermal energy and other renewable technologies using wind and solar energies are being funded by other CEC programs and are not the focus of this solicitation.

1. **By dispatchable and non-intermittent, does this only mean baseload generation? Or can a long-duration energy storage facility serve as a peaker plant under this solicitation? What is the minimum duration of generation (in hours) that would qualify?**
   1. Dispatchable generation technologies help meet energy demands through their ability to ramp up and down, and they also complement intermittent renewables by providing stable power with the opportunity to reduce strain on the grid during times with high electricity demand. The electric generation technology must produce electricity during peak hours and must be able to demonstrate its ability for load shifting. Therefore, this solicitation is not meant for baseload generation. Energy storage is not considered a generation technology for the purpose of this solicitation. Please refer to Q1 and A1 regarding eligible renewable fuels.

The project must demonstrate the system with a minimum of 1,000 hours of testing and data gathering. Projects must collect data that quantifies the system’s impact in electric and fossil fuel savings during peak hours, e.g., 16:00 to 21:00.

1. **Is this limited to efforts supporting critical infrastructure? Or is critical infrastructure just favored?**
   1. Projects may demonstrate the system in any commercial or industrial facility. While supporting critical infrastructure is not required, projects that demonstrate their systems in critical facilities,[[1]](#footnote-2) including communications, healthcare, government, and schools, is likely to score more favorably under the Impacts and Benefits scoring criterion.

Applicants must describe how their demonstration sites fall under the definition of critical facilities provided in the Solicitation Manual.

1. **Will projects deployed to a municipal airport be scored more favorably?**
   1. A municipal airport may qualify as a critical facility, as it may be vital to health and public safety. Please refer to Q3 and A3 regarding critical infrastructure.
2. **Would a site host who produces oxygen to supply critical facilities such as hospitals qualify?**
   1. This type of site may qualify as a critical facility, as it may be vital to health and public safety. Please refer to Q3 and A3 regarding critical infrastructure.
3. **Why are internal combustion engines/reciprocating engines disqualified/not allowed to apply for this solicitation?**
   1. Internal combustion engine technologies are not considered for this solicitation, because the CEC is addressing concerns raised by the Disadvantaged Communities Advisory Group (DACAG) and others regarding the deployment of internal combustion engines that emit high greenhouse gas (GHG) and criteria pollutants in low income and disadvantaged communities.

Internal combustion technologies are relatively mature compared to the Clean, Dispatchable Generation technologies being considered for this solicitation (e.g., fuel cells and linear generators), and they do not fit the Technology Readiness Level requirement and goal of this solicitation.

Lastly, the advancement of internal combustion engines is being covered by our Gas R&D program (e.g., projects resulting from CEC’s GFO-22-504 solicitation, Hydrogen Blending and Lower Oxides of Nitrogen Emissions in Gas-Fired Generation (HyBLOX),[[2]](#footnote-3) were approved at the January 2024 CEC Business Meeting).

1. **Are Power Purchase Agreements for the generated electricity required or preferred?**
   1. Power purchase agreements are neither required nor preferred, as the purpose of the solicitation is to fund projects that demonstrate behind-the-meter technologies (off-grid) that can meet the electric demand of commercial and industrial facilities to reduce the electric strain on the grid during peak periods.
2. **How will CEC value grid-connected versus off-grid technologies?**
   1. Projects must provide behind-the-meter electricity to meet the demand of critical loads to maintain operation of the industrial or commercial facility at a minimum. Additional plans for the projects, such as grid interconnection, may be proposed by the Applicant and considered by the CEC. For more information, please refer to Section I.C. Project Focus – Minimum Technical Requirements.
3. **Can the Levelized Cost of Electricity (LCOE) target metric be adjusted for fuel cost (e.g. high cost of hydrogen)?**
   1. The LCOE target metric cannot be adjusted to account for fuel costs. The applicants must provide pathways or an approach on how the project can meet the LCOE target such as identifying the most cost-efficient fuel for their system. Applicants must explain how the LCOE is calculated and quantified and describe assumptions.
4. **What is the preferred electric generation for this program? Is 100 kW a minimum or the preferred scale?**
   1. Projects must have a nameplate capacity of at least 100 kW in an industrial or commercial facility using 100 percent renewable fuels. Please refer to “Minimum technical requirements” under Section I.C. Project Focus of the Solicitation Manual.
5. **Another technology example states, "Developing and demonstrating gasification, pyrolysis, or other thermochemical conversion ...This system must integrate a reforming system to produce at least 50 kilograms (kg) of hydrogen per day for electric generation, coupled with hydrogen storage and a non-combustion prime mover technology that can generate at least 100 kW of electricity." Please clarify what non-combustion prime mover means in this context considering it’s thermochemical conversion technology.** 
   1. In the context that was mentioned in the “Example projects with enhancing features” located under Section I.C. Project Focus of the Solicitation Manual, “thermochemical conversion technologies” refer to the fuel production technologies such as, but not limited to, gasification or pyrolysis. The “non-combustion prime mover” example refers to the electric generation technology, meaning a clean, dispatchable generation technology, such as fuel cells, that use 100 percent renewable fuel. Please refer to Q6 and A6 regarding eligibility of internal combustion engines for electric generation in this solicitation.

# **Applicant and Project Eligibility**

1. **We are a carbon removal and sequestration company delivering negative emissions energy. Our technology processes biomass to produce (a) energy, (b) easily capturable carbon dioxide (CO2), and (c) clean water. The core technology is based on oxy-gasification that produces various gaseous intermediary fuels (syngas), which are then used to produce power using turbo-machinery. Technology provides GHG emissions reductions and job creation, and it provides baseload power when at scale. Emissions reductions are inherent to the process, and not the result of post-combustion capture, as excluded by the grant.** **Could you provide clarity on our suitability for this grant application?**
   1. The CEC cannot give definitive advice as to whether a particular project is eligible for funding, because not all proposal details are known. For the use of turbo-machinery, please refer to the definition of “Clean, Dispatchable Generation Technologies” provided in the Solicitation Manual. Also, please refer to Q6 and A6 above regarding eligibility of internal combustion engines for electric generation in this solicitation.

Lastly, the project must remain compliant with the applicable electric generation emission standards set by the local air district in which the demonstration is located. For more information regarding emissions requirements, please refer to “Minimum technical requirements” under Section I.C. Project Focus of the Solicitation Manual.

1. **Would a technology at TRL 8 moving to 9+ fit within the goals of this program from an eligibility standpoint?** 
   1. No, the purpose is to allow the advancement of lab-scale or pilot-scale technologies into full-scale systems to be competitive with fossil-based technologies. This solicitation targets improvements to, and demonstrations of, clean, dispatchable generation technologies with the goal of advancing the full systems from technology readiness level (TRL) 5-6 at the beginning to TRL 7 or higher by the end of the project.
2. **Is there any way to get an official eligibility determination on a technology prior to developing/submitting an entire application?**
   1. No, this is a one-stage solicitation process, and CEC staff can only determine eligibility once the whole application has been fully submitted. For more information, please refer to Project Focus under Section I.C. Project Focus of the Solicitation Manual regarding technical requirements and target metrics.
3. **Is renewable natural gas (RNG) considered as a renewable fuel under this solicitation?**
   1. Yes, renewable gas,[[3]](#footnote-4) commonly known as biogas or biomethane, is considered as renewable fuel under this solicitation if it is derived from organic resources such as, but not limited, to municipal solid waste, agricultural wastes (manure or dairy), wood waste, food waste, and many others. Refer to Q1 and A1 regarding eligible renewable fuels.
4. **Suppose biogas from pyrolysis or gasification (such as from woody biomass or manure) is not 100% green? Is that acceptable?**
   1. The technologies must use 100 percent renewable fuels such as, but not limited to, clean hydrogen, biogas, biomethane, green ammonia, or any combination of these fuels.[[4]](#footnote-5) Biogas, produced from pyrolysis or gasification using agricultural wastes or forest waste, is considered renewable fuel. Please refer to Q15 and A15 regarding the use of woody forest biomass or agricultural wastes such as manure or dairy.
5. **Would a dairy anaerobic digester electricity project be eligible?**
   1. The CEC cannot give definitive advice as to whether a particular project is eligible for funding, because not all proposal details are known. This project may be eligible if the application focuses on the advancement of electric generation systems and not the fuel production component such as the anaerobic digester. The integration of the anaerobic digester is considered as an enhancing feature, and the use of biogas or biomethane for electric generation is eligible. Please refer to Q15 and A15 regarding the eligibility of agricultural wastes.
6. **Would onsite hydrogen production integrated with fuel cells be applicable to this solicitation?**
   1. Hydrogen production that is integrated with fuel cells is an applicable solution for this solicitation. The hydrogen must be derived from renewable resources as noted in the Solicitation Manual. Please refer to Q1 and A1 regarding eligible renewable fuels. However, the hydrogen production technology is an enhancing feature and should not be the sole focus of the application. The solicitation is focused on the advancement of clean, dispatchable generation systems, including fuel cells, and the application should address how the system can meet the solicitation’s target metrics and technical requirements.
7. **Will the program manager/CEC team be open to provide an encourage/discourage decision if applicant can submit a ~1 page concept paper to understand technical eligibility? Alternatively, are eligibility consultation meetings with the program manager possible?**
   1. Please refer to Q14 and A14 regarding eligibility determination.

1. **If a customer doesn’t want to purchase the system but would rather sign a multi-year lease, would this be acceptable? Lots of market interest to support EV charging for 2-3 years until grid is upgraded to support electrification.**
   1. Signing a multi-year lease is acceptable as long as the project’s objectives and requirements are met such as demonstrating the system for a minimum of 1,000 hours, meeting the 100 kW minimum electric capacity, using 100 percent renewable fuels, and many others as provided under Section I.C. Project Focus of the Solicitation Manual. These requirements must be met during the term of the grant agreement.

Applicants expecting to sign a multi-year lease must also ensure they are able to fully comply with the EPIC standard Terms and Conditions,[[5]](#footnote-6) which will become part of an awarded grant agreement. For example, for equipment purchases, title to equipment acquired by the grant recipient with grant funds will vest in the recipient. The grant recipient may use the equipment in the project or program for which it was acquired as long as needed, regardless of whether the project or program continues to be supported by grant funds.

1. **Is this limited to just one project at one site? Or can an applicant group multiple sites into one application if there are the same technology?**
   1. Applications are not limited to just one project at one site. However, the applicant must describe the need or value of using multiple demonstration sites for the project.

An applicant may demonstrate multiple electric generation systems in multiple sites if the entire project can achieve the minimum technical requirements of the solicitation. The multiple demonstration deployments may share the same proposed innovation.

1. **Due to the restrictions regarding deployment within an investor-owned utility (IOU) service territory, will a project demonstration at a research center in Riverside and served by the Riverside Public Utility qualify? The commercial deployments are intended for IOU service territories.**
   1. All demonstration or deployment sites must be located in California electric IOU service territory. 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. For more information regarding this requirement, please refer to EPIC Program under Section I.J. Background and Section II.A. Applicant Requirements of the Solicitation Manual.
2. **Are hydrogen production facilities using renewable sources eligible for funding or would fuel cells/infrastructure elements be a required element of a project as well?**
   1. A hydrogen production facility coupled with fuel cells is considered as an enhancing feature for this solicitation but is not a requirement. Applicants may propose other technologies such as those highlighted in the “Example projects with enhancing features” located in Section I.C. Project Focus of the Solicitation Manual. Please refer to Q18 and A18 regarding the hydrogen production enhancing feature

While hydrogen or other renewable fuel production is an example of allowable costs, grant funding must be focused on the advancement of the electric generation systems, not the fuel production component. Applicants are encouraged to use match funding for the majority of fuel or feedstock for electric generation. The CEC will consider the reasonableness of renewable fuel costs paid for using CEC funds in application scoring.

1. **Is hydrogen production a requirement or just an example?**
   1. Hydrogen production is an example enhancing feature. Projects may integrate other renewable fuels such as biomethane, biogas, or other biofuels and must be aligned with the solicitation’s definition of renewable fuels. Please refer to Q18, A18, Q23, and A23 regarding the hydrogen production enhancing feature.

# **Funding and Allowable Costs**

1. **It was mentioned that anaerobic dairy digesters that have an electricity component would be eligible. If we have a conditioning plant that cleans up the gas, which is needed for the electricity component, would conditioning plant costs be allowable? Or only costs directly associated with electricity production?**
   1. This approach is allowed; however, CEC will consider the reasonableness, cost-effectiveness, and need of CEC funding for the gas cleanup during application scoring. The focus of the project must be on the advancement of the electric generation technology with the enhancing features such as fuel production and processing as a secondary focus. Please refer to Q24 and A24 regarding the focus of the solicitation and funding of renewable fuel production.
2. **Can funds from this solicitation be “stacked” with funds from other federal (e.g., Investment Tax Credit) and state (e.g., Self-Generation Incentive Program) sources?**
   1. Applicants may use federal or (non-California Energy Commission) state funds as match funding; however, a grant recipient cannot be reimbursed from multiple sources for the same project cost. For example, CEC funds may not be used to fund the Equipment and Materials and Miscellaneous items in Attachment 6 Budget if the grant recipient will also be reimbursed for those items from a separate funding source. Other funding sources can be used to “co-fund” a project cost. For example, if an item of equipment costs $1,000, CEC funds could cover $500 and federal match funding could cover $500.

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. Commitment and support letters must be submitted with the application to be considered. Please refer to Section I.K. Match Funding of the Solicitation Manual for match funding requirements and Attachment 9 Commitment and Support Letters Form.

1. **What is the maximum budget allocation from the CEC?**
   1. There is up to $8,000,000 available for grants awarded under this solicitation. The minimum funding amount for each project is $2,000,000, and the maximum funding amount is $4,000,000.
2. **What is the % Match requirement shown in the Application document?**
   1. The minimum match requirement is 20% of the requested funding.
3. **Can a commercial loan be eligible as match?**
   1. Commercial loans are eligible as match funding to complete the project. “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 that these funds are reserved for the proposed project. Proof that the funds exist as cash is required.

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. Commitment and support letters must be submitted with the application to be considered. Please refer to Section I.K. Match Funding of the Solicitation Manual for match funding requirements and Attachment 9 Commitment and Support Letters Form.

1. Critical facilities are structures that are vital to health and public safety. https://www.fema.gov/glossary/critical-facility. [↑](#footnote-ref-2)
2. <https://www.energy.ca.gov/solicitations/2023-01/gfo-22-504-hydrogen-blending-and-lower-oxides-nitrogen-emissions-gas-fired>. [↑](#footnote-ref-3)
3. Definition of renewable natural gas. https://www.epa.gov/lmop/renewable-natural-gas [↑](#footnote-ref-4)
4. For the purpose of this solicitation, applicants are not allowed to use fossil fuel or grid electricity for system startup. Off-grid electricity from renewable sources such as wind or solar for system startup are allowed. [↑](#footnote-ref-5)
5. EPIC’s standard Terms and Conditions. <https://www.energy.ca.gov/media/2213> [↑](#footnote-ref-6)