**Questions and Answers**

**GFO-22-302**

**Valuation of Investments in Electricity Sector Resilience**

**December 21, 2022**

The following answers are based on California Energy Commission (CEC) staff’s interpretation of the questions received. It is the Applicant’s responsibility to review the purpose of the solicitation and to determine whether their proposed project is eligible for funding by reviewing the Eligibility Requirements within the solicitation. The CEC cannot give advice as to whether a particular project is eligible for funding, because not all proposal details are known.

Full details of the solicitation and any addenda are posted in the [web notice.](https://www.energy.ca.gov/solicitations/2022-11/gfo-22-302-valuation-investments-electricity-sector-resilience)

Page numbers below refer to pages in the solicitation manual of Addendum 2.

***Administration/Process***

**Q1: Would the Energy Commission please consider delaying the application due date in anticipation of communication and coordination challenges imposed by holidays?**

A1: Yes, the deadline has been extended to January 31, 2023. This extension is conveyed in [GFO-22-302 Addendum 01](https://www.energy.ca.gov/sites/default/files/2021-12/00_GFO-21-302_Solicitation_Manual_Addendum_01_ADA.docx), which was released on December 7, 2022.

**Q2: Have the solicitation documents already been issued?**

A2: Yes, the solicitation was issued on November 8, 2022, posted [here](https://www.energy.ca.gov/solicitations/2022-11/gfo-22-302-valuation-investments-electricity-sector-resilience) (and as linked above) and includes addenda. Templates for all documents that you would need to make your application will be found there. This page also includes links to the slide deck shared at the pre-application workshop (held November 17, 2022) as well as the workshop recording and list of attendees. Please watch the solicitation page linked above for any possible future updates and use the latest addendum of the solicitation manual for your application.

**Q3: How do we obtain a copy of the presentation given at the Pre-Application workshop?**

A3: Please see Answer A2.

**Q4: Is there a listing of other interested bidders who may wish to partner?**

A4: Applicants are encouraged to seek partnering opportunities on the Empower Innovation web platform at: <https://www.empowerinnovation.net/en/custom/funding/view/36234>. Please see the “Find a Partner” feature listed there. The list of attendees at the pre-application workshop, which is posted on CEC’s webpage for this solicitation (see Answer A2), may also be useful in finding potential partners.

**Q5: Please confirm you will be awarding only one Prime Bidder.**

A5: Only one award is currently anticipated. However, as expressed in Section I.D.3 (p. 9) of the Solicitation Manual: “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 award amounts described in this section.
* Allocate any additional or unawarded funds to passing applications, in rank order.
* Reduce funding to an amount deemed appropriate if the budgeted funds do not provide full funding for agreements. In this event, the Recipient and Commission Agreement Manager will reach agreement on a reduced Scope of Work commensurate with available funding.”

**Q6: Does the prime have to be a California entity?**

A6: There is no requirement that the Prime Recipient must be a California-based entity. Please see Section I.L (p. 21 of Addendum 2) for explanation and examples of how funds spent in California are defined. Applicants should also consider Scoring Criteria 6 in the solicitation manual (Section IV.F) for details regarding the impact of Funds Spent in California on application evaluations. Additionally, as stated in the solicitation manual (Section II.A.3), 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 the grant project being recommended for approval at a CEC Business Meeting.

**Q7: Can a project funded by companies outside of California count as part of the cost share?**

A7: Companies outside of California can contribute match funds to the project. Note that CEC funds budgeted to companies outside of California are not likely to count towards the Funds Spent in California criterion. The Funds Spent in California criterion only applies to CEC funds, not match. Please see Answer A6 for more details.

**Q8: Would the salary earned by an employee of a California Based Entity, paying California income tax, but working remotely out of state be considered funds spent in California?**

A8: If the employee pays California state income taxes on wages received for work performed under a grant agreement resulting from this GFO, then the employee’s compensation is considered to be funds spent in California.

***Technical***

**Q9: Is it fair to say that “weather-related power outages” include events such as wildfires, flooding, and mudslides that relate to climate change extreme weather events?**

A9: Yes. Page 2 of the solicitation manual refers to: "... weather-related conditions that themselves challenge people and infrastructure, such as extreme heat, wildfire threat, and smoke." Resilience should thus be considered in light of such challenges, which are often simultaneous with widespread long-duration power outages.

**Q10:** **Is there any sense on data availability? These analyses are typically very reliant on utility system data. Would we need to loop in a utility partner for our application, or can we scope data requirements intended for utility cooperation after a grant is awarded?**

A10: Data do not have to be secured beforehand. Staff recognize that obtaining data from third parties may not be an entirely predictable process. The application should include a full discussion of what data would be sought (e.g., for characterizing outages, this might include outage metrics, geographic extent and granularity, time period, and cause) and from whom, along with a credible plan for obtaining this data. The application should speak to the likelihood of obtaining this data, discuss how the data would be used within the project (e.g., dependencies across proposed research products), and discuss contingency plans for the case that the desired data cannot be obtained timely.

**Q11. Which agencies or other users would you anticipate would use the results of the work?**

A11: Many parties could use the results of the requested research and build on the gaps that the funded research would address. Potential users include Investor-Owned Utilities (p. 2 of the solicitation manual), developers focused on estimates of the costs of large-scale outages (p. 4, p. 7), technology developers, state agencies (such as the California Public Utilities Commission (CPUC) and CEC) and other parties involved in electricity resilience and reliability planning (p. 4), and the research community in general.

**Q12: Is it accurate to say that you are seeking research to cover residential, commercial, and industrial customers?**

A12: Since the focus is understanding social costs (p. 8 of the solicitation manual), at a minimum, residential customers should be covered, since they are the endpoint of many social costs. This would include key dependencies on commercial and critical industrial (e.g., water treatment) customers. Approaches that also cover social costs of electricity service disruption in other sectors (e.g., how local businesses are affected) are encouraged.

**Q13: What is the specific concurrent research ongoing that is being performed that an applicant is expected to complement?**

A13: The solicitation manual calls out the CPUC Microgrids Rulemaking (p. 8 of the solicitation manual), climate adaptation as pursued under CPUC Decision 20-08-046 (p. 7), and tools that estimate the costs of outages (p. 4). This is a research project, and we leave it to the applicant to chart a vision that helps unite the conceptual perspectives outlined in the solicitation manual (i.e., improved understanding and framing of social costs accompanied by a nuanced view of corresponding resilience investment options) with the pragmatics of tools and resiliency planning going forward. As noted in the solicitation manual, this should include both shorter-term and longer-term time scales (p. 7), which have somewhat different research streams.

**Q14: Are you looking for the development of a decision support tool or empirically-based data that could be used to inform existing planning or the future development of a tool?**

A14: As described in the solicitation manual, the emphasis of the research is “to collect data and apply methods that contribute to the practical understanding and valuation of electricity system resilience” (p. 2 of the solicitation manual). As outlined on p. 7, “Research supported by this solicitation will investigate the conditions and processes that shape community resilience and fragility with respect to weather-related widespread long-duration electric grid outages. It will focus on filling knowledge gaps facing electricity resilience planning by contributing to the development of methods and frameworks for recognizing, valuing, and achieving societal benefits—including economic, public health, and other benefits—of customer, community, and grid resilience investments.” The solicitation manual notes that “ideally…research should also complement recent and ongoing work focused on estimates of the costs of large-scale outages” (p. 4). This does not require that any existing tool be integrated. Nor is developing a decision support tool an expectation, though doing so could be included if all the other requirements are met.

**Q15:** **The solicitation mentions costs and benefits, but the solicitation appears to emphasize the value of resilience, i.e. benefit. Are we being asked to estimate the costs and benefits of resilience strategies, or should we just focus on putting a value on resilience?**

A15: The focus is on **characterizing**—and advancing insights that support a framework for characterizing—lack of electricity system resilience in its various forms and contexts, and uncovering sufficient information about the structure of resilience (and lack of resilience) to speak to designing portfolios of measure that could be used to increase resilience. A funded project must emphasize “costs that are not currently priced by markets or regulatory frameworks” (p. 8 of the solicitation manual), and “analyze this data with respect to the range of measures for improved resilience and reliability” (p. 8). We are generally seeking “identification and development of robust, efficient strategies to better avoid, cope with, or mitigate the consequences of power outages” (p. 3), so the costs and achievability of resilience strategies do matter in that general sense. That is, consideration of the range of costs across diverse measures and how different measures could complement each other for a robust and cost-efficient resilience portfolio for varied situations (revealed through research on resilience as experienced) would be appropriate. A detailed quantitative analysis of the costs of individual resilience measures is not required, though research that provides illustrative examples or general frameworks is welcome. “The desired result is not cost value estimates” (p. 7) *per se*, either for the costs of power outages or the investments in technologies and strategies that could ameliorate these costs.

**Q16: Would a software tool targeting decisions about hardware investments qualify?**

A16: We are unable to answer specific questions about the merits of a particular approach since not all proposal details are known. Please see Answer A14 with respect to decision support tools and as well as Answer A15. In general, tools are admissible elements of a successful application, under the condition that the application addresses the problems outlined in Section I.A (Purpose of Solicitation) and meets the requirements outlined in Section 1.C (Project Focus).

**Q17: The solicitation manual reads, “Funded projects must, at a minimum include empirical data collection…”. Does this mean that it is essential to collect new information, or can a successful proposal rely on finding and integrating existing data sets into a new single merged dataset?**

A17: As described on p. 8 on the solicitation manual, "empirical data collection" (emphasis added) must be included in a funded project. That is, some empirical data collection, customized for the context and requirements outlined in the solicitation manual, must be part of the project. This does not preclude also relying on empirical data already collected or being concurrently collected in other efforts; we imagine that combining existing and new data could be a common approach. The empirical data must, in combination, address the other requirements of the solicitation, including "a clearly articulated and scientifically-justified approach to empirical data collection that advances knowledge toward improving future electricity resilience" (p. 8 of solicitation manual). A funded project must also emphasize “costs that are not currently priced by markets or regulatory frameworks” (p. 8).

**Q18. Should water interruption resulting from electric and gas long-duration outages be included in this analysis?**

A18: Interruption of water services can precipitate social costs, so such costs could easily be included in the analysis. This type of cost is also encompassed in the criteria presented in Section I.C (Project Focus) of the solicitation manual indicating that funded projects, must, at a minimum, “analyze this data with respect to the range of measures for improved resilience and reliability, including electricity generation and storage technologies, improved functioning of electricity-dependent infrastructure and services, and other technical and social measures including community preparedness, considering both short-term and longer-term time scales” (p 8, emphasis added).