

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

General Questions about Applications:

- Q: Attachment 1 of the application. This is the only place that is signed by the authorized official, correct?
 - A: Yes, correct.

- Q: Do the citations belong with the narrative or as a separate document?
 - A: Citations belong wherever they are relevant. We generally expect citations in the project narrative, where they can appear as either footnotes or endnotes.

- Q: Do endnotes count toward the twenty page max in the project narrative?
 - A: Endnotes do not count toward the maximal page limit of the project narrative.

- Q: When opening Attachment 7 in a Microsoft Excel workbook, a warning message appears about links trying to update. If we choose to update links, we get a second warning message. Given that the presenters on the WebEx stressed how important it was to follow directions & how applications can get kicked out based on small issues (such as word counts), can you please provide more information about this Excel workbook (e.g., where are these links pointing; what happens if we choose to update (or not); why are error messages coming through; assuming we fill out everything correctly, will we be kicked out of the application process based on a non-updated (or flawed-linked) Excel workbook)?
 - A: Several of the cells on the various tabs in the workbook are linked in an effort to make the document easier to fill in. We are aware of the warning messages about updating the links, and have tried unsuccessfully, thus far, to cancel or otherwise turn off those warnings. The Contracts Grants and Loans Office suggests that applicants simply “Don’t Update” the links. This will allow the applicant to fill in the forms as you would a blank worksheet.

- Q: Can indirect costs be used for Match Funding?
 - A: Yes, indirect costs can be used for Match Funding.

- Q: Page 44 of the Application Manual (01_Application_Manual_GFO-15-309.docx) deals with Team Qualifications. Of the sub-questions asks: Has your organization been involved in a lawsuit or government investigation within the past five years? We are a federal wildlife agency that is often sued (usually unsuccessfully). Those lawsuits have nothing to do with our application, nor any of our staff that would be involved with the proposed project. Does the lawsuit question relate to the organization as a whole or only the individuals involved with the project?

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

- A: The lawsuit question relates to both the organization as a whole and the individuals involved with the project.
- Q: Can we rename the attachments to include applicant initials or project names, or should we leave them as is?
 - A: Do not rename attachments.
- Q: On page 2 of the application form (Attachment_01_Application_Form.docx), in the section related to Project Location, the form asks for the IOU Service Territory: PGE, SCE, or SDGE. Does the project location have to be in one of those territories? That is, if we can show that our proposed project would still benefit the ratepayers of those 3 IOUs (as well as Californians as a whole), might the project still be approved even though (sic) the project is not being implemented in the territory of those 3 IOUs?
 - A: That section of the Application Form only applies to Pilot Testing/Demonstration/Deployment projects. For the applied research and development projects called for in this solicitation, in general the projects do not have to be in an IOU territory. However, the individual group descriptions in the solicitation may have specific locational requirements. All applications should describe the benefits to IOU electricity ratepayers as described in Attachment 4.
- Q: Can there be co-applicants or just one applicant with multiple subcontractors? At the very least, this is relevant to Attachment 9 (Attachment_09_Reference and Work Product Form.docx), which mentions the need for three references from the applicant (each and every applicant?) & 2 per subcontractor.
 - A: An application must contain only one prime applicant. Any other entities participating on the project and receiving funds must be treated as subcontractors.
- Q: Attachment 9 (Attachment_09_Reference and Work Product Form.docx) also mentions the need to document 3 past projects detailing technical/budgetary skills of applicant/team member (2 pages max per project) and up to 3 recent relevant technical publications. What is the defined time period for 'recent'? How is CEC interpreting 'relevant' (e.g., publications on the exact same species, on the exact same question, using the exact same methods, or publications that simply show the breadth and experience of the biologists and statisticians involved in the project)?
 - A: The term “recent” does not imply a hard cut off point. “Relevant”, for purposes of this solicitation, means any prior work that sheds light on the key aspects of research proposed to be done and/or otherwise clarifies why the proposed research would be successful—this may include, but is

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

not exclusive to, demonstrating the breadth and experiences of those involved in the proposed project.

- Q: Attachment 12 (Attachment_12_References for Energy End-Use, Electricity Demand, and GHG Emissions Calculations.docx) was not discussed during the Webex. Is Attachment 12 relevant for Project Group 6 or Project Group 11 applicants?
 - A: Attachment 12 must be used in any of the project groups if the application estimates energy savings or GHG impacts of the project.
- Q: In order to fulfill the Funding Initiative S5.4: Develop Analytical Tools and Technologies to Plan for and Minimize the Impacts of Climate Change on the Electricity System, is it possible to propose a research project that merges components from different groups, namely 8, 9 and 10?
 - A: No, the solicitation states (page 1) that “Applicants may submit multiple applications, though each application may address only one of the project groups identified above.” The Screening Criteria state that an application would fail if it addresses more than one of the groups.
- Q: Would there be an added value in connecting the proposed research in Phase II with an approved research from Phase I?
 - A: The connection to Phase I is not included as a separate scoring metric. However, it may be indicative of success in other scoring metrics, for example, benefits to ratepayers, or likelihood of successful completion.
- Q: If the proposed project only partially fulfills the criteria of Groups 1 to 10, can it be re-considered for Group 11?
 - A: Applications for Groups 1 through 10 will not be automatically reconsidered for Group 11.
- Q: The GFO did not specify what activities can be funded/not funded by the grant. Can this be clarified? In particular I would like to know if grant funding can be used for travel costs.
 - A: Relevant travel costs, that are necessary to the completion of the project, may be included as costs in the budget. Detailed description on travel can be found in “travel instructions” in the budget template provided in the solicitation files. A detailed description of what types of activities may or may not be funded is available in the EPIC grant Terms and Conditions (<http://www.energy.ca.gov/contracts/pier.html#epicterms>). Note that Terms and Conditions may be different depending on classification of applicants (i.e., state entity as opposed to private for-profit entities).

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

Group 1

- Q: If outdoor air is poor and you actually make indoor pollution worse by ventilation. Can the research address this last fact? Would a strategy to mitigate that problem be disallowed as part this?
 - A: Yes, research can address this fact in as much as the research maintains its focus on indoor air quality.
- Q: Under the Group 1 section the solicitation states - *Very low natural ventilation rates (ambient air penetrating the interior of a home/building) in highly efficient homes and buildings can result in the accumulation of internally released air and toxic pollutants. This problem can limit the overall efficiency and benefits of zero net energy homes...* Does this mean that indoor air quality impacts from poor outdoor air quality should not be considered along with internally released pollutants?
 - A: No, indoor air quality impacts from poor outdoor air quality may be considered, so long as it serves to understand indoor air quality. For example “smart ventilation” research is one such way that outdoor air quality impacts indoor air quality.
- Q: Is the “smart ventilation” research eligible under the IAQ/IEQ group?
 - A: Yes. This type of projects would be eligible for funding.

Group 4

- Q: Are you interested in arid lands exclusively? Or urban areas? Or is it open for discussion?
 - Answer: The focus of this group is on arid and semi-arid lands, because these lands tend to have the best solar resources and soil characteristics of greatest interest. However, applicants are free to make a case in their project narrative for why other types of land are worthy of study.

Group 6

- Q: Under the section Vegetation Management, it states – In addition applications could conduct experiments to test the potential for growing native plants around solar panels as biomass feed stock, such as agave. I’m wondering if the way that that was written is a, maybe, a typo. And if those are sort of two different options, native plants under panel 4 – biomass feed stock, such as agave.
 - Answer: This subgroup was suggesting a potential topic to study the co-location of solar and biofuel feedstock resources as proposed in Ravi, S., Lobell, D. B., & Field, C. B. 2014. Tradeoffs and synergies between biofuel

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

production and large solar infrastructure in deserts. *Environmental Science & Technology*, 48(5), 3021-3030.

- Q: The Webex and the application manual both mention that Project Group 6 applicants should address the R&D needs of at least one five listed areas. Can you please confirm if 'should' means 'must' in the context of this application?
 - A: The application must address the R&D needs of at least one of the five listed areas.

Group 7

- Q: What are some examples of interdisciplinary social science approach?
 - A: These could include, but are not exclusive to, on the ground interviews and qualitative methodologies. The important point here is to try to tie what researchers might develop in models to the narratives and experience of people who are actually using, pumping, or are otherwise involved in groundwater extraction.
- Q: Is there an expectation that resources allocation would be made to perform high resolution climate modeling to make long run predictions of groundwater pumping, depth and electricity use under climate change, or is the focus more on making an accurate estimate of the groundwater pumping electricity use relationship?
 - A: The focus is more on making an accurate estimate of actual practices.
- Q: Does the CEC want groundwater modeling to estimate energy requirements from pumping?
 - A: Yes, in as much as the groundwater modeling serves to better describe the patterns of electricity usage for pumping.
- Q: How concerned is the CEC about the environmental impacts from groundwater pumping?
 - A: To the extent possible, environmental impacts can be considered; but the main focus is on characterizing the patterns of electricity usage for groundwater pumping.
- Q: Energy–Groundwater Nexus section mentions - *at least one utility has agreed to share their data on groundwater levels and energy costs at previously sampled sites*. Can the CEC share with the grant applicants who specifically this utility is?
 - A: Researchers are encouraged to obtain letters of support from utilities. A representative of PG&E has agreed to share data. Also, the CPUC Energy Data Access Decision (D.) 14-05-016 makes data available to the

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

University of California Campuses and other nonprofit educational institutions as long as the data is used for research purposes and the institutions are willing to sign a NDA (non-disclosure agreement).

Group 8

- Q: Can the final deliverable of a project include a planning tool incorporating the novel risk assessment methodology resulting from the research performed for this project?
 - A: Yes, as long as the proposal also addresses the 4 items listed on page 25 or 47 of the Application Manual.
- Q: Would it be relevant to develop an alternative approach that tackles the current misalignments between theory on risk management and the mitigation policies currently used in the power sector?
 - A: Yes, as long as the proposal also addresses the 4 items listed on page 25 or 47 of the Application Manual.
- Q: Would a thorough and novel analysis to characterize risks in the power sector resulting from climate change, and the development of a methodology to inform decision-making in the long-term expansion of the electricity infrastructure based on this new analytical tool be of interest to the jury? Would such a topic match Group 8 or 9 objectives?
 - A: We cannot answer this question because it would provide direct advice to this potential applicant.

Group 9

- Q: Can you clarify the focus in Group 9: is it an engineering-economic perspective on the analytical value of Cal-Adapt or a social-science approach to the uptake of Cal-Adapt for decision making in the power sector?
 - A: Group 9 will “use qualitative and experimental social science to address” the four research needs indicated in the bulleted list (p. 27 of GFO-15-309). This Group does not solicit an engineering-economic analysis of Cal-Adapt’s analytical value; rather, the grant recipient will be responsible for illuminating prevalence of actual usage among key electricity sector stakeholders, identification of what aspects are useful to stakeholders, clarifying how Cal-Adapt is actually used in decision-making, and identifying needs that might be addressed by custom tools and/or training modules.

Questions and Answers for GFO-15-309

Reduce the Environmental and Public Health Impacts of Electrical Generation and Make the Electricity System Less Vulnerable to Climate Impacts: Phase II

Group 10

- Q: What lead times are most useful for the forecast on a (seasonal) scale and are there any variables beyond temperature which you would find helpful?
 - A: The seasonal forecast should be available a few months in advance. We did not specify the meteorological parameters of importance but they must include maximum and minimum daily temperatures. One of the requirements is to be able to work with stakeholders to determine the appropriate meteorological parameters of importance for the electricity sector.

Group 11

- Q: How important is the Attachment 9 (work product info) in the evaluation of the proposal. I am an early career investigator and may not be able to list any past work that has resulted in a technology-ready product. Do you have any suggestions on how to handle that?
 - A: The evaluation process is a holistic one, where information from the entire applications informs all of the aspects. For example, the evaluation of the budget also depends on how closely the budget meets the goals defined in the project narrative. Likewise work product information in Attachment 9 can be useful information to evaluate the likely success of the project and the capability of the team.