

UNIVERSITY OF CALIFORNIA ENERGY INSTITUTE

Guide for Proposers to the

CALIFORNIA ENERGY STUDIES (CES) PROGRAM

November 2005

This Guide is a supplement to the Request For Proposals issued by the University of California Energy Institute (UCEI) on November 1, 2005. The guide covers substantive and administrative matters related to proposal preparation and submission. A separate Guide for Proposers to the Energy Science and Technology Program is available for persons wishing to apply for funds from that program. Respondents may also find it useful to refer to the UCEI web site at <http://www.ucei.berkeley.edu>. Under the Grant Programs tab, you can access the RFP and Guides, descriptions of UCEI programs, and current and past research projects.

Scope of the Program. The CES program fosters distinguished faculty research on critical energy problems and issues facing California. Research proposals may address any of the following areas:

- Energy Use and Conservation
- Energy Resources and Supply Systems
- Economics, Politics, and Regulation of Energy
- Environmental Issues in Energy Supply and Use

These four general topics outline the intended long-term scope of the Program. The current program is more narrowly focused around areas of strong faculty interest, as expressed by the response to previous RFPs. (See the descriptions of past CES projects on the web site.) UCEI will continue to concentrate funding in particular areas determined by their importance to California's energy future, the potential for significant contributions from UCEI-supported research, and the quality of proposals submitted. Although the choice of areas of concentration may change from one year to the next, UCEI also encourages the submission of proposals in new areas that fall within the long-term scope of the program.

To be considered for funding by UCEI, a proposal must demonstrate that the research has significant energy relevance. Please read the sections on the content and format of proposals and the review process for further information.

Relationship to the Energy Science and Technology Program. The Energy Science and Technology (EST) program is complementary to CES. EST focuses on generic energy problems, including those whose solution requires a longer-range approach, while CES focuses on critical energy problems and issues facing the State of California now or in the near term. Although both programs seek to develop extramural funding, it is the aim of EST to do so in a shorter time frame by concentrating on areas of energy research that receive or are likely to attract significant funding.

CES is policy-oriented. Although it does include technical projects that address important, near-term California problems, the EST program is more likely to be appropriate for a technical proposal. If in doubt as to the appropriate program, the proposer is invited to discuss the project with a UCEI staff member or submit a preliminary abstract (see below). If UCEI receives a proposal to the CES Program that is, in the Director's judgment, more appropriate for EST, the proposer will be notified and the proposal will be reviewed under EST instead.

Early Submission of an Abstract. Prospective proposers who are unsure of the suitability of a research topic for the CES Program may obtain advice from the UCEI Assistant Director and staff by early submission of a preliminary abstract. Abstracts should be submitted as early as possible to assure a timely response. We recommend that you send them by email to ucei@berkeley.edu or fax to (510) 643-5180. Early submission of an abstract is optional, and the response is intended only to provide guidance in the preparation of a proposal and the choice of the appropriate UCEI grant program. All proposals submitted will be subjected to the review process described below, and award decisions will be based solely on the contents of the proposals, not on the basis of preliminary abstracts.

Who May Apply. Proposers must be employees of the University of California and qualified to be principal investigators at a University campus. Interdisciplinary proposals, including those that involve the social sciences and the physical sciences and/or engineering, are particularly appropriate to UCEI's mission. UCEI would especially like to encourage faculty who are at an early point in their careers to apply for grants. (See criteria for awards.) An individual may submit more than one proposal; however, except under unusual circumstances, UCEI will not award more than one grant to the same investigator in a given year. **If a previous UCEI grant recipient has not provided a final report within 12 months of the end of the grant period, then that recipient will not be eligible to receive future awards until reports on all past grants are received.**

Size of Awards. Individual awards are typically in the range \$10,000 to \$35,000. Smaller requests are welcome. Larger requests may be considered, but only in cases where UCEI support is likely to be a critical factor in obtaining significant extramural funding.

Schedule. Proposals must be received by UCEI by February 3, 2005. (See further information about the deadline under "How to submit proposals.") Awards are expected to be made on or about May 15, 2006.

Period of Awards. Funds will be awarded for the period July 1, 2006 to June 30, 2007. Multi-year projects will receive the same consideration as one-year projects, but it will be necessary to submit multi-year projects for renewal independently each year.

Content of Proposals. Proposals should describe concisely:

1. The particular energy problem addressed by the proposed research, the special importance of the problem to California, and the way in which the proposed research will contribute to knowledge of and solution to the problem. **Proposals should state explicitly both the energy problem and the way in which the proposed research leads to an understanding of and solution to the problem.** The problem should be placed in a quantitative context if possible, e.g., how much energy might be supplied or saved by improvements to an energy technology resulting from the proposed research?

Do not presume that the energy relevance is obvious from the subject area, or that reviewers will infer missing links between the proposed research and a potential energy application.

2. The history of research on the problem, including contributions by the investigator.
2. The objectives and method of the proposed research.

Proposal Format. Proposals must contain:

1. **Title page.** You must include a completed copy of the attached title page. (Electronic copies for use on a PC may be downloaded from the UCEI web site in Adobe PDF or MS Word format.)
2. **Abstract.** A one-page maximum (double spaced) abstract of the proposal.
3. **Problem description and energy relevance.** Describe the specific energy problem addressed and explain clearly how the proposed research is relevant. (See item 1 under content of proposals.) Two pages maximum (double spaced).
4. **Proposed research.** The proposed research should cover the items 2 and 3 listed under content of proposals, and should not exceed 7 pages in length (double spaced). References should be provided to document the problem, previous research, and the proposed methods.
5. **Budget.** The budget page should include the following information: (A) salaries (name, title, FTE months, and dollars) and benefits,¹ (B) supplies and expenses (itemize computer time, travel, and any other major items), (C) equipment. Indirect costs should not be included.

UCEI funds should be requested only to cover costs (salaries, benefits, supplies and expenses, equipment) that are necessary to perform the proposed research. Examples of items that are *not* appropriate are general-purpose equipment and travel that is not part of the research. UCEI also limits the size of certain budget items in order to make more effective use of limited funds. Items subject to a limit include faculty summer time (a maximum of 1 FTE month per faculty member or \$10,000, whichever is smaller) and administrative costs (no more than 7% of the total budget).²

6. **Biography.** Biographic information pertinent to the proposed project should be included for use by the referees in judging the investigators' qualifications.

The Review Process. Proposals will be evaluated on the basis of energy relevance and other criteria as described below under criteria for awards. (Proposals that do not pass an initial screening for energy relevance will not be subjected to peer review.) Reviewers will be selected from the faculty of U.C. and other universities and professional researchers in industry and government.³ (Their names will be

¹ List students and technicians who have not yet been selected as "to be named." For shared administrative personnel, give the number of FTE months allocated to the project. Benefits need to be included only if a campus does not cover them when receiving a grant of either 19900 or 07427 funds. UC Berkeley no longer covers these benefits. For other campuses, please check your campus's benefits policy.

² Further information about budgets is contained in the document "University of California Energy Institute: Guidelines for Awards and the Use of Funds," dated November 2005. This document is available in many campus departments, at UCEI's office and at UCEI's web site.

³ Please note that UCEI occasionally uses industry reviewers. If requested to do so by a proposer, UCEI will obtain a non-use, non-disclosure agreement before sending the proposal to an industry reviewer. Proposers who are concerned about the possibility that information in a proposal might be misappropriated should check the box at the bottom of the title page form sheet. If you believe that additional restrictions on the review process are necessary to protect intellectual property, please contact us to discuss the problem.

confidential.) Award decisions will be based primarily on reviewers' scores and on the advice of the Intercampus Advisory Committee (IAC). Final decisions will be the responsibility of the Director, with concurrence of the IAC.

Criteria for Awards. Proposals will be scored by the reviewers on the following criteria: importance to California of the energy problem addressed and the relevance of the proposed research to an understanding or solution of the problem, originality and technical excellence, feasibility of the approach, and qualifications of the investigators. To the extent that it is practical and appropriate, importance will be judged in quantitative terms (e.g., the likely contribution of a technology relative to the total energy supply), and on the significance to the State. Other factors that will be considered are the prospects for future extramural support and complementarities with other projects. Proposals to continue or extend research initiated with a prior UCEI grant will be judged on the basis of the new proposal and previous achievements. To encourage faculty at an early point in their careers, proposals by assistant professors will receive a bonus of 10 percent of the maximum possible score.

Deliverables. At the beginning of the award period, prior to the transfer of funds from UCEI, recipients will be asked to provide a one-paragraph project description for inclusion in the UCEI web site. A brief summary of activity under the grant should be submitted within three months of the end of the grant period. (An interim report should be submitted if the PI has obtained a no-cost extension.) It is expected that the project will result in the timely production of at least one technical report. In addition to investigators' publication via the usual channels (e.g., professional, peer-reviewed journals), UCEI grant recipients should provide preprints of papers submitted for publication and unpublished reports (e.g., conference contributions) for inclusion in the "UC Energy Working Paper Series," which are accessible on the UCEI web site. Investigators may also be asked to participate in programmatic workshops, as described below.

Recipients of CES awards are encouraged to solicit extramural support within the period of the award, to indicate their UCEI affiliation on proposals for extramural support submitted within two years from the date of initial UCEI funding,⁴ and to keep UCEI informed of their progress in obtaining funding.

Workshops. UCEI occasionally asks recipients of awards to participate in and present results of their research at workshops sponsored by UCEI and held at or near one of the U.C. campuses. The purposes of these workshops are (1) to bring coherence and focus to the Program through communication among researchers, and (2) to inform interested parties from the University, state government, and the private sector of the results of the research. Investigators may be asked to cover the cost of travel to attend the workshop, out of the project budget or other funds. UCEI will attempt to provide additional funds for this purpose, but can't guarantee that such funds can be made available due to an extremely tight budget.

⁴ Affiliation should be indicated via a statement on the cover page or on a separate page following the cover page. A suggested statement is:

The Investigators of this project are affiliated with the University of California Energy Institute (UCEI). Preparation of this proposal was supported [in part] by a competitive grant from UCEI.

How to submit proposals.

Proposals must be received on or before 5:00 p.m. **February 3, 2006.**⁵ There are two methods to submit proposals:

Electronic submission: Send the proposal as an email attachment to:

ucei@berkeley.edu

The proposal must be a single file, containing all text and figures, in one of the following formats:

Adobe Acrobat (.pdf) [preferred format]

Microsoft Word (.doc)

If the electronic version submitted does not include a signature, please also mail a hard copy with the signatures.

(Note: If you are sending a proposal with color figures electronically, please indicate in the email that there are color diagrams, so that the proposal can be printed on a color printer.)

Hard copy submission: Four copies of proposals should be sent, via the office of contracts and grants on the proposer's campus, to:

CES Grant Program
University of California Energy Institute
2547 Channing Way
Berkeley, CA 94720-5180

⁵ Please be sure to get proposal(s) to your contracts and grants office far enough in advance of the deadline to allow for processing and transmission to UCEI. If necessary to meet the deadline, send an unofficial electronic copy or four unofficial hard copies to UCEI with a note indicating that the proposal is being processed by the campus contracts and grants office. However, the official copy must be received by UCEI **no later than February 24, 2006.**

APPENDIX: Energy Relevance

Show as clearly and directly as possible the impact of the expected results on an important energy problem. One way to do this is to break the question of relevance into several parts.

1. What energy problem(s) is (are) addressed?

An energy problem should fall under one (or more) of the following categories:

- a. energy use and conservation
- b. energy resources and supply systems
- c. economics, politics, and regulation of energy
- d. environmental issues in energy supply and use

2. Is it an important energy problem?

To the extent possible, this question should be answered quantitatively. A more important energy problem is one that involves a larger fraction of total energy. The amount of energy supplied or saved is a measure of importance of the problem. For research on the environmental or health impacts of energy systems, the severity of the impacts and their implications for the energy system (the cost of avoidance or mitigation) are measures of importance.

3. What will the expected results contribute to the solution of the problem?

Identification of an important energy problem is not sufficient to insure a high rating on relevance. One must also show what impact the results of the research are likely to have on an energy problem(s). The following questions may be helpful in thinking about the potential contribution to the solution of an energy problem: Will the proposed research have a significant influence or provide significant insight on the technical feasibility of an energy technology or system? On its economic feasibility? On its environmental or health effects? On its social and political acceptability? How would the results of the research be used? By whom? When? What further research might be stimulated by the results? What changes in technology? In the way technology is used?

Be as Specific as Possible About the Energy Application. The fact that a field of research may have broad energy relevance does not insure that a specific project is energy-relevant. Some proposers note the significance of the general field of research to energy systems, but fail to describe how the results of the specific project could be applied. Others document the energy impact of antecedents of the proposed research, but not the proposed research itself. (It is not necessarily true that continuation of the same line of research will have a comparable impact.) Remember that many areas of research studied because of their relevance to energy also have applications to non-energy problems: building design to function and aesthetics, microeconomics

to prices of non-energy goods, for example. Unless the specific energy relevance of the research is stated clearly, the reviewer may assume, rightly or wrongly, that it is lacking.

Start with an Energy Problem. Although research sometimes has important, unforeseen impacts beyond the area of the problem that motivated the research, failure to focus on an energy problem greatly lowers the probability that the results will turn out to be energy-relevant. Attempts to recast as energy research a project that lacks an energy motivation is unlikely to convince a reviewer, and may succeed only in calling attention to weakness of the energy relevance.