Pre-Application Workshop

Improving Performance and Cost Effectiveness of Wind Energy Technologies

(EPIC Wind Energy Research Solicitation)

GFO-16-310

Energy Research and Development Division
California Energy Commission

April 13, 2017
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
</table>
| 10:00 a.m. | • Welcome and introductions  
• Housekeeping  
• Commitment to diversity  
• Background  
• Solicitation purpose, goals, project requirements and funding  
• Eligible applicants  
• Key dates  
• Application requirements, support/commitment letters, and match funding  
• Proposal evaluation and selection process |
| 11:00 a.m. | Questions and Answers                                                  |
| 12:00 p.m. | Meeting Adjourn                                                       |
Housekeeping

• In case of emergency
• Facilities
• Sign-in sheet
• Diversity Survey
  • Slide/Online Participant Link:

• Updates on solicitation documents and today’s presentation will be posted:

  Improving Performance and Cost Effectiveness of Wind Energy Technologies
  http://www.energy.ca.gov/contracts/GFO-16-310/
Commitment to Diversity

The Energy Commission adopted a resolution strengthening its commitment to diversity in our funding programs. We continue to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, Energy Commission staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the Energy Commission's funding opportunities.
- Assist applicants in understanding how to apply for funding from the Energy Commission's programs.
- Survey participants to measure progress in diversity outreach efforts.
Connect With Us
Find Partners via LinkedIn

The Energy Commission created a user-driven LinkedIn group page to help potential applicants connect, collaborate and partner on proposals for funding opportunities.

Join the “California Energy Commission Networking Hub” using:

- The LinkedIn Search Box or click on
  https://www.linkedin.com/groups/6925861

Then, use the ‘About this Group’ section on the LinkedIn group page to find funding opportunity specific subgroups.
Background

• The Electric Program Investment Charge (EPIC) is funded by an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in 2011.
  – Annual program funds total $162 million per year with 80 percent administered by the California Energy Commission.

• The purpose of EPIC is to:
  – Benefit the ratepayers of the three largest electric investor-owned utilities, Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison
  – Fund clean energy technology projects that promote greater electricity reliability, lower costs, and increased safety.
  – Encourage technological advancement and breakthroughs to achieve state’s statutory energy goals.
Background

Part of 2015-2017 EPIC Investment Plan

Program Area: Applied Research and Development


Funding Initiative S.4.4: Upgrade California’s Aging Wind Turbines: Design, Cost, and Development Improvements That Meet Local Needs.
Background

Policy Drivers

• Assembly Bill (AB) 32 (The Global Warming Solutions Act of 2006)
• Renewables Portfolio Standard (Senate Bill (SB) X1-2
• SB 350 (Clean Energy and Pollution Reduction Act of 2015 (Statutes of 2015)
• Governor’s Clean Energy Jobs Plan (2011)
• Executive Order B-30-15 (Greenhouse gas emission reduction target)
• Integrated Energy Policy Report (Biennial)
Solicitation Purpose and Project Focus

- Develop technologies, tools, and strategies that reduce technological and economic barriers to upgrading, repowering, and expanding wind power generation and contribution to the in-state electricity mix.
- Reduce the cost and improve reliability wind power systems
- Develop technological solution that can be applicable and may be duplicated in different California regions.
- Promote the installation of modern wind projects
- Develop modern small turbines for distributed generation
- Advance strategies and tools needed in support of wind energy generation
- Increase economic competitiveness of renewable generation and cost-effectiveness of investments.
Example Projects*

- R&D on innovative components that can be applied across wind turbine models and manufactures – lower O&M costs, and extend a wind generation facility’s economic life.
- R&D on new wind system materials and infrastructure that improve durability and extend the lifetime of wind energy systems.
- Pilot-scale demonstration or field demonstration of a more efficient wind turbines.
- Redesign and re-engineering or field demonstration of new wind turbine models.
- R&D on enabling wind generation facilities to ramp up and down quickly while reducing the associated costs and that will offer various grid support.

*Additional examples in page 15 (Section II.B.2) of the application manual.
Project Requirements

- Applied research and development (AR&D): early stage research, bench-scale testing, and pilot-scale testing activities that are necessary to demonstrate the feasibility of pre-commercial technologies.

Technology Readiness Level (TRL)*

Pilot Test/Demonstration: projects at the TRL6 level; typically smaller than anticipated full scale commercial unit; provide proof of concept; test the design and validity of an approach.

*Technology Readiness Assessment Guide. Department of Energy
http://www2.lbl.gov/dir/assets/docs/TRL%20guide.pdf
Project Requirements

- Applications must clearly explain the status of the proposed project and discuss the technology readiness level of the proposed project. Energy Commission will review the explanation and make its own determination in screening and scoring of applications.

- All pilot testing/demonstration activities must be located within California’s electricity Investor-owned Utilities (IOU) service territory.

- Projects that are not at a pilot demonstration level but are requiring installation of equipment and testing beyond the laboratory must also be located within the electricity IOU service territory.

- Wind technologies, strategies, and tools are focused on California's specific needs.
Project Requirements

Ratepayer Benefits, Technological Advancements, and Breakthroughs (Section II.B.3)

• CPUC 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.

• CPUC defines “ratepayer benefits” as greater reliability, lower costs, and increased safety
Available Funding

Up to **$2.5 million** available for this solicitation.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount Available</th>
<th>Minimum and Maximum Award Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving Performance and Cost-Effectiveness of Wind Energy Technologies</td>
<td>$2.5 million</td>
<td>$500,000 – $1.25 million</td>
</tr>
</tbody>
</table>

Match funding is **not required** for this Solicitation.

Applications that include match funding will receive additional points during the scoring phase.
Eligible Bidders

• This is an open solicitation for public and private entities, except for publicly owned utilities.

• Applicants must accept the EPIC terms and conditions.

• Applicants are required to register with the California Secretary of State and be in good standing to enter into an agreement with the Energy Commission. http://www.sos.ca.gov

• Applicants must propose a team with proven ability to successfully complete similar projects.
## Key Dates

<table>
<thead>
<tr>
<th>Activity</th>
<th>Action Date</th>
</tr>
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<tbody>
<tr>
<td>✓ Solicitation Release</td>
<td>April 6, 2017</td>
</tr>
<tr>
<td>✓ Pre-Application Workshop Sacramento</td>
<td>April 13, 2017</td>
</tr>
<tr>
<td><strong>DEADLINE FOR WRITTEN QUESTIONS</strong></td>
<td><strong>April 18, 2017  5:00 pm</strong></td>
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<tr>
<td>Anticipated Distribution of Questions and Answers</td>
<td>Week of May 1, 2017</td>
</tr>
<tr>
<td><strong>DEADLINE TO SUBMIT APPLICATIONS</strong></td>
<td><strong>June 20, 2017  5:00 pm</strong></td>
</tr>
<tr>
<td>Anticipated Notice of Proposed Award (NOPA) Posting Date</td>
<td>August, 2017</td>
</tr>
<tr>
<td>Anticipated Energy Commission Business Meeting Date</td>
<td>October 11, 2017</td>
</tr>
<tr>
<td>Anticipated Agreement Start Date</td>
<td>November 15, 2017</td>
</tr>
<tr>
<td>Anticipated Agreement End Date</td>
<td>December 31, 2021</td>
</tr>
</tbody>
</table>
GFO Application Requirements
(for Electronic Submittal)

• Preferred method of Delivery is the Energy Commission Grant Solicitation System, available at: https://gss.energy.ca.gov/.
  – Electronic files must be in Microsoft Word XP (.doc format) and Excel Office Suite formats, unless originally provided in solicitation in another format.

• Attachments requiring signatures may be scanned and submitted in PDF format.

• Completed Budget Forms (Attachment 7) must be in Excel format.

• First-time users must register as a new user to access the system.

• The system will not allow applications to be submitted after the due date and time (June 20, 2017 at 5:00 p.m. PDT).
Live Demo Tutorial
(for Electronic Submission)

GSS How to Apply Video.mp4
GFO Application Requirements  
*(for Hard Copy Submittal)*

- Submit Applications with all attachments in the order specified in Section III of the manual, by the due date and time listed in Section I – part F of the manual.

- Application documents should meet formatting requirements, page limits, and number of copies specified in Section III - part A: APPLICATION FORMAT, PAGE LIMITS, AND NUMBER OF COPIES.
  - Five hard copies with signatures and one electronic copy.
# California Energy Commission

## Application Requirements

Each Applicant must complete and include the following:

<table>
<thead>
<tr>
<th>1. Application Form</th>
<th>7. Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Executive Summary</td>
<td>8. CEQA Compliance Form</td>
</tr>
<tr>
<td>3. Fact Sheet</td>
<td>9. References and Work Product</td>
</tr>
<tr>
<td>4. Project Narrative</td>
<td>10. Contact List</td>
</tr>
<tr>
<td>5. Project Team</td>
<td>11. Commitment and Support Letters</td>
</tr>
<tr>
<td>6. Scope of Work</td>
<td></td>
</tr>
</tbody>
</table>

**Be consistent in your application!**
Project Narrative

• This is your opportunity to tie everything together and explain the entirety of the project

• Include detailed description of the proposed project according to the Application Scoring Criteria – Section IV, part F.

• The narrative should explain:
  – Why your project is important?
  – What you will be doing in your project?
  – How are you going to complete the project?
  – How will ratepayers benefit?
  – What it is going to cost ratepayers, and is it worth it?

Provide enough detail so that reviewers will be able to evaluate the proposal against each of the scoring criteria
Scope of Work (Attachment 6)

• Tell us exactly what you are proposing to do in your project.
• Identify what you will deliver to the Energy Commission.
• Scope of Work must be consistent with the project narrative.
• Follow the Attachment 6 template format
• Be sure to include Project Schedule (Attachment 6a)
Budget (Attachment 7)

Identify how you will be spending EPIC funding and match funds to complete this project.

- Each Applicant and major subcontractor must complete the budget document in Excel, including all budget forms.
- This must be submitted in the same format as it is provided.
- Do not delete sheets or rows, use the hide/expand functions.
  - Shaded cells are automatically filled or calculated.
Match Funding

• Match funding **is not** required for this solicitation. Applications that include match funding will receive additional points during the scoring phase.

• Applicants may receive **up to** 10 additional points based on the criteria below:
  – Up to 5 points for this criterion will be awarded based on the percentage of match funds relative to the EPIC funds requested. This ratio will be multiplied by 5 to yield the points, and rounded to the nearest whole number.
  
  – The remaining 5 points will be based on the level of commitment, type of match funding, dollar value justification, and funding replacement strategy described in the match funding commitment letter. See pages 31-32 for application scoring scale.

• Match funding contributors must submit match funding commitment letters that meets the requirements of Attachment 11. Failure to do so will disqualify the match funding commitment from consideration.
Commitment and Support Letter Form (Attachment 11)

- This form provides guidelines for letters of support or commitment that are submitted with the application.
  - Commitment letter commits an entity or individual to providing the service or funding described.
  - Support letter details an entity’s or individual’s support for the project.

- Support letters are required for all projects.

- Match funding for each Application must be supported by a match fund commitment letter.

- Projects that involves testing/demonstration/deployment must submit a commitment letter from the testing/demonstration/deployment site.

- Any project partners that will make contributions other than match funding or a test, demonstration, or deployment site to the project must submit a commitment letter.

- Limited to two pages per letter, excluding the cover page.
How will my Application be Evaluated?

→ Administrative Screening

Application Admin Screening Process

1. Energy Commission staff screens applications per criteria in the solicitation (page 27).
2. Criteria is evaluated on a pass/fail basis.
   ✓ Applicants must pass all screening criteria or the application will be disqualified.

Some Reasons for Disqualification

✓ Application not submitted by the specified due date and time.
✓ Applicant did not address one of the eligible project groups.
✓ Requested funding is outside of the specified minimum/maximum range.
✓ Project completion date beyond the specified agreement end date.
✓ Application does not include one or more support letters.
✓ Application contains confidential material.
How will my Application be Evaluated?

- Evaluation Committee applies the scoring scale to the scoring criteria.
- Applications must obtain a minimum passing score of 70% for criteria 1-4 (or 49 points) in order to continue evaluation, and must also obtain a minimum passing score of 70% overall for criteria 1-7 (or 70 points), in order for an Application to be considered for funding. Passing applications will be considered for match funding preference and disadvantaged community points.
- Each Applicant must review the Evaluation and Award Process section of the solicitation and ensure that the application provides a clear and complete response to each scoring criteria in the project narrative.

<table>
<thead>
<tr>
<th>Scoring Criteria (pages 30-34)</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technical Merit and Need</td>
<td>20</td>
</tr>
<tr>
<td>2. Technical Approach</td>
<td>20</td>
</tr>
<tr>
<td>3. Impacts and Benefits for CA IOU Ratepayers</td>
<td>20</td>
</tr>
<tr>
<td>4. Team Qualifications, Capabilities and Resources</td>
<td>10</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>70</strong></td>
</tr>
<tr>
<td>Minimum points to pass (Criteria 1-4)</td>
<td>49</td>
</tr>
<tr>
<td>5. Budget Cost-Effectiveness</td>
<td>10</td>
</tr>
<tr>
<td>6. EPIC Funds Spent in CA</td>
<td>15</td>
</tr>
<tr>
<td>7. Ratio of Direct Labor and Fringe Benefit Rates to Loaded Labor Rates</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Minimum points to pass (criteria 1-7)</td>
<td><strong>70</strong></td>
</tr>
</tbody>
</table>

1 [http://oehha.maps.arcgis.com/apps/Viewer/index.html?appid=dae2fb1e42674e12a04a2b302a080598](http://oehha.maps.arcgis.com/apps/Viewer/index.html?appid=dae2fb1e42674e12a04a2b302a080598)
**Additional Points** Applications must meet both minimum passing scores (Scoring Criteria 1-4 and 1-7) to be eligible for the additional points.

<table>
<thead>
<tr>
<th>8. Match Funding</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Points for this criterion will be awarded as follows:</td>
<td></td>
</tr>
<tr>
<td>• 5 points will be awarded based on the percentage of match funds relative to the EPIC funds requested. This ratio will be multiplied by 5 to yield the points.</td>
<td></td>
</tr>
<tr>
<td>• 5 points will be awarded based on the level of commitment and will consider type of match funding, justification, and funding replacement strategy. The proposal scoring scale in Section F will be used to rate these criteria.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Disadvantaged Communities</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects with all test or demonstration sites located in disadvantaged communities must justify how the project will benefit the disadvantaged community in order to receive additional points.</td>
<td></td>
</tr>
<tr>
<td>A disadvantaged community is identified by census tract and represents the 25% highest scoring tracts in CalEnviroScreen 2.0 or later versions.</td>
<td></td>
</tr>
</tbody>
</table>
### What is the Technical Scoring Scale?

<table>
<thead>
<tr>
<th>% of Possible Points</th>
<th>Interpretation</th>
<th>Explanation for Percentage Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>Not Responsive</td>
<td>Response does not include or fails to address the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable.</td>
</tr>
<tr>
<td>10-30%</td>
<td>Minimally Responsive</td>
<td>Response minimally addresses the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable.</td>
</tr>
<tr>
<td>40-60%</td>
<td>Inadequate</td>
<td>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.</td>
</tr>
<tr>
<td>70%</td>
<td>Adequate</td>
<td>Response adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable.</td>
</tr>
<tr>
<td>80%</td>
<td>Good</td>
<td>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.</td>
</tr>
<tr>
<td>90%</td>
<td>Excellent</td>
<td>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.</td>
</tr>
<tr>
<td>100%</td>
<td>Exceptional</td>
<td>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.</td>
</tr>
</tbody>
</table>
### What is Important?

<table>
<thead>
<tr>
<th>Scoring Criteria (pages 30-34)</th>
<th>The Question to Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Merit and Need</td>
<td>Why should your project be funded?</td>
</tr>
<tr>
<td>Technical Approach</td>
<td>How you’re going to do what you’re going to do?</td>
</tr>
<tr>
<td>Impacts and Benefits for CA IOU Ratepayers</td>
<td>How will your project benefit ratepayers?</td>
</tr>
<tr>
<td>Team Qualifications, Capabilities and Resources</td>
<td>Who is going to make this project happen, and what resources are available to make it happen?</td>
</tr>
<tr>
<td>Budget Cost-Effectiveness</td>
<td>Are you spending money wisely?</td>
</tr>
<tr>
<td>EPIC Funds Spent in CA</td>
<td>This is a direct calculation based on budget forms.</td>
</tr>
<tr>
<td>Ratio of Direct Labor and Fringe Benefit Rates to Loaded Labor Rates</td>
<td>This is a direct calculation based on budget forms.</td>
</tr>
<tr>
<td>Scoring Criteria</td>
<td>Maximum Points</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>1. Technical Merit and Need</strong></td>
<td>20</td>
</tr>
<tr>
<td>a. Goals, objectives, technological or scientific knowledge advancement, and</td>
<td></td>
</tr>
<tr>
<td>innovation in the proposed project.</td>
<td></td>
</tr>
<tr>
<td>b. Technological advancement and breakthroughs that **overcome California-</td>
<td></td>
</tr>
<tr>
<td>specific barriers** to achieving the State’s statutory energy goals.</td>
<td></td>
</tr>
<tr>
<td>c. Current status of the relevant technology and/or scientific knowledge, and</td>
<td></td>
</tr>
<tr>
<td>explains how the proposed project will advance, supplement, and/or replace</td>
<td></td>
</tr>
<tr>
<td>current technology and/or scientific knowledge.</td>
<td></td>
</tr>
<tr>
<td>d. Need for EPIC funding… and how the proposed work **fits into California-</td>
<td></td>
</tr>
<tr>
<td>specific renewable energy needs and market environment.</td>
<td></td>
</tr>
<tr>
<td>e. Technically feasible and achievable within the proposed project schedule</td>
<td></td>
</tr>
<tr>
<td>f. Clear and plausible measurement and verification plan</td>
<td></td>
</tr>
<tr>
<td>g. Progress towards achieving compliance with (CEQA)</td>
<td></td>
</tr>
<tr>
<td>h. Benefit to disadvantaged communities, if applicable.</td>
<td></td>
</tr>
</tbody>
</table>
3. Impacts and Benefits for California IOU Ratepayers

a. Benefit California IOU ratepayers with respect to the EPIC goals of greater reliability, lower costs, and/or increased safety.

b. Clear, plausible, and justifiable quantitative estimates of potential benefits for California IOU electricity ratepayers.

c. Describes the applicability of proposed work and/or technology to California’s wind resources and associated challenges and barriers.

d. Timeframe, assumptions, and calculations and explains their reasonableness.

e. Impacted market segments in California.

f. Qualitative or intangible benefits to California IOU electricity ratepayers.

g. Cost-benefit analysis that compares project costs to anticipated benefits.

h. Technology readiness level and the status of the proposed project whether it involves pilot testing/demonstration or an earlier stage of research that involves equipment installation and testing beyond the laboratory, and confirms, for both cases, that the project location is within the IOU territory.
Other Information

• Solicitation documents and today’s presentation:
  
  http://www.energy.ca.gov/contracts/GFO-16-310/

• Sign up for the Listserver by selecting “Opportunity:”
  
  www.energy.ca.gov/listservers/

• Information on EPIC:
  
  www.energy.ca.gov/research/epic/index.html

• Information on other EPIC solicitations:
  
  www.energy.ca.gov/contracts/epic.html
Questions and Answers

Please send all questions related to GFO-16-310 to:

Gordon Kashiwagi
Commission Agreement Officer
1516 Ninth Street, MS-18
Sacramento, CA  95814
(916) 654-5131
(916) 654-4423 (fax)
gordon.kashiwagi@energy.ca.gov

Deadline to submit questions:
Tuesday, April 18, 2017  5:00 PM PDT
Questions and Answers
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Thank you!