

CALIFORNIA ENERGY COMMISSION

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NOTICE OF PROPOSED AWARD (NOPA)
Reduce the Environmental and Public Health Impacts of Electricity Generation and
Make the Electricity System Less Vulnerable to Climate Impacts: Phase I
PON-14-309
March 4, 2015

On November 19, 2014, the California Energy Commission (Energy Commission) released a competitive solicitation to fund applied research and development projects to reduce the environmental impacts of electricity generation and make the electricity system less vulnerable to climate impacts.¹ Up to \$7,400,000 in Electric Program Investment Charge (EPIC) funding is available to fund applications in:

1. **Emerging Technologies to Avoid Fatal Interactions of Birds and Bats with Energy Facilities** – sought proposals to develop and test pilot-stage systems designed to reduce fatalities of birds and bats at wind or solar energy facilities through deterrence and/or curtailment and to compare the performance of the system to conventional practice in terms of costs and effectiveness at reducing fatalities.
2. **Renewable Energy Impacts: Learning from Real-world Experience** – sought proposals to develop information or tools to support adaptive management in one or more regions of California where extensive renewable energy development is occurring or imminent by analyzing observed fatalities or habitat loss from construction and operation of renewable energy facilities, comparing predicted impacts in a large set of assessment reports with the actual impacts observed post-construction, and comparing predicted benefits of mitigation actions with the actual observed benefits.
3. **Improved Hydrological Forecasting for Hydropower Generation** – sought proposals to deploy and test new methods to measure the snowpack in areas that are not being monitored for improved hydrologic forecasting that will assist utilities in improving the management of their hydropower units.
4. **Water Conserving Hybrid Power Plant Cooling: Phase I** – sought proposals to facilitate the greater use of water conserving power plant cooling technologies in the electricity generating sector in California by developing and pilot testing new tools, technologies and approaches to improve the efficiency and reduce the cost of water conserving hybrid power plant cooling systems.

¹ The first Electric Program Investment Charge (EPIC) plan can be found here:
http://www.energy.ca.gov/research/epic/documents/final_documents_submitted_to_CPUC/2012-11-01_EPIC_Application_to_CPUC.pdf Strategic Objective S5 is described on pages 89-98.

- 5. Long-term Energy Scenarios for California and their Environmental Consequences** – sought proposals to develop long-term scenarios and modeling capabilities for the electricity sector, as well as interactions and trade-offs with other components of the energy system in the Western Electricity Coordinating Council region and explore the implications of particular policy choices on future costs and system build-out.
- 6. Probabilistic Seasonal and Decadal Forecasts for the Electricity System** – sought proposals to develop, enhance, and test new methods to produce probabilistic climate forecasts for the electricity system and improve probabilistic forecasts to estimate effects on electricity demand and generating capacity.
- 7. Real-world Characterization of the Urban Heat Island Effect: Scoping Study** – sought proposals to improve understanding of the distribution of near-surface temperatures within urban heat islands in California, identify and quantify the determinants of local temperatures, and enhance the foundation for location-specific assessments of possible mitigation strategies.

The Energy Commission received 14 proposals by the due date of January 16, 2015. Each proposal was screened, reviewed, evaluated, and scored using the criteria in the solicitation. Twelve proposals passed the Stage One Application Screening.

The attached “Notice of Proposed Awards” identifies each applicant selected and recommended for funding by Energy Commission staff and includes the recommended funding amount and score. The total amount recommended is \$6,543,065.

Funding of proposed projects resulting from this solicitation is contingent upon the approval of these projects at a publicly noticed Energy Commission Business Meeting and execution of a grant agreement. If the Energy Commission is unable to timely negotiate and execute a funding agreement with an Applicant, the Energy Commission, at its sole discretion, reserves the right to cancel or otherwise modify the pending award, and award the funds to another applicant.

In addition, the Energy Commission reserves the right to: 1) add to, remove, or shift funding between the different groups if there are insufficient passing proposals or timely executed agreements in one or more groups and 2) negotiate with successful applicants to modify the project scope, schedule, level of funding, and/or any other part of the proposed agreement.

This notice is being mailed to all parties who submitted a proposal to this solicitation, will be sent electronically to the “opportunity” listserv, and is also posted on the Energy Commission’s website at: <http://www.energy.ca.gov/contracts>.

For further information, please contact Janna Franks at (916) 654-4921, Janna.Franks@energy.ca.gov.

Janna Franks

Commission Agreement Officer

Attachment 1 – Research Topic Area NOPA Tables



California Energy Commission

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

Research Topic Area 5.2a – Emerging Technologies to Avoid Fatal Interactions of Birds and Bats with Energy Facilities

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	Frontier Wind, LLC	Rotor-Mounted Bat Impact Deterrence System Design and Testing	\$862,875	\$862,875	\$37,047	79.61	Awardee
Total			\$862,875	\$862,875	\$37,047		
Grand Total			\$862,875	\$862,875	\$37,047		



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Research Topic Area 5.2b – Renewable Energy Impacts: Learning from Real-world Experience

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	USGS, Forest and Rangeland Ecosystem Science Center	Learning from real-world experience to understand renewable energy impacts to wildlife	\$1,000,000	\$1,000,000	\$1,617,177	81.97	Awardee
Total			\$1,000,000	\$1,000,000	\$1,617,177		
Passed but Not Funded							
2	Humboldt State University Sponsored Programs Foundation	Risks, Impacts, and Population Consequences of Renewable Energy Projects on Wildlife in CA	\$998,898	\$0	\$85,000	72.19	Finalist
3	East Bay Regional Park District	Reducing renewable energy impacts to golden eagles and other wildlife: applying existing knowledge to inform adaptive management	\$989,487	\$0	\$221,223	70.66	Finalist
Total			\$1,988,385	\$0	\$306,223		
Disqualified							
0	The Regents of the University of California, Riverside	Creating a Framework for Evaluating Impacts and Informing Appropriate Mitigation for Renewable Energy Development in the California Desert	\$630,517	\$0	\$0	N/A	Disqualified
0	The Regents of the University of California, Berkeley	Impacts, Mitigation, and Environmental Co-Benefit Opportunites of Wind and Solar Energy Development in CA's Central Valley and Beyond	\$988,439	\$0	\$0	N/A	Disqualified
Total			\$1,618,956	\$0	\$0		
Grand Total			\$4,607,341	\$1,000,000	\$1,923,400		



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Research Topic Area 5.3a – Improved Hydrological Forecasting for Hydropower Generation

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
<i>Proposed Awards</i>							
1	The Regents of the University of California, Berkeley	Improving Hydrological Snowpack Forecasting for Hydropower Generation Using Intelligent Information Systems	\$1,100,000	\$1,100,000	\$236,263	95.01	Awardee
2	The Regents of the University of California, Riverside	Aerosol impacts on the hydrology and hydropower generation in CA	\$399,818	\$399,818	\$306,237	93.15	Awardee
Total			\$1,499,818	\$1,499,818	\$542,500		
Grand Total			\$1,499,818	\$1,499,818	\$542,500		



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Research Topic Area 5.3b – Water Conserving Hybrid Power Plant Cooling: Phase I

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	Maulbetsch Consulting	Evaluation of Cost, Performance and Water Conserving Capability of Hybrid Cooling	\$581,580	\$581,580	\$0	77.00	Awardee
Total			\$581,580	\$581,580	\$0		
Grand Total			\$581,580	\$581,580	\$0		



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Research Topic Area 5.4a – Long-term Energy Scenarios for California and Their Environmental Consequences

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	Lawrence Berkeley National Laboratory	Building a Healthier and More Robust Future: 2050 Low Carbon Energy Scenarios for California	\$700,000	\$700,000	\$65,000	88.95	Awardee
2	The Regents of the University of California, Irvine	Building a Climate Change Resilient Electricity System for Meeting California's Energy and Environmental Goals	\$698,792	\$698,792	\$300,000	83.85	Awardee
3	Energy Environmental Economics	Long-Term Energy Scenarios for California and Their Environmental Consequences	\$700,000	\$700,000	\$0	80.70	Awardee
Total			\$2,098,792	\$2,098,792	\$365,000		
Did Not Pass							
4	South Bay Cities Council of Governments	Developing Analytical Tools and Technologies to Reduce the Environmental Impacts of Electricity Generation and Make the Electricity System Less Vulnerable to Climate Impacts Using the South Bay Cities in the Los Angeles Basin as a Model	\$475,722	\$0	\$0	N/A	Did Not Pass
Total			\$475,722	\$0	\$0		
Grand Total			\$2,574,514	\$2,098,792	\$365,000		



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Research Topic Area 5.4b – Probabilistic Seasonal and Decadal Forecasts for the Electricity System

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
<i>No Proposals Received</i>							
Total			\$0	\$0	\$0		
Grand Total			\$0	\$0	\$0		



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Research Topic Area 5.4c – Real-world Characterization of the Urban Heat Island Effect: Scoping Study

Notice of Proposed Awards

March 4, 2015

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	Lawrence Berkeley National Laboratory	Monitoring the Urban Heat Island Effect and the Efficacy of Future Countermeasures	\$500,000	\$500,000	\$4,000	89.12	Awardee
Total			\$500,000	\$500,000	\$4,000		
Grand Total			\$500,000	\$500,000	\$4,000		