

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

**REVISED NOTICE OF PROPOSED AWARD (NOPA)****Improving Natural Gas Energy Efficiency, Waste Heat-to-Power, and Near-Zero Emission Distributed Generation Systems****GFO-17-501****March 7, 2018**

On August 11, 2017, the California Energy Commission (Energy Commission) released a competitive solicitation to fund industrial energy efficiency and renewable energy and advanced generation research projects that focus on reducing natural gas use. Up to \$10,700,000 in Natural Gas Research Program funding is available to fund applications in:

- Group 1: Develop and Demonstrate Energy Efficiency Technologies and Strategies to Reduce Natural Gas Use in the Industrial Sector;
- Group 2: Develop and Demonstrate Cost-effective Waste Heat to Power Systems for California Industries;
- Group 3: Develop and Demonstrate Near-Zero Emission Small and Micro-scale Distributed Generation Systems; and
- Group 4: Technical Assessment of the Energy Efficiency Potential of the Chemicals and Allied Products Industry

The Energy Commission received 18 proposals by the due date of October 10, 2017. Each proposal was screened, reviewed, evaluated and scored using the criteria in the solicitation. 17 proposals passed the Stage One Application Screening.

The attached Revised "Notice of Proposed Award" (NOPA) identifies each applicant selected and recommended for funding by Energy Commission staff and includes the recommended funding amount and score. A previous NOPA was released on December 8, 2017 and covered results for Groups 2 and 3. Then a revised NOPA was released on December 28, 2017 and covered results for all groups. One of the projects from Group 1 has withdrawn and the next highest ranked project is recommended for funding. The total amount recommended in this NOPA is \$9,722,881.

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 in one

group and 2) negotiate with successful applicants to modify the project scope, schedule, and/or level of funding.

This NOPA also serves as a notice that the Energy Commission will not reopen the solicitation for Phase 2 proposal submissions.

This notice is being mailed to all parties who submitted an application to this solicitation and is also posted on the Energy Commission's website at:

www.energy.ca.gov/contracts/.

For information, please contact Angela Hockaday at (916) 654-5186 or

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Angela Hockaday
Commission Agreement Officer



California Energy Commission
GFO-17-501
Improving Natural Gas Energy Efficiency,
Waste Heat-to-Power, and Near-Zero Emission Distributed Generation Systems
Project Group 1 – Develop and Demonstrate Energy Efficiency Technologies and Strategies
to Reduce Natural Gas Use in the Industrial Sector

Notice of Proposed Award

December 28, 2017

March 7, 2018

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	Element 16 Technologies, Inc	Low Temperature, Efficient Heat Capture to Reduce Natural Gas Consumption in the Chemical Industry	\$1,500,000	\$1,500,000	\$300,000	87.58	Awardee
2	University of California, Riverside	Demonstration of Smart Combustion Technology Using Natural Gas Fuel Quality Sensors	\$1,499,910	\$1,499,910	\$193,900	83.80	Awardee
3	Institute of Gas Technology dba Gas Technology Institute	Field Demonstration of High Energy Efficient and Low Emission Natural Gas Fired Combustion System for Industrial and Commercial Processing	\$1,499,897	\$1,499,897	\$435,000	82.88	Awardee
<u>3</u>	<u>Institute of Gas Technology dba Gas Technology Institute*</u>	<u>High Efficiency Process Heating</u>	<u>\$1,405,947</u>	<u>\$1,405,947</u>	<u>\$1,500,000</u>	<u>78.35</u>	<u>Awardee</u>
Total Funding Recommended			\$4,499,807 <u>\$4,405,857</u>	\$4,499,807 <u>\$4,405,857</u>	\$928,900 <u>\$1,993,900</u>		
Passed but Not Funded							
4	Institute of Gas Technology dba Gas Technology Institute*	High Efficiency Process Heating	\$1,405,947	\$0	\$1,500,000	78.35	Finalist
5	The Regents of the University of California, Davis	Novel Heat Recuperator and Thermally-Driven Chiller for Improving Natural Gas Energy Efficiency in CA Food Processing Industries	\$1,500,000	\$0	\$150,357	75.90	Finalist
Withdrawn							
	Institute of Gas Technology dba Gas Technology Institute*	Field Demonstration of High Energy Efficient and Low Emission Natural Gas Fired Combustion System for Industrial and Commercial Processing	\$1,499,897	\$0	\$435,000	82.88	Withdrawn
Grand Total			\$7,405,754	\$4,499,807 <u>\$4,405,857</u>	\$2,579,257		

*Applicants may only receive one award per project group. See the solicitation manual, section 1.A for full details.



California Energy Commission
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Improving Natural Gas Energy Efficiency,
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 Project Group 2 – Develop and Demonstrate Cost-effective Waste Heat
 to Power Systems for California Industries

Notice of Proposed Award

December 28, 2017

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	T2M Global LLC	Waste Heat to Ultra-High Efficiency Osmotic Power (WHOP)	\$1,299,109	\$1,299,109	\$133,523	86.84	Awardee
2	Altex Technologies Corporation	Advanced Thermo Electric Generator System (ATEGS)	\$1,499,875	\$1,222,850	\$205,918	82.12	Awardee
Total Funding Recommended			\$2,798,984	\$2,521,959	\$339,441		
Grand Total			\$2,798,984	\$2,521,959	\$339,441		



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Project Group 3 – Develop and Demonstrate Near-Zero Emission Small
and Micro-scale Distributed Generation Systems

Notice of Proposed Award

December 28, 2017

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	EtaGen, Inc.	High-Efficiency and Ultra-Low Emissions Linear Generator Demonstration Project in Southern California	\$995,659	\$995,659	\$1,386,066	91.50	Awardee
2	Institute of Gas Technology dba Gas Technology Institute	Demonstration of 4.5 and 25 kW CARB-compliant Reciprocating Engine Micro-CHP Systems	\$1,499,406	\$1,499,406	\$167,600	79.25	Awardee
Total Funding Recommended			\$2,495,065	\$2,495,065	\$1,553,666		
Did Not Pass							
	NLine Energy, Inc.	NLine Energy's Novel Renewable Natural Gas Recovery and Distribution Generation Demonstration and Validation Project (Biogas DG Project)	\$1,102,092	\$0	\$150,635		Did Not Pass
	Benz Air Engineering, Co., Inc.	DC Microgrid Supported by Near Zero Emission CHP	\$1,489,256	\$0	\$488,052		Did Not Pass
	Energent Corporation	Energent's Groundbreaking Near-Zero Emission, Micro-Scale Distributed Generalization Demonstration and Validation Project	\$815,594	\$0	\$110,002		Did Not Pass
	N-Gen Technologies	Stirling Generator Demonstrating Natural Gas to Electricity Conversion with Near-Zero Emissions	\$1,243,989	\$0	\$132,005		Did Not Pass
	The Regents of the University of California, Irvine	Development and Demonstration of a Residential 1.5kW SOFC Micro-CHP System	\$750,000	\$0	\$182,104		Did Not Pass
Total			\$5,400,931	\$0	\$1,062,798		
Did Not Pass							
	M-TriGen, Inc.	Developing and Demonstrating Near-Zero Emissions for Micro-Scale Distributed Power Generation Systems	\$800,000	\$0	\$80,000		Did Not Pass
Total			\$800,000	\$0	\$80,000		
Grand Total			\$8,695,996	\$2,495,065	\$2,696,464		



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Project Group 4 – Technical Assessment of the Energy Efficiency Potential
of the Chemicals and Allied Products Industry

Notice of Proposed Award

December 28, 2017

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	Emerging Energy Efficiency Technologies in California's Chemicals and Allied Products Industry- Estimating Energy Efficiency Cost Curves and Identifying Technology R&D Needs and Gaps	\$300,000	\$300,000	\$0	76.38	Awardee
Total Funding Recommended			\$300,000	\$300,000	\$0		
Passed but Not Funded							
Total			\$0	\$0	\$0		
Did Not Pass							
	DNV GL USA, Inc.	Technical Assessment of the Energy Efficiency Potential of the Chemicals and Allied Products Industry	\$299,776	\$0	\$30,387		Did Not Pass
	Institute of Gas Technology dba Gas Technology Institute	Technical Assessment of Energy Efficiency Potential of California Chemicals Industry	\$300,000	\$0	\$0		Did Not Pass
Total			\$599,776	\$0	\$30,387		
Grand Total			\$899,776	\$300,000	\$30,387		