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# Notice of Funding Opportunity

**Title:** Realizing Accelerated Manufacturing and Production for Clean Energy Technologies (RAMP) 2020
**Website:** https://www.energy.ca.gov/solicitations/2020-07/gfo-20-302-realizing-accelerated-manufacturing-and-production-clean-energy
**Funding:** Total: $15,069,250. Maximum awards: $3M.
**Dates:** Pre-Application Workshop: July 30, 2020
Deadline for Written Questions: August 07, 2020
Application Submission Deadline: October 30, 2020

**Summary:** The purpose of this solicitation is to provide financial assistance to help clean energy entrepreneurs successfully advance their emerging best-of-class innovative technology to the Low-Rate Initial Production (LRIP) stage. LRIP is the first step in making the transition from highly customized hand-built prototypes, which are used for performance testing and vetting the production process, to the final mass-produced end product produced in the Full-Rate Production phase. Any direct manufacturing activities and any pilot production lines that are established as a result of activities funded under this solicitation must be located in California.
Startups that attempt to scale-up face several hurdles when moving from prototype to production, including a series of new design challenges that impact a host of innovations. Start-up companies typically lack the practical manufacturing experience to successfully move their energy technology innovation to production. Moving a technology into production requires understanding of a wholly different set of considerations than the initial technology development, including material selection, supply-chain management, and assembly steps.
This solicitation is targeting companies with emerging best-of-class innovative technologies that have achieved an established full-scale prototype and are seeking to move from one-off production to a pilot production line. Companies with established production lines for their proposed emerging technology are not eligible for this solicitation. This solicitation is part of the California Energy Commission's ongoing strategy to foster and support clean energy entrepreneurship across the state. This solicitation will provide funding to help clean energy start-up companies reach a Manufacturing Readiness Level (MRL) 8.

**Project Topic Areas:** Projects must fall within one of the following eligible technology areas topics or energy applications:
Energy Efficiency – Solid-state lighting; Enabling technologies for advanced electric heat pumps; Non-vapor compression cooling; Advanced materials and coatings for fenestration and building envelopes; Wastewater treatment, recycling, reuse
Energy Storage – Enabling technologies for lithium sulfur and lithium-metal batteries; Non-lithium electrochemical batteries; Flow batteries; Ultra- or super-capacitors; Thermal storage; Flywheels; Mobile microgrids/nanogrids
Artificial Intelligence/Machine Learning/Advanced Sensing – Advanced sensors and sensing equipment
Advanced Power Electronics/Power Conditioning – High-efficiency plug-load devices; Solid-state distribution system components (transformers, inverters, circuit breakers); Ultra-fast electric transportation charging; High-power electric drive for medium- and heavy-duty vehicle applications high-efficiency computing; Industrial motors and equipment
Zero- and Negative Carbon Emissions Generation – Geothermal; Emerging thin film solar PV materials (perovskites, quantum dot); Solid-state energy harvesting (thermoelectric, thermionic, piezoelectric); Bioenergy

**Cost Sharing:**
There is up to $15,069,250 available for grants awarded under this solicitation. The minimum funding amount for each project is $1,000,000. The maximum funding amount is $3,000,000.
Match funding is required in the amount of at least 50% of the requested grant funds.

| Minimum Funding Amount | Maximum Funding Amount | Match Share |
|---|---|---|
| $1,000,000 | $3,000,000 | 50% of Eligible Costs |

**Project Requirements:**

1. Market Facilitation Stage

Projects must fall within the "market facilitation" stage, which includes activities such as program tracking, market research, education and outreach, regulatory assistance and streamlining, and workforce development to support clean energy technology and strategy deployment.

2. Ratepayer Benefits, Technological Advancements, and Breakthroughs

California Public Resources Code Section 25711.5(a) 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.

The CPUC defines "ratepayer benefits" as greater reliability, lower costs, and increased safety. The CPUC has also adopted the following guiding principles as complements to the key principle of electricity ratepayer benefits: societal benefits; GHG emissions mitigation and adaptation in the electricity sector at the lowest possible cost; the loading order; low-emission vehicles/transportation; economic development; and efficient use of ratepayer monies.

Accordingly, the Project Narrative Form and the "Goals and Objectives" section of the Scope of Work Template must describe how the project will: (1) benefit California IOU ratepayers by increasing reliability, lowering costs, and/or increasing safety; and (2) lead to technological advancement and breakthroughs to overcome barriers to achieving the state's statutory energy goals. Any estimates of energy and water savings or GHG impacts must be calculated using the References for Calculating Energy End-Use and GHG Emissions.

3. Knowledge Transfer Expenditures

To maximize the impact of EPIC projects and to promote the further development and deployment of EPIC-funded technologies, a minimum of 5% of CEC funds requested should go towards knowledge transfer activities. Appropriate knowledge transfer activities for this solicitation are listed in the Scope of Work Template. The Budget Forms should clearly distinguish funds dedicated for knowledge transfer.

**Eligible Applicants:**

This solicitation requires the prime applicant to be a for-profit commercial entity or individual with the rights to commercialize the intellectual property being advanced under the proposed project. The following entities are not eligible to be prime applicants for projects under this solicitation: Local publicly owned electric utilities; Public and private universities; National Labs; Utilities; Private non-profit research organizations; and End-use customers of the proposed technology.