**The Catalyst Energy Innovation Prize to Empower Top Entrepreneurs**

**DATE**: 12/15/2016

**SUBJECT**: Request for Information (RFI)

**DESCRIPTION**: The U.S. Department of Energy’s (DOE) [Office of Energy Efficiency and Renewable Energy](http://energy.gov) (EERE) [SunShot Initiative](http://www.energy.gov/sunshot), is exploring the best strategies to expand and streamline its open innovation programs, with a goal to empower and support entrepreneurs who are shaping the future of solar products and services as scalable platforms and not just as point solutions. Areas of interest in this RFI center on the technical focus of the [Catalyst Energy Innovation Prize](http://catalyst.energy.gov/) (Catalyst) program, the program’s structure, its incentive model for entrepreneurs, support resources provided, and new types of private sector partnerships. A better, more inclusive, and technology cross-cutting Catalyst program can shorten the cycles of innovations and maximize the success of new startups changing the landscape of electricity and energy usage in the U.S.

**BACKGROUND**: The [Catalyst Energy Innovation Prize](http://catalyst.energy.gov/) is an open innovation program founded in 2014 by EERE’s SunShot Initiative, and it was initially intended to accelerate the development of products and solutions that address challenges in the U.S. solar marketplace. Through a series of contests, Catalyst makes it faster and easier for innovative American entrepreneurs to launch cutting-edge companies, while tackling time-sensitive market challenges. The program transforms business plans into energy startups with products in 90 days.

Each cycle of the Catalyst program consists of [four steps](https://www.youtube.com/watch?v=PA0KI77G05U) with value awarded to all winning contestants totaling $1,000,000, including about $500,000 in cash prizes. The steps are as follows:

**Step 1. Ideation Contest**: The ideation contest focuses on generating and aggregating pressing U.S. renewable and energy efficiency market needs and problem statements that can be solved through automation, algorithms, data, and software, especially by leveraging public data assets, tools, capabilities, and resources. Anyone can participate by submitting problem statements online, or by voting on problem statements submitted by others. A contestant with a problem statement may win $1,000 in cash prizes if a team that addresses their problem statement with a business solution gets selected among the top five winners by a panel of judges during the Incubation contest (Step 4).

**Step 2. Business Innovation Contest:** The business innovation contest is designed to help teams form and explore business solutions to the most compelling problems identified during ideation. Anyone can participate by submitting a business plan package online, including a five-minute video describing the proposed business plan. Up to 20 winners will be given the opportunity to move forward in the Catalyst process and work directly with the [National Renewable and Energy Lab](http://www.nrel.gov) (NREL) and [Topcoder Inc.](http://www.topcoder.com), a crowd-centric performance-based software development platform with more than 800,000 software developers and designers, to develop the product proposed in their business plan and to create minimum viable products (MVPs).

**Step 3. Prototyping Contest:** The prototyping contest is designed to help business plan contest winners rapidly develop MVPs using [Topcoder](http://energy.gov/exit?url=https%3A//www.topcoder.com/)’s expert services and platform, while accessing NREL’s resources and analysts. During this contest, DOE provides each team with $25,000 worth of software development services over a 60-day period, in addition to entrepreneurial training, media training, and support from volunteer mentors. Each team will formulate their requirements and scope of work for one MVP, working closely software designers and developers on the Topcoder platform, while developing their business plans in preparation for a publicly held “Demo Day”.

**Step 4. Incubation Contest**: The Incubation contest is designed to help teams with MVPs that start their businesses and accelerate the path toward offering new products and services. To win cash awards, teams will participate in a public Demo Day, sponsored by DOE, to showcase (a) their MVPs, (b) their market entry execution strategy, and (c) their six-month growth plan. During Demo Day, teams will be evaluated by judges according to established criteria. The top five winning teams will receive up to $100,000 each in cash prizes. Each winning team receives $30,000 on Demo Day, and up to $70,000 as they meet subsequent milestones during a 6-month period of performance.

Find full details about the program rules, terms and conditions that govern participation online at [catalyst.energy.gov](http://catalyst.energy.gov/).

Since inception in May 2014, the SunShot Initiative has run two cycles of Catalyst, engaging more than 5,300 active community members who submitted more than 285 problem statements. These problem statements inspired more than 75 Business Innovation Contest video submissions. In collaboration with NREL and Topcoder, EERE in 2015 supported 35 startup teams in building product prototypes during two 60-day Prototyping Contests. More than 250 people attended each one of the two Catalyst [Demo Days](https://www.youtube.com/playlist?list=PL4lfI7kmtVfqh5dgjjMp1z1TuLrEXZs9v), held in May and December 2015, in San Francisco and Philadelphia, respectively, to watch these 35 startup teams debut their product prototypes. Among these 35 startup teams, 12 teams received $970,000 in total cash prizes as of July 2016.

Early in 2016, SunShot conducted an internal evaluation review of the Catalyst program to explore ways for improving the program’s design, outreach, management, and scalability. SunShot invited all 35 teams to one-on-one discussions and held meetings with 24 of them. The main takeaways from these discussions are as follows:

* The Catalyst model is highly engaging and effective in accelerating the cycles of energy innovation because it creates pathways for high-risk early stage ideas, attracts new talent, builds products faster and cheaper, and fosters an atmosphere of competition, excellence, and urgency. The program has limitations in the number of teams that advance to the Prototyping Contest (maximum 20 teams per round) and, subsequently, the Incubation Contest. Scaling the program to accommodate 60-80 teams in 90 days requires programmatic refinements to leverage distributed resources/capabilities and to leverage the local nature of innovation ecosystems.
* The solar industry has been growing rapidly in the past few years, driven partly by the integration of solar technologies while integrating with other technologies and products, such as energy storage, building energy management, demand response appliances, electric vehicles, and grid management capabilities. Despite this trend, Catalyst has not yet fully embraced the integrated approach for solving energy challenges. Combining innovative solutions from solar, energy efficiency, smart buildings technology, transportation, and grid digitization together will be the most efficient and impactful approach to transforming the landscape of energy/electricity usage in the U.S.
* DOE’s validation and high touch role in managing the Prototyping and Incubation Contests—providing entrepreneurial guidance to competing teams, and ensuring quality expert services (e.g. Topcoder and NREL’s expert services)—proved more valuable to competing teams than the allocated cash prizes. Furthermore, teams that were actively involved with local incubators, accelerators, or other startup-support organizations continued to pursue their ideas and thrive after the end of DOE’s involvement for at least six months.

In October 2016, the [Government Accountability Office](http://www.gao.gov) (GAO) released a [report on open innovation](http://www.gao.gov/assets/690/680425.pdf) highlighting practices to engage citizens and effectively implement Federal initiatives. In this report, GAO highlighted quantitative results of an internal analysis by EERE about Catalyst’s effectiveness, overall outcomes, and lessons learned for improving the program.

With an expanded Catalyst prize program, EERE aims to mobilize innovative talent to tackle difficult challenges in transforming the energy and electricity technology landscape of the future. The program also plans to incentivize local centers of energy innovation around the country (e.g. list of incubators in the [Incubatenergy](https://incubatenergy.org/) network) to attract unconventional entrepreneurs and sources of human capital that might not otherwise interact with new and emerging renewable energy, energy efficiency, and transportation technologies. EERE plans to expand the program in order to nurture highly motivated entrepreneurs and help them succeed and thrive during and beyond their participation in Catalyst. Through its rapid prototyping approach and pre-seed stage funding, Catalyst helps to “de-risk” technology and business model development, while also driving participants to explore non-traditional sources of funding and engage with new people and communities to inspire market driven solutions.

**PURPOSE**: The purpose of this RFI is to solicit feedback and comments from stakeholders such as industry, academia, startup companies, investors, local innovation centers, state government agencies, utility companies, energy non-profit organizations, and other stakeholders on issues related to expanding the Catalyst program. EERE is specifically interested in information about a better, more inclusive, and Catalyst program that can cut across technologies and shorten the cycles of innovations and maximize the success of new startups changing the landscape of electricity usage. This is solely a request for information and not a Funding Opportunity Announcement (FOA) or a prize program. EERE is not accepting applications for the Catalyst Energy Prize at this time.

**DISCLAIMER AND IMPORTANT NOTES**: This RFI is not a Funding Opportunity Announcement (FOA); therefore, EERE is not accepting applications at this time. EERE may issue a FOA or a prize program in the future based on or related to the content and responses to this RFI; however, EERE may also elect not to issue a FOA or a prize program. There is no guarantee that a FOA or a prize program will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if EERE chooses to issue a FOA regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of EERE funded awards, will be subject to Congressional appropriations and direction.

Any information obtained as a result of this RFI is intended to be used by the Government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. EERE will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. EERE will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that EERE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind EERE to any further actions related to this topic.

**PROPRIETARY INFORMATION**: Because information received in response to this RFI may be used to structure future programs and FOAsand/or otherwise be made available to the public, **respondents are strongly advised to NOT include any information in their responses that might be considered business sensitive, proprietary, or otherwise confidential.** If, however, a respondent chooses to submit businesssensitive, proprietary, or otherwise confidential information, it must be clearly and conspicuouslymarked as such in the response.

Responses containing confidential, proprietary, or privileged information must be conspicuously marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Federal Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

If your response contains confidential, proprietary, or privileged information, you must include a cover sheet marked as follows identifying the specific pages containing confidential, proprietary, or privileged information:

**Notice of Restriction on Disclosure and Use of Data:**

Pages [list applicable pages] of this response may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for the purposes described in this RFI DE-FOA-0001731. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

In addition, (1) the header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure” and (2) every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

**EVALUATION AND ADMINISTRATION BY FEDERAL AND NON-FEDERAL PERSONNEL**: Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to EERE providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

**REQUEST FOR INFORMATION CATEGORIES AND QUESTIONS**:

**CATEGORY 1: Catalyst Program Design & Incentives**

1. What are the advantages and disadvantages of the current [Ideation Contest](http://catalyst.energy.gov)? What improvements do you recommend including as modifications to the current incentive model?
2. How should to improve the Ideation Contest in order to encourage high quality submissions of problem statements across multiple renewable energy, energy efficacies, and transportation technologies or products (e.g. solar, storage, demand response)?
3. What are the advantages and disadvantages of the current Business Innovation Contest? How should we encourage more participation in the Business Innovation Contest, by new entrants and entrepreneurs outside the energy sector?
4. The current program provides the equivalent of $50,000 in expert support services for each competing team in the Prototyping Contest to build a software minimum viable product (MVP) in 60 days. What improvements or modifications do you recommend for this step of the program including resource allocation, additional types of MVPs (e.g. hardware), and time duration?
5. How should we improve collaboration among competing teams during and after the Prototyping and the Incubation Contests?
6. What are the advantages and disadvantages of the current Incubation Contest? What improvements do you recommend including as modifications to the current incentive model, Demo Day format, the number of winners, and the six-month evaluation process?

**CATEGORY 2: Supporting Entrepreneurships & Program Partnerships**

1. The current Catalyst program has formal partnerships with the [National Renewable Energy Lab (NREL)](file:///C%3A/Users/Kyle.Fricker/AppData/Local/Microsoft/Windows/Temporary%20Internet%20Files/Content.Outlook/OJOVZQSZ/nrel.gov) and [Topcoder Inc](file:///C%3A/Users/Kyle.Fricker/AppData/Local/Microsoft/Windows/Temporary%20Internet%20Files/Content.Outlook/OJOVZQSZ/topcoder.com)., to support the competing teams during the Prototyping Contest. What additional types of national or local resources, entrepreneurial training services, or expert prototyping services might be required or needed?
2. How should we incentivize local centers of innovation, incubators, accelerators, industry experts, startup companies, investors, and other key stakeholders to be more engaged and supportive of teams participating in Catalyst, during and after the end of each program cycle?
3. What are the most critical challenges facing startup companies in innovating and growing in the current energy sector that DOE can address using its resources? Which of these challenges could be addressed during the Catalyst award time period without increasing the amount of funds to the awardees?
4. How should we improve other EERE funding programs, especially technology to market cooperative agreements/grants, in order to help new and innovative startup companies maximize market success?

**REQUEST FOR INFORMATION RESPONSE GUIDELINES**: Responses to this RFI must be submitted electronically to sunshot.catalyst@ee.doe.gov no later than 5:00pm (ET) on January 15, 2017. Responses must be provided as attachments to an email. It is recommended that attachments with file sizes exceeding 25MB be compressed (i.e., zipped) to ensure message delivery. **Only electronic responses will be accepted.**

Please identify your answers by responding to a specific question or topic if possible. Respondents may answer as many or as few questions as they wish.

EERE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

* Company / institution name;
* Company / institution contact;
* Contact's address, phone number, and e-mail address.