

## SETO FY 2019 FUNDING OPPORTUNITY – Topic Area 1 - PHOTOVOLTAICS

Here is the transcript of the Topic 1 webinar for the Solar Energy Technologies Office FY2019 Funding Opportunity Announcement. View the webinar here with the password Setofa2019: <https://doe.webex.com/mw3300/mywebex/nbrshared.do>. See more about this FOA, including the slides that accompany this webinar, at the EERE Exchange site: <https://eere-exchange.energy.gov/#Foald45eda43a-e826-4481-ae7a-cc6e8ed4fdae>.

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### *Presentation cover slide:*

Hello from the Department of Energy and we are starting recording and starting this presentation. This webinar is being recorded and will be published on the EERE Exchange website. If you do not wish to have your voice recorded, please do not speak during the call; actually, please do not speak at all. If you would not wish to have your image recorded, please turn off your camera and participate by phone. If you speak during the call or use a video connection, then you are presumed to consent to recording and the use of your voice or image. Please mute your phones and we will begin momentarily.

### *Next slide:*

Good afternoon everyone and welcome to our webinar. Thank you for your interest in the US Department of Energy's efforts on renewable energy and energy efficiency. You're joining us for the informational webinar for applicants and other interested parties for the Solar Energy Technologies Office - SETO - fiscal year 2019 Funding Opportunity Announcement or FY19 SETO FOA, which was issued on March 26, 2019.

Before we begin, I'd like to draw your attention to the email address on the lower left hand side of this cover page. This is the official mail box to direct all of your questions during the entire FOA process. Please do not contact EERE individuals directly with questions. All questions received at this mail box will be posted publicly at the Q&A section of the FOA page on EERE Exchange in an anonymous way. The official answers to your questions will also be posted typically within 3 business days. Please be careful not to submit any language that might be business sensitive, proprietary, or confidential. In addition to emailing this inbox, you may type in the chat bar any questions you have that come up. Again, be careful not to submit any language that might be business sensitive, proprietary, or confidential. We'll be posting answers to these questions to EERE Exchange as well and not that we will not be able to answer these today during the webinar.

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So just to be clear, there are no particular advantages or disadvantages to the application evaluation process with respect to participating on the webinar today. Your participation is completely voluntary.

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All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0002064 – the FOA – and adhere to the stated submission requirements.

This presentation summarizes the contents of the FOA. And if there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document

and applicants should rely on the FOA language and seek clarification from EERE at [SETO.FOA@ee.doe.gov](mailto:SETO.FOA@ee.doe.gov).

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This slide shows the anticipated schedule for the FOA. The FOA has already been posted and we are conducting the FOA Informational Webinar for PV – Photovoltaics – now. Please note that there are a few requirements that we'll go over in the presentation that are different in the past ones that just apply to viewer comments. We'll cover all requirements for this FOA later in the presentation.

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The agenda for this presentation is as follows:

- FOA Description
- Topic Areas and Technical Areas of Interest
- Award Information
- Statement of Substantial Involvement
- Cost Sharing
- Letters of Intent
- Concept Papers
- Full Applications
- Merit Review and Selection Process
- Registration Requirements

We encourage you to have a copy of the FOA in front of you for reference as we go through the presentation.

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So what's next for Solar? Achieving SETO's priorities across the solar energy technology landscape requires sustained, multifaceted innovation. For our FY19 Funding Program, the office intends to support high-impact, early-stage research in the following areas:

- Topic 1: Photovoltaics Research and Development
- Topic 2: Concentrating Solar-Thermal Power Research and Development
- Topic 3: Balance of Systems Soft Costs Reduction
- Topic 4: Innovations in Manufacturing: Hardware Incubator
- Topic 5: Advanced Solar Systems Integration Technologies

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The first of 2 topics of the Photovoltaics research and development portion of this FOA is Topic 1.1: Photovoltaic Research Collaborations. This is to bring together teams of researchers from multiple institutions and/or companies to address vital problems that limit the performance cost or reliability of current PV technologies. You'll provide a detailed work plan for the first 3 years of effort plus 5 year targets that could be pursued during the fourth and fifth years.

Areas of interest for this topic include:

- Materials, Interfaces, and High-Efficiency Cell Development
- Advanced Photovoltaic Manufacturing Science and Technology

- System Optimization of Increased Energy Yield and Lower Operations and Maintenance Costs
- Perovskite Module Manufacturing and Long-Term Durability
- Low-Cost Substrates for Single-Crystal High-Efficiency Cells
- PV System Recycling and End-of-Life Management

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The second of 2 topics for the Photovoltaics research and development portion of this FOA is Topic 1.2: Small, Innovative Projects in Solar – SIPS. Topic 1.2 will fund small, innovative projects in novel and/or emerging areas of photovoltaics research known as SIPS which inherently involves significant technical risk, but have the potential to produce dramatic progress towards a solar LTOE of 3 cents per kilowatt hour by 2030.

SIPS proposals will use an abbreviated application process to limit the resources required by applicants to apply. The process is described in more detail in section IV.E of the FOA document. Following the submission of a Letter of Intent, SIPS proposals have an expedited Concept Paper Phase. Instead of submitting a concept paper, SIPS applicants will resubmit the same Letter of Intent. Then SIPS applicants submit a SIPS application at the full application deadline of the FOA. Failure to complete these required process steps will result in an inability to submit a SIPS application for review.

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Projects within each subtopic of Topic 1 will be provided different amounts of funding and will last for different lengths of time. For topic 1.1, EERE expects, in total, to make approximately 24 million dollars of federal funding available for new awards with a maximum of 5.5 million per award and the average project lasting about 3 years with the potential of adding 2 more years to some awards.

For SIPS Topic 1.2, EERE expects to make approximately 5 million of federal funding available for new awards during the FOA subject to the availability of a purported fund. The maximum award amount is anticipated to be around 200 thousand dollars and each award will last around a year. EERE intends to fund mostly cooperative agreements into this, FOA but may also fund grants, TIA, work authorizations, and interagency agreements. Cooperative agreements include substantial involvement which we will discuss next. A minimum of 20 percent cost share is required across all subtopic areas for Topic 1.

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To facilitate the formation of new project teams for this FOA, a Teaming Partner List is available at the website listed on this slide, we'll update the Teaming Partner List periodically to reflect new teaming partners who have provided their information. Any organization that would like to be included in this list should submit the information shown on this slide to the email address provided. Keep in mind though, that by submitting this information, you consent to the publication of that information. Please also note that by facilitating this teaming partner list EERE does not endorse or otherwise value the qualifications of the entities that self-identify themselves for placement of the Teaming Partner List. In addition, EERE will not pay for the provision of any information nor will it compensate respondents for the development of such information.

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Who's eligible to apply to this FOA? Eligible applicants include:

- Individuals

- Domestic Entities
- Foreign Entities
- Incorporated Consortia
- Unincorporated Consortia

And for more detail about each eligible applicant, see section III.A of the FOA for eligibility requirements. And do note that DOE/NNSA Federally Funded Research and Development Centers – FFRDCs – and Non-DOE/NNSA FFRDCs are eligible to apply for funding as a Subrecipient receiving up to 49.9 percent of the award funding, but are not eligible to apply as a Prime Recipient.

And Nonprofit organizations are also not eligible to apply for funding. Those nonprofit organizations that are described in Section 501 (c) (3) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

Also, please note that all Prime Recipients receiving funding under this FOA must be incorporated or otherwise formed under the laws of the state or territory of the United States. If a foreign entity applies for funding as a Prime Recipient, it must designate in the full application a subsidiary or affiliate incorporated or otherwise formed under the laws of the state or territory of the United States to be the Prime Recipient. The full application must state the nature of the corporate relationship between the foreign entity and the domestic subsidiary or affiliate.

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Non-Responsive Applications to this FOA are the following types that will be deemed non-responsive and will not be reviewed or considered for an award. So those will be applications that fall outside of the technical parameters specified in Section I.B of the FOA, including but not limited to:

Applications for proposed technologies that are not based on sound scientific principles, such as anything that violates the laws of thermodynamics.

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Under cooperative agreements, there will be what is known as substantial involvement between EERE and the recipient during the performance of the project. And please consult the FOA for more details on this.

(Talking from a listener)

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Cost sharing requirements, that are applicable to Topics 1.1 and 1.2, are the applicants must contribute a minimum of 20 percent of the total project costs for R&D – Research and Development – projects and 50 percent for demonstration activities.

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The total budget presented in the application must include both federal DOE and non-federal cost share portions; therefore it reflecting total project cost proposed. All costs must be verifiable from the recipient's records and be necessary and reasonable for the accomplishment of the project.

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Cost share must be allowable and must be verifiable upon submission of the Full Application. Please refer to this chart for your entity's applicable cost principles. It's imperative that you follow the applicable cost principle when creating your budget for the full application.

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Cost share can be provided in cash and/or in-kind. It can be provided by the Prime Recipient, Subrecipients, or a third party. One note: vendors and contractors can't provide cost share, because that is considered a discount.

Cash contributions include, but aren't limited to personnel costs, fringe costs, supply and equipment cost indirect costs, and other direct costs. In-kind contributions are those where a value of the contribution can be readily determined, verified, and justified but where no actual cash has transacted in securing the good or service comprising the contribution.

Allowable in-kind contributions include, but are not limited to: the donation of volunteer time or donations of space areas or equipment.

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Be aware that there are items that are considered unallowable cost share. If a cost is considered unallowable, it cannot be counted as cost share. This slide provides some of the examples of cost share that is unallowable.

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Cost share must be provided on an invoice basis unless a waiver is requested and approved by the DOE contracting officer.

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EERE's full application evaluation and selection process is shown here. We'll next discuss some of the steps in more detail.

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Letters of Intent will be used by EERE to plan for the Merit Review process. And in order to submit a concept paper and a full application, applicants are required to submit a Letter of Intent.

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Concept papers are required for this FOA. Concept papers are brief descriptions of the proposed project. It allows applicants submit their ideas with minimal time and expense. EERE will provide feedback on the proposed project so the applicant can make an informed decision whether to expend additional resources to prepare a full application. SIPS applicants must submit an abbreviated concept paper submission and the process will be that they resubmit the Letter of Intent as a concept paper in EERE Exchange.

If an applicant fails to submit an eligible concept paper, the applicant is not eligible to submit a full application.

Concept papers must be submitted by May 14<sup>th</sup>, 2019 through EERE Exchange. EERE will provide applicants with either an "encouraged" or "discouraged" notification. A "discouraged" notification

conveys EERE's lack of programmatic interest in the proposed project. An applicant who receives an "discouraged" notification, may still submit a full application.

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Concept papers are evaluated based on the considerations of the following factor. Please note that regardless of the date applicants receive the "encouraged" and "discouraged" notifications, the submission deadline for the full application remains the date that's stated on the FOA cover page. This criterion for concept paper review is that it is overall FOA responsiveness and viability of the project with a weight of 100 percent and it involves the consideration of the following subcriteria:

That the applicant clearly describes the proposed technology, describes how the technology is unique and innovative, and how the technology will advance the current state-of-the-art.

The applicant has identified risks and challenges, including possible mitigation strategies, and has shown the impact that EERE funding and the proposed project would have on the relevant field and application.

The applicant has the qualifications, experience, capabilities and other resources necessary to complete the proposed project.

And the proposed work, if successfully accomplished, would clearly meet the objectives as stated in the FOA.

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SIPS applicants must submit an abbreviated concept paper submission. The submission is a resubmission of the Letter of Intent to EERE Exchange. The LOI must be submitted by the same concept paper deadline as for other topics, but no additional concept paper document is required. The SIPS application is due at the same time as the other full applications as well, but has different content requirements. And please see Section V.E of the FOA for details about these different requirements.

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So the full application includes:

- The Technical Volume: The key technical submission. The applicants submit info pertaining to the technical content, project team members, etc.
- The SF-424 Application for Federal Assistance: This is a formal application signed by the authorized representative of the applicant. It includes cost share amounts and federal certifications and insurances.
- A Summary Slide: A PowerPoint slide that provides quick facts about the technology. And the slide contents are provided in the FOA.
- Budget Justification, and subrecipient Budget Justification, if applicable.
- And then Administrative Documents: Such as: Disclosure of Lobbying Activities; FFRDC Authorization, if applicable; Waiver requests for Foreign Entities and Performance of work in the United States, if applicable.

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So the key technical component of the full application is the Technical Volume which help applicants frame the technical information that the application will be evaluated on. The technical volume

provides information requiring what the project is, how the projects tasks will be accomplished, and the project time table. The technical volume is comprised of:

- The Cover Page, which will be a 1 page document provides basic information on the project such as the title, the topic areas of contact.
- The Project Overview provides information on project background, goals, and active EERE funding. The technical description/ innovation/ impact section provides information on project relevance and outcomes, feasibility, innovations and impacts; this ultimately provides the justification as to why EERE should fund the project.
- And then the Summary, a Statement of Project Objectives, the SOPO; S-O-P-O or work plan details – the proposed milestones or project schedule. If elected for award negotiations, the work plan serves as the starting point when negotiating a statement of project objectives.
- The Technical Qualifications and Resources section provides applicants an opportunity to provide information about the proposed project team and demonstrated how the applicant will facilitate the successful completion of the proposed project.
- And Appendices as needed.

There are not strict page limits on sections to allow applicants the flexibility to structure the application in a way to best articulate the project and address the content requirements. The applicant should consider the weighting of each of the evaluation criteria. That's the section V.A (2) of the FOA when preparing the technical volume.

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Applicants must submit full applications by July 25, 2019. EERE will conduct an eligibility review and full applications will be deemed eligible if:

- The applicant is an eligible entity based on Section III.A of the FOA.
- The applicant has submitted an eligible concept paper.
- The cost share requirement is satisfied based on Section III.B of the FOA.
- The full application is compliant with III.C of the FOA.
- The proposed project is responsive to Section III.D of the FOA.
- And the full application meets any other eligibility requirements listed in Section III of the FOA.

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Multiple Applications. An entity may submit more than 1 Letter of Intent, Concept Paper, and Full Application to this FOA, provided that each application describes a unique, scientifically distinct project and provided that an eligible LOI and Concept Paper was submitted for each Full Application. Applicants may also submit multiple SIPS applications.

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For the Merit Review and Selection Process, the SIPS and Full Application, the Merit Review process consists of multiple phases that each include an eligibility review and a thorough technical review. Rigorous technical reviews are conducted by reviewers who are experts in the subject matter of the FOA. And ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions.

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Full and SIPS applications will be evaluated against the following merit review criteria:

Criterion 1: Innovation and Impact. Which is at 50 percent. The project is innovative and impactful, assuming that the stated outcomes can be achieved as written. The project is differentiated with respect to existing commercial products, solutions, or technologies. If successful, the project is scalable to have a broader impact and maintained at a sufficiently large scale after project completion.

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Criterion 2: The Quality and Likelihood of Completion of Stated Goals; this is at 30 percent. The application demonstrates an understanding and appreciation of project risks and challenges the proposed work will face and incorporates reasonable assumptions related to the execution of the project, that is market size, customer participation, costs, speed of proposed scale-up or adoption. The information included for the project is validated through customer trials, data from prior work, report references, technical baselines established, etc. The stated goals of the project are SMART – Specific, Measurable, Achievable, Relevant, and Timely – and likely to be accomplished within the scope of this project. The proposed budget is reasonable to achieve the objectives proposed.

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Criterion 3: Capability and Resources of the Applicant and Project Team, which is at 20 percent. The team is well qualified and has the capability and resources necessary to successfully complete the project. The team, including proposed subrecipients, have the training and experience to achieve the final results on time and to specification. The project team is fully assembled and committed to the project, verified through letters of support, and has a demonstrated record of successful past performance.

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The full applications are reviewed by in the FOA topic areas. After the experts review the applications EERE will provide applicants with reviewer comments. Applicants will have a brief opportunity to review the comments and prepare a short reply to reviewer comments; responding to the comments however they desire. The reply to reviewer comments is due by the date and time provided on this slide. Applicants should anticipate receiving the independent reviewer comments approximately 3 business days before this due date. The reply to reviewer comments is an optional submission; applicants are not required to submit a reply to reviewer comments. This is a customer centric process that provides applicants with the unique opportunity to correct misunderstandings and misinterpretations and to provide additional data that might influence the selection process in their favor. The replies are considered by the reviewers and the selection official.

The replies to reviewer comments must conform to the content in the form of the requirements listed here, including maximum page length. If a reply to reviewer comments is more than 3 pages in length, EERE will review only the first 3 pages and disregard any other additional pages. Please see Sections IV.F and V.A (3) for additional information regarding replies to reviewer comments.

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Selection Factors: The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA.

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After the merit review process, the Selection Official may consider program policy factors to come to a final selection decision. These can include:

- The degree to which the proposed project exhibits technological or programmatic diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA.
- The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives.
- The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers.
- Based on the commitments made in the U.S. Manufacturing Plan, the degree to which the proposed project is likely to lead to increased employment and manufacturing in the United States or provide other economic benefit to U.S. taxpayers.
- The degree to which the proposed project will accelerate transformational technological, financial, or other advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty.

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- The degree to which the proposed project, or group of projects, represent a desired geographic distribution - considering past awards and applications.
- The degree to which the proposed project avoids duplication and overlap with other publicly or privately funded work.
- The degree to which the proposed project enables new and expanding market segments.
  - The degree to which the project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer.

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There are several onetime actions – the registration’s requirement – before submitting an application or a response to this FOA and it’s vital that applicants address this items as soon as possible. Some may take several weeks and failure to complete them could interfere with an applicant’s ability to apply to this FOA or to meet the negotiation deadline and receive an award if the application’s selected.

So a DUNS Number: You’ll need to obtain a Dun and Bradstreet Data Universal Numbering System “DUNS” Number system for awards management. You need to register with the System for Award Management “SAM” – S-A-M – designating an electronic business point of contact - eBiz POC - and obtaining a special password called a MPIN are important steps in SAM registration. Please update your SAM registration annually. Then FedConnect, registering in FedConnect to create an organization account, your organization’s SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect “Ready, Set, Go!” guide at the FedConnect site.

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All required submissions must come through EERE Exchange. EERE will not review or consider applications submitted through any other means.

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So there are key submission points:

Check your entries in EERE Exchange. Submissions could be deemed ineligible due to an incorrect entry.

EERE strongly encourages Applicants to submit 1 – 2 days prior to the deadline to allow for a full upload of application documents and to avoid any potential technical glitches with EERE Exchange.

Make sure you hit the submit button. Any changes you made after you hit submit will un-submit your application and you will need to hit the submit button again.

For your records, print out the EERE Exchange Confirmation page at each step, which contains the application's Control Number.

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Applicant Points-of-Contact:

Applicants must designate primary and backup points-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations.

It is imperative that the Applicant/Selectee be responsive during award negotiations and meet negotiation deadlines. Failure to do so may result in cancellation of further award negotiations and rescission of the Selection.

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Questions:

Questions about this FOA? Email SETO.FOA – S-E-T-O-dot-F-O-A@ee.doe.gov.

All Q&As related to this FOA will be posted on the EERE Exchange. And you must select this FOA Number (DE-FOA-0002064) in order to view the Q&As. EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website.

Problems logging into EERE Exchange or uploading and submitting application documents with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov and include FOA name and number in subject line.

This is the end of the webinar. Thank you for joining us today.