**SETO FY21 PV and CSP Funding Opportunity Webinar – Text Version**

Here is the transcript for the video, "SETO FY21 PV and CSP Funding Opportunity," presented in April 2021 by the [Solar Energy Technologies Office](https://www.energy.gov/eere/solar/solar-energy-technologies-office) (SETO) of the U.S. Department of Energy.

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Anastasios Golnas:  
... at the U.S. Department of Energy. This webinar is being recorded and will be published on the EERE Funding Opportunity Exchange website. If you do not wish to have your voice recorded, please do not speak during the call. If you do not wish to have your image recorded, please turn off your camera or participate by phone. If you speak during the call or use a video connection, you are presumed to consent to recording and use of your voice or image. Please mute your phones and we will begin momentarily.

The Photovoltaics and Concentrating Solar Power Funding Program, issued by the Solar Energy Technologies Office, Fiscal Year 2021. The call number for the funding opportunity is DE-FOA-2378.

This webinar will provide an overview of the Department of Energy’s Solar Energy Technologies Office and our recently announced 2021 Funding Program for Photovoltaics and Concentrating Solar Power. All applicants are strongly encouraged to carefully read the funding opportunity announcement (FOA) DE-FOA-0002378 and adhere to the stated submission requirements. This presentation summarizes the contents of FOA. No new information on the FOA will be discussed in this webinar. 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. 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 by submitting questions to [PV.CSP.FOA@ee.doe.gov](mailto:PV.CSP.FOA@ee.doe.gov). Please use the chat feature of the Webex to ask questions or direct questions to [PV.CSP.FOA@ee.doe.gov](mailto:PV.CSP.FOA@ee.doe.gov). SETO will post answers to FOA-related questions on Exchange so everyone has equal access to the answers.

This slide shows the anticipated schedule for the FOA. The FOA has already been posted, and we are conducting the second FOA Informational Webinar now. We will cover all requirements for this FOA later in the presentation.

The agenda for this presentation is as follows: We'll start with the FOA Description. We'll cover the Topic Areas/Technical Areas of Interest. We'll cover the Teaming List. We'll discuss Diversity, Equity, and Inclusion aspects of the FOA. We'll discuss Award Information. Statement of Substantial Involvement. And then Cost Sharing, FOA Timeline, Concept Papers, Full Applications, Merit Review and Selection Process, and Registration Requirements. I will have my colleagues cover the second subject here, and as well my colleague Jeremey Mikrut will cover the topics 8, 9, 10, 11, and 12.

This funding opportunity announcement is being issued by the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy Solar Energy Technologies Office to invest in innovative research and development that will drive down costs and develop next-generation technologies ready for commercialization. The office supports solar energy research, development, demonstration, and technical assistance in five areas — photovoltaics; concentrating solar-thermal power; systems integration; manufacturing and competitiveness; and soft costs—to improve the affordability, reliability, and domestic benefit of solar technologies on the electric grid. Building a clean and equitable energy economy and addressing the climate crisis is a top priority of the Biden Administration. This FOA will advance the Biden Administration’s goals to achieve carbon pollution-free electricity by 2035 and to “deliver an equitable, clean energy future, and put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050” to the benefit of all Americans. The Department of Energy is committed to pushing the frontiers of science and engineering, catalyzing clean energy jobs through research, development, demonstration, and deployment, and ensuring environmental justice and inclusion of underserved communities.

In the next few slides, we will present the topic areas comprising this funding opportunity. I will now pass the baton to my colleague Allan Ward to present the first topic area. Allan.

Allan Ward:  
Thank-you, Tasios. My name is Allan Ward. I'm a member of the photovoltaics team at SETO, and I'll be presenting Topic 1, 50-Year Service Life PV Systems, or PV50 for short. This topic will support research projects to address PV balance of systems challenges with the goal of increasing useful system life to 50 years while lowering the cost of energy. The aim is to improve PV system components such as inverters, connectors, cables, racks, and trackers through data analysis, sensor development for data gathering, characterization, component hardware improvements, more efficient operations and maintenance (O&M) schedules, and increased durability. The figure above shows that a significant Levelized Cost of Electricity (LCOE) reduction of 40 percent can be achieved by addressing system-level costs.

This area of interest includes the mechanical and electrical structures and mechanisms of the PV plant on the DC side of the inverter, on-site metrology, and data subsystems. SETO is especially looking for technologies that address utility and commercial-industrial systems, because these systems are more likely to see value from a 50-year useful life. The desired outcomes are cost-effective, system-wide solutions that address multiple BoS, or balance-of-system, challenges. Successful applications to this topic will aim for a 50-year system service life and identify the impact of proposed balance-of-system hardware advances. Applicants must justify their proposed approach using data analysis, financial analysis, fielded deployment studies, published or original accelerated life studies, and fielded concept demonstrations. Applicants must also consider the path to commercial viability and justify that the proposed solution can provide a cost‐competitive PV balance-of-system technology. I'll now hand it off to my colleague Matt to present Topic 2.

Matthew Bauer:  
Thank-you, Allan and Tasios. This is Matthew Bauer, a technology manager for the Solar Energy Technologies Office, and I'll be presenting an overview of Topics 2 through 5 in this funding opportunity. Topic Area 2 is nicknamed SOLAR R&R, which stands for Scalable Outputs for Leveraging Advanced Research on Receivers and Reactors. This topic solicits projects to advance novel solar thermal receivers and solar thermal reactors that will enable new applications for concentrating solar power (CSP) systems, including higher-temperature power towers for higher-efficiency power cycles, solar reactors for thermochemical production of fuels and chemicals, or other solar process heat applications. This topic describes a tiered project structure and set of risk-retirement objectives to transition novel concepts to the 1-5 megawatts thermal-scale testing, with sufficient supporting information to enable commercial adoption and operation. Applicable projects could include direct solar reactors, where concentrated sunlight drives a chemical reaction without an intervening heat transfer medium; indirect solar reactors, where the solar energy is used to power a reactor that is separated from the receiver but connected via a CSP-relevant heat transfer media; or solar receivers, where concentrated sunlight provides energy at the appropriate conditions, particularly at temperatures appropriate for thermal energy storage for dispatchable electricity production. Next slide, please.

Projects funded under this topic will be required to generate appropriate foundational knowledge for their technology readiness level, demonstrated risk reduction, and forward-looking scalable designs. The framework of this topic creates a path to achieving a pinnacle 1-5 MWth testing showcase, as well as developing a detailed understanding of material and system properties, cost, manufacturability, operability, and other technical features to fully consider the benefits of the innovative system. These three SOLAR R&R tiers, summarized in this figure, will be funded independent of each other. Applicants may only apply to Tier 1 or Tier 2 at this time, as dictated by the maturity of the proposed technology. Tier 3 concepts are not solicited at this time but are anticipated for future solicitation, pending availability of future appropriations. Next slide, please.

Topic Area 3 is Pumped Thermal Energy Storage, or PTES. Projects in this topic area will advance PTES technologies that are able to use electricity to charge thermal energy storage, either as standalone systems or integrated with CSP plants. In particular, this topic area seeks to increase the Technology Readiness Level and Manufacturing Readiness Level of key PTES components, such as compressors and heat exchangers, to meet technoeconomic requirements for thermal energy storage. Possible PTES configurations include PTES using ideal gases like argon, possibly with hot and cold storage; PTES using real fluids like sCO2, using existing or new hot stores, with or without cold stores; and PTES using real fluids for subcritical or transcritical cycles. Both stand-alone PTES and PTES integration with CSP plants are of interest.

Specified development needs include: High temperature compressors with 565° Celsius output, greater than 85 percent isotropic efficiency and cost of less than 100 dollars per kilowatt electric. High temperature heat exchangers with effectiveness greater than 92 percent and a cost of less than 150 dollars per kilowatt thermal capital costs. Recuperators with effectiveness greater than 92 percent and costs less than 200 dollars per kilowatt electric. Heat rejection heat exchangers with effectiveness greater than 92 and cost less than 100 per kilowatt electric. And thermal energy storage with energetic efficiencies greater than 99 percent, exergetic efficiencies greater than 95 percent, and capital costs less than 15 dollars per kilowatt hour thermal. Next slide, please.

Overall PTES systems targets are defined in the FOA, but some key metrics include charging cycle efficiency, discharging cycle efficiency, a combined round trip efficiency, and the levelized cost of storage. Applicant are expected to describe target storage markets and metrics; focus on component development. Standalone PTES overall system goals and component development targets should use the suggested metrics and equations in the funding opportunity. Integration with existing CSP plants should describe how the proposed components will improve CSP plant value. Next slide, please.

Topic Area 4a is CSP PERFORM, which stands for Process Enhancement and Refinement for Operations, Reliability, and Maintenance. Nearly 7 GW of CSP has been deployed worldwide, with total capacity of installed plants increasing by almost six times from 2010 to 2019. The CSP industry has had opportunities to iteratively improve through multiple commercial deployment cycles. The CSP stakeholder community is now well-positioned to take stock of lessons learned, best practices, and priority areas for further technology development. To document this progress, SETO supported a consortium of researchers, led by the National Renewable Energy Laboratory, to publish the Concentrating Solar Power Best Practices Study in 2020, which is referenced at the bottom of this slide. This report solicited project information from owners, operators, and EPC contractors, independent engineers, and other stakeholders of parabolic trough and tower plants. The study resulted in the identification of best practices and lessons learned from the engineering, construction, commissioning, operations and maintenance of existing CSP systems. However, in several areas, it was not possible to identify industry-established best practices or opportunities to develop performance and cost enhancements over the current state of the art — equipment reliability, in particular. Topic 4 seeks solutions and improvements in system-level designs, processes, and models, for Topic Area 4a, and R&D in components that can improve performance and reliability of CSP plants, Topic Area 4b.

In particular, Topic Area 4a will focus on improving the reliability, operability, and productivity of systems, processes, and designs of existing CSP technologies. This topic area is intended to further develop and evaluate solutions to reliability and performance issues that have been identified in existing CSP plants. This slide highlights findings from the best practices report as areas which need further development. These opportunities for improved plant performance are further described in the FOA. Some highlighted areas include: CSP Plant Modeling and Data Sets, Salt Tank Design, Operations Training, Plant Automation and Controls, and Standards and Specifications. Diverse Project Team assuring costs and risks are balanced over entire lifecycle for value. Benefits CSP industry at large, but not a specific plant. Metrics show improvement from industry baselines such as reduced marginal (operating) costs, return on investment or payback period. Increased plant efficiency, plant availability, and reduced startup times. Improved ease of deployment, market versatility, or bankability. And lower barriers to the deployment of CSP in the United States. Next slide, please.

Topic Area 4b is Research in Equipment for Optimized and Reliable Machinery. CSP REFORM will focus on improving the design and operation of CSP plants by developing components and equipment for commercially relevant CSP systems that utilize conventional steam Rankine power cycles. Solutions proposed should be adoptable in existing commercial CSP plants. Several opportunities for improvement are discussed in the FOA, including thermal energy system improvement, steam generator system reliability, tower design and construction. Next slide, please.

Topic Area 5a and 5b are called Small Innovative Projects in Solar for PV and CSP respectively. These SIPS projects will focus on innovative and novel ideas in PV or CSP that are riskier than research ideas based on established technologies. All applications must describe the following: The current understanding of the novel science, technology, concept, or component. How successful research would change the state of the art and how it could impact key technoeconomic metrics. What new scientific or engineering understanding of the technology, concept, or component will result from the project. And the next appropriate research or development effort if the project is fully successful — for example, a prototype at a specific scale, component integration, a specified testing plan, or commercial integration. New principal investigators, especially early career researchers who have never applied or have never been awarded or have been awarded in SETO portfolio, are encouraged to apply. These waterfall charts show a pathway to their respective PV and CSP cost goals, are shown in the FOA, as well. For Topic Area 5b, all aspects of CSP plants with thermal energy storage as well as solar industrial process heat innovations are of interest. Next slide, please.

Process differences for SIPS are as follows. Due to the unique structure of the SIPS topic, the following items deviate from Topics 1-4: There is a unique submission location in eere-Exchange.energy.gov; specifically, it is at DE-TA5-0002378. There is no required concept paper, however, a letter of intent is still required. There is a reduced technical volume size of five pages of content; see the funding opportunity for more details. And there is no U.S. Manufacturing Plan requirement. However, items that fully align with other topics include the full application submission deadline, and all other application documents listed in section IV.E.i of the funding opportunity. With that, thank-you for listening, and I will return the floor to Tasios.

Anastasios Golnas:  
Thank-you, Matt. The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award: Applications that fall outside the technical parameters specified in Section I.A or I.B of the FOA, applications for proposed technologies that are not based on sound scientific principles, for example, they violate the law of thermodynamics.

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 on 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 evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List. In addition, EERE will not pay for the provision of any information, nor will it compensate any respondents for the development of such information.

It is the policy of the Biden Administration that: The federal government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our government. As part of this whole of government approach, this FOA seeks to encourage the participation of underserved communities and underrepresented groups. Applicants are highly encouraged to include individuals from groups historically underrepresented in STEM -- that's science, technology, engineering and mathematics -- on their project teams. Additionally, applicants are required to submit a DEI plan -- that's diversity, equity, inclusion -- that describes the actions the applicant will take to foster a welcoming and inclusive environment, support people from underrepresented groups in STEM, advance equity, and encourage the inclusion of individuals from these groups in the project; and the extent the project activities will be located in or benefit underserved communities (for more details, see Section IV.E.xiv of the FOA). The plan should include specific, measurable, assignable, realistic and time-related milestones supported by metrics to measure the success of the proposed actions. This plan will be evaluated as part of the technical review process.

EERE expects to make approximately $39.5 million of federal funding available for new awards under this FOA subject to the availability of appropriated funds. The average award amount is anticipated to range from $300,000 to $5 million. EERE intends to fund mostly cooperative agreements under this FOA, but may also fund grants, TIAs, Work Authorizations, and Interagency Agreements. TIAs are the technology investment agreements. Cooperative agreements include substantial involvement, which we will discuss next.

EERE has substantial involvement in work performed under cooperative agreement awards made following this FOA. EERE does not limit its involvement to the administrative requirements of the award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following: EERE shares responsibility with the recipient for the management, control, direction, and performance of the project. EERE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities. EERE may redirect or discontinue funding the project based on the outcome of EERE’s evaluation of the project at the go/no-go decision points. EERE participates in major project decision-making processes.

Cost share must be at least 20 percent of the total allowable costs for projects (or project activities) in research and development and education and outreach, and 50 percent of the total allowable costs for demonstration projects (or project activities) and must come from non-federal sources unless otherwise allowed by law. Below you see the cost share requirements applicable for each topic area. As you see, Topic Areas 1 through 4 can have a cost requirement from 20 or 50 percent depending on whether they're solely R&D and education and outreach, and 50 percent for those that have demonstration products. The SIPS projects are limited to a 20 percent cost share.

The total budget presented in the application must include both federal (that is from DOE), and non-federal (cost share) portions, thereby reflecting total project costs proposed. Contributions must be specified in the project budget. They must be verifiable from the prime recipient’s records. They must be necessary and reasonable for proper and efficient accomplishment of the project. If you are selected for award negotiations, every cost share contribution must be reviewed and approved in advance by the contracting officer and incorporated into the project budget before the expenditures are incurred. Please note, vendors/contractors may not provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

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 is imperative that you follow the applicable cost principles when creating your budget for the full application.

Cost share can be provided in cash and/or in-kind. It can be provided by the prime recipient, subs, or a third party. One note, as mentioned before: Vendors and contractors cannot provide cost share because that is considered a discount. Cash contributions include, but are not limited to personnel costs, fringe costs, supply and equipment costs, 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 is 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 the donation of space or use of equipment.

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 examples of cost share that are unallowable. For example, royalties or revenues from prospective operation of an activity beyond the project period, proceeds from the prospective sale of an asset of an activity, federal funding or property expenditures to invest under a separate federal technology office, the same cash or in-kind contributions for more than one possible program, and vendor or contractor contributions.

Cost share must be provided on an invoice basis, unless a waiver is requested and approved by the DOE contracting officer. Recipients must provide documentation of the cost share contribution, incrementally over the life of the award. The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated. In limited circumstances, and where it is in the government’s interest, the EERE contracting officer may approve a request by the prime recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.6 of the FOA for more details. And now I will pass the baton to my colleague Jeremey Mikrut, who will continue this presentation.

Jeremey Mikrut:  
Thanks, Tasios. Hi. My name is Jeremey Mikrut. I'm a technical project officer in the SETO office. I'll be covering the timeline, concept papers, full applications, merit review, and selection and registration requirements. On this particular slide here, we're looking at the FOA timeline. The expected timeframe for award negotiations -- um, I'm sorry, the letter of intent is due April 26. The concept paper is due April 27. But I would like to point out that concept papers are only due for Topic Areas 1 through 4. Full applications are due June 24, 2021. Reply to reviewer comments is due July 27, 2021, and notification of selection or non-selection is in late September. All submission deadlines are at 5 p.m. Eastern time on the date listed above. Applicants are strongly encouraged to submit the full application documents at least 48 hours in advance of the submission deadline. Negotiations are expected to occur between September 2021 and January 2022. Next slide, please.

Required letters of intent. Letters of intent will be used by EERE to plan the merit review process. In order to submit a concept paper and full application, applicants are required to submit a letter of intent. Letters of intent (or “LOIs”) are required in order to be eligible to submit a concept paper and full application. To be considered, the LOI must comply with the content and form requirements of Section IV.C of the FOA, and the applicant must enter all required information and click the “Create Submission” button in the EERE Funding Opportunity Exchange by the deadline stated in the FOA. The LOIs should not contain any proprietary or sensitive business information. EERE will not provide notification of eligibility for letters of intent. Next slide, please.

Concept papers are brief descriptions of the proposed project. It allows applicants to 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. If an applicant fails to submit an eligible concept paper, the applicant is not eligible to submit a full application. There is an exception for Topic Areas 5a and 5b, also known as SIPS. Applicants to Topic Areas 5a and 5b (SIPS) do not need to submit a concept paper. Applicants to Topic Areas 1-4 must submit a concept paper. Each concept paper must be limited to a single concept or technology. Section IV.D of the FOA states what information a concept paper should include and the page limits. Failure to include the required content could result in the concept paper receiving a “discouraged” determination or the concept paper could be found to be ineligible. Concept papers must be submitted by 4/27/2021, 5 p.m. ET, through the EERE Funding Opportunity Exchange. EERE provides applicants with: (1) an “encouraged” or (2) “discouraged” notification, and the reviewer comments. A “discouraged” notification conveys EERE’s lack of programmatic interest in the proposed project. An applicant who receives a “discouraged” notification may still submit a full application. Next slide, please.

Concept paper review. Concept paper criterion: Overall FOA Responsiveness and Viability of the Project. The weight is 100 percent. This criterion involves consideration of the following factors: 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. EERE will provide applicants with (1) either an “encouraged” or (2) “discouraged” notification, and the reviewer comments. Please note that regardless of the date applicants receive the encourage/discourage notifications, the submission deadline for the full application remains the date stated on the FOA cover page. Next slide, please.

Full applications. It consists of many documents that need to be submitted. One is the technical volume: The key technical submission. Applicants submit info pertaining to the technical content, project team members, etc. SF-424 Application for Federal Assistance: The formal application signed by the authorized representative of the applicant. Includes cost share amounts and federal certifications and assurances. SF-424A Budget and Budget Justification: Budget documents that asks applicants to submit a detailed budget and spend plan for the project. You'll also submit a Summary for Public Release: Applicants must provide a 1 page summary of their technology appropriate for public release. A Summary Slide: PowerPoint slide that provides quick facts about the technology. Slide content requirements are provided in the FOA. And then administrative documents; examples: U.S. Manufacturing Plan, FFRDC Authorization (if applicable), Disclosure of Lobbying Activities, Diversity, Equity, and Inclusion Plan, etc. Next slide, please.

Full applications technical volume content. The key technical component of the full application is the technical volume, which helps applicants frame the technical information that the application will be evaluated on. The technical volume provides information regarding what the project is, how the project tasks will be accomplished, and the project timetable. The technical volume is comprised of a cover page, project overview, technical description, innovation, and impact, summary SOPO, technical qualifications and resources. Please note that the percentages listed here are suggested and are not mandatory. The cover page will be a one-page document and provides basic information on their project, such as title, topic area, points of contact, etc. The project overview constitutes approximately 10 percent of the technical volume and provides information on project background, goals, impact of EERE funding. The Technical Description, Innovation, and Impact section is approximately 30 percent of the technical volume. It provides information on project relevance and outcomes, feasibility, and innovation/impacts. This ultimately provides the justification as to why EERE should fund the project. The Summary Statement of Project Objectives is the key element to the technical volume, and consists of approximately 40 percent of the Technical Volume. It details the proposed milestones and project schedule. If selected for award negotiations, the Summary Statement serves as the starting point when negotiating the SOPO. The Technical Qualifications and Resources section is approximately 20 percent of the Technical Volume. It provides applicants and opportunity to provide information about the proposed project team and demonstrate how the applicant will facilitate the successful completion of the proposed project. Next slide, please.

Full application eligibility requirements. As we previously pointed out, applicants must submit full applications by 6/24/2021. EERE will conduct an eligibility review, and full application will be deemed eligible if application is submitted by the due date. Full applications are eligible for review if the applicant is an eligible entity, the applicant submitted an eligible concept paper, the cost share requirement is satisfied, the full application is compliant, and the proposed project is responsive to the FOA. The full application meets any other eligibility requirements listed in Section III of the FOA. Next slide, please.

Who is eligible to apply? Eligible applicants for this FOA include: U.S. citizens and lawful U.S. permanent residents; for-profit entities; educational institutions; nonprofits; state, local, and tribal government entities; DOE/National Nuclear Security Administration (NNSA)/Federally Funded Research and Development Centers (FFRDCs). Eligibility Restrictions: For Topic Area 1, national labs/FFRDCs cannot be prime recipients. The scope of work performed by the prime recipient must represent the majority of the work performed (51 percent or more), as measured by the total project costs. Next slide.

Multiple applications. All topic areas: An entity may submit more than one concept paper and full application to this FOA, provided that each application describes a unique, scientifically distinct project and provided that an eligible concept paper was submitted for each full application. Next slide, please.

Merit review and selection process (full applications). The merit review process consists of multiple phases that each include an eligibility review and thorough technical review. Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA. Ultimately, the selection official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions. Next slide.

Technical merit review criteria. Criterion 1: Innovation and Impact (45 percent). The project is innovative and impactful, assuming 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. If and as applicable, the project offers broad and open access to its major data and software code products.

Criterion 2: Quality and Likelihood of Completion of Stated Goals (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 (i.e. market size, customer participation, costs, speed of proposed scale‐up or adoption). The information included for the project is validated through the 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. Next slide, please.

Criterion 3: Capability and Resources of the Applicant/Project Team (15 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. Next slide, please.

Criterion 4: Diversity, Equity, and Inclusion (10 percent). This criterion involves consideration of the quality and manner in which the measures incorporate diversity, equity and inclusion goals in the project; and the extent to which the project benefits underserved communities. Next slide, please.

Replies to reviewer comments. The full applications are reviewed by experts in the FOA topic area(s). After those 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 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 three 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 a customer-centric process that provides applicants with a 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. Replies to reviewer comments must conform to the content and form requirements listed here, including maximum page lengths. If a reply to reviewer comments is more than three pages in length, EERE will review only the first three pages and disregard any additional pages. Please see the FOA for additional information regarding replies to reviewer comments. Next slide, please.

Pre-selection interviews. As part of the merit review process, EERE may invite certain applicants to participate in pre-selection interviews. The invited applicants will meet with EERE representatives to provide clarification on the contents of the full applications and to provide EERE an opportunity to ask questions regarding the proposed project. The information provided by applicants to EERE through pre-selection interviews contributes to EERE’s selection decisions. The pre-selection interviews often take place in person at EERE’s offices. For some FOAs, EERE will conduct the interviews at a different location or conducts the interviews through a one-on-one conference with EERE via webinar, videoconference, or conference call. If EERE conducts pre-selection interviews for the FOA, EERE will notify the invited applicants and provide more details about the format for the interviews for this FOA at that time. EERE will not reimburse applicants for travel and other expenses relating to pre-selection interviews, nor will these costs be eligible for reimbursement as pre-award costs. EERE may select applications for funding and make awards without pre-selection interviews. Participation in pre-selection interviews with EERE does not signify that applicants have been selected for award negotiations. Next slide, please.

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. Next slide, please.

After the merit review process, the selection official may consider program policy factors to come to a final selection decision. Which includes 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; the degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty; 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; 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 project improves resilience of critical infrastructure; and the degree to which the applicant team's drive, knowledge, and diverse experience provide a strong competitive edge and instill confidence that they meet the objectives of this FOA. Next slide.

Additional program policy factors include: the degree to which the proposed project exhibits team member diversity, equity, and inclusion elements, with participants including but not limited to those from Minority Serving Institutions (or other examples are Historically Black Colleges and Universities/Other Minority Institutions), Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or members within underserved communities; and the degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications). The degree to which the proposed project avoids duplication/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’s solution or strategy will maximize deployment or replication. And the last program policy factor is the degree to which the project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer.

Oh, there's more program policy factors, but this is specific to Topic Area 5: The degree to which the proposed project exhibits technological 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. The degree to which the proposed project is likely to lead to increased employment and manufacturing in the United States. And the degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty. Next slide, please.

Additional program policy factors for Topic Area 5 include: The degree to which the proposed project exhibits team member diversity, equity, and inclusion elements, with participants including but not limited to those from Minority Serving Institutions (Historically Black Colleges and Universities/Other Minority Institutions), Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or members within underserved communities. The degree to which the proposed project collectively represents diverse types and sizes of applicant organizations. And the degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications). Next slide, please.

Registration requirements. There are several one-time actions before submitting an application in response to this FOA, and it is vital that the applicants address these 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 meet the negotiation deadlines and receive an award if the application is selected. DUNS Number: Obtain a Dun and Bradstreet Data Universal Numbering System, also known as a DUNS number. Register with the System for Award Management, also known as SAM. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually. FedConnect: Register 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. And then Grants.gov: Register in Grants.gov to receive automatic updates when Amendments to this FOA are posted. However, please note that letters of intent, concept papers, and full applications will not be accepted through Grants.gov. Next slide, please.

Means of submission. All required submissions must come through the EERE Funding Opportunity Exchange. Note that EERE Funding Opportunity Exchange works best with the Google Chrome browser. EERE will not review or consider applications submitted through any other means. Next slide.

Key submission points. Check entries in the EERE Funding Opportunity Exchange. Submissions could be deemed ineligible due to an incorrect entry. EERE strongly encourages applicants to submit one to two days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with the EERE Funding Opportunity Exchange. Make sure you hit the "Submit" button. Any changes 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 Funding Opportunity Exchange confirmation page at each step, which contains the application’s control number. Next slide.

Applicant points of contact. Applicants must designate a technical and business point-of-contact in the EERE Funding Opportunity 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. Next slide, please.

Questions. Questions about this FOA? Email the PV.CSP.FOA@ee.doe.gov email address. All Q&As related to this FOA will be posted in the EERE Funding Opportunity Exchange. To view Q&As, select your FOA from the opportunities page. You will see “FOA Q&A” in the DOCUMENTS section. EERE will attempt to respond to a question within 3 business days, unless a similar Q&A is already posted on the website. Problems logging into or uploading and submitting application documents within the EERE Funding Opportunity Exchange, you'll email EERE-ExchangeSupport@hq.doe.gov. Include FOA name and number in subject line. All questions asked during this presentation will be posted in the EERE Funding Opportunity Exchange.

This concludes the presentation. Thank-you for your attention. We look forward to your submissions.