



**SunShot Technology to Market (Incubator
Program Round 12, SolarMat Program
Round 5)**

SunShot. T2M@ee.doe.gov

**FOA Webinar
DE-FOA-0001640
11/22/16**

DE-FOA-0001640
SunShot Technology to Market

Anticipated Schedule:

| | |
|---|-------------|
| FOA Issue Date: | 11/14/16 |
| Submission Deadline for Letter of Intent (Optional): | 11/28/16 |
| FOA Informational Webinar: | 11/22/16 |
| Submission Deadline for Concept Papers: | 12/12/16 |
| Submission Deadline for Full Applications: | 2/21/17 |
| Submission Deadline for Replies to Reviewer Comments: | 3/30/17 |
| Expected Date for EERE Selection Notifications: | June 2017 |
| Expected Timeframe for Award Negotiations: | August 2017 |

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0001640 (**“FOA”**) and adhere to the stated submission requirements.
- This presentation summarizes the contents of FOA. 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.
- If you believe there is an inconsistency, please contact SunShot.T2M@ee.doe.gov

Agenda

- 1) FOA Description
- 2) Topic Areas/Technical Areas of Interest
- 3) Award Information
- 4) Statement of Substantial Involvement
- 5) Cost Sharing
- 6) Pre-Selection Interviews
- 7) Letters of Intent
- 8) Concept Papers
- 9) Full Applications
- 10) Merit Review and Selection Process
- 11) Registration Requirements

FOA Description

The mission of the Solar Energy Technology Office's Tech-to-Market sub-program is to enable the widespread market penetration of highly impactful solar technologies and solutions through technology research, development and demonstration to overcome technical, institutional and market challenges. The FOA is divided into Tiers that are based on the technology type, hardware or software, as well as its stage in the development cycle, e.g. prototype refinement, manufacturing tooling, beta testing, etc. In addition to achieving rigorous technical milestones, awardees are expected to deliver on business development and commercial metrics that de-risk the technology/solution and enable its progression to the next phase of commercial development. Successful awardees will be well positioned for investment from the private sector and have a path to market impact.

Topic Areas/Technical Areas of Interest

This funding program is OPEN to any for-profit business product or solution which directly and significantly impacts at least one of the following SETO goals:

1. Achieve the SunShot Initiative goal ahead of the 2020 cost target of \$0.06/kWh. Preferably, solutions should enable \$0.03/kWh by 2030.
2. Expand domestic solar manufacturing and supply chain to be commensurate with the level of domestic deployment.
3. Expand the domestic market for solar to be a significant fraction (tens of percents) of our nation's electricity generating capacity.
4. Enable the integration of hundreds of GW of solar on the nation's grid.

See Section I.B for further information

Non-Responsive Applications

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.C of the FOA, including but not limited to :

- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).
- Business plans or proofs-of-concepts that do not include documentation of market research and/or experience to support and prove the necessity of the plan or concept should not apply to this FOA. Market segment and competitors in this market segment should be clearly defined in your application.
- Undifferentiated products: This FOA seeks innovative solutions that enable the SunShot Initiative's aggressive goals. Evolutionary advancement of undifferentiated or duplicative products is insufficient to meet SunShot goals and is not of interest to this FOA.

Non-Responsive Applications (continued)

- Projects lacking influential impact from federal funds: This FOA intends to fund projects where federal funds will provide a clear and measurable impact, (e.g. retiring risk sufficiently for follow-on investment or catalyzing development.) Projects that have sufficient monies and resources to be executed regardless of federal funds are not of interest.
- Re-funding the same idea at the same technology readiness level: This FOA does not intend to re-fund prior SunShot awardees for the same idea at the same technology readiness level. Previous awardees can apply with the same idea at an increased technology readiness level or a new idea.
- Entities which require continued support: This funding opportunity seeks to assist the creation of independent businesses which can fully support themselves and continue to grow. This opportunity is not intended for creating a product, organization, service, or other entity or item which requires continued government support to operate.
- Applications focusing exclusively on HVAC and water heating applications are not of interest.
- Products or solutions for systems which do not tie to the grid (i.e. wholly off-grid applications and portable power).
- Fundamental battery/storage materials research – SETO is not able to fund storage materials research.

Award Information

| | |
|------------------------------------|---|
| Total Amount to be Awarded* | \$30,000,000 |
| Average Award Amount | EERE anticipates making awards that range from \$300,000 to \$5,000,000 |
| Types of Funding Agreements | Cooperative Agreements, Grants, Technology Investment Agreements, Work Authorizations, and Interagency Agreements |
| Period of Performance | Up to 24 months |
| Cost Share Requirement | 20% or 50% of Total Project Costs depending on Topic Area |

*Subject to the availability of appropriated funds

Statement of Substantial Involvement

EERE has substantial involvement in work performed under 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 that the Go/No Go decision point.
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

The percentage of total project costs required as cost share is dependent upon the Topic Area (“Tier”) in which the application is submitted.

| Tier | Technology Type | Cost Share* | Available Federal Funding |
|------|---------------------|-------------|---------------------------|
| 0 | Hardware | 20% | Up to \$1M |
| 1 | Hardware | 20% | Up to \$2M |
| 2 | Hardware | 50% | Up to \$3M |
| 3 | Hardware | 50% | Up to \$5M |
| 1S | Soft Cost/ Software | 20% | Up to \$800k |
| 2S | Soft Cost/ Software | 50% | Up to \$2M |

*Please refer to Appendix A of the FOA for more details on Cost Share calculations

Cost Share Contributions

- Contributions must be:
 - Specified in the project budget
 - Verifiable from the Prime Recipient's records
 - Necessary and reasonable for proper and efficient accomplishment of the project
- 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

Allowable Cost Share

- Cost Share must be allowable and must be verifiable upon submission of the Full Application
- Refer to the following applicable Federal cost principles:

| Entity | Cost Principles |
|--------------------------------|--|
| For-profit entities | FAR Part 31 |
| All other non-federal entities | 2 CFR Part 200 Subpart E - Cost Principles |

Allowable Cost Share

- Cash Contributions
 - May be provided by the Prime Recipient, Subrecipients, or a Third Party
- In-Kind Contributions
 - Can include, but are not limited to: personnel costs, indirect costs, facilities and administrative costs, rental value of buildings or equipment, and the value of a service, other resource, or third party in-kind contribution

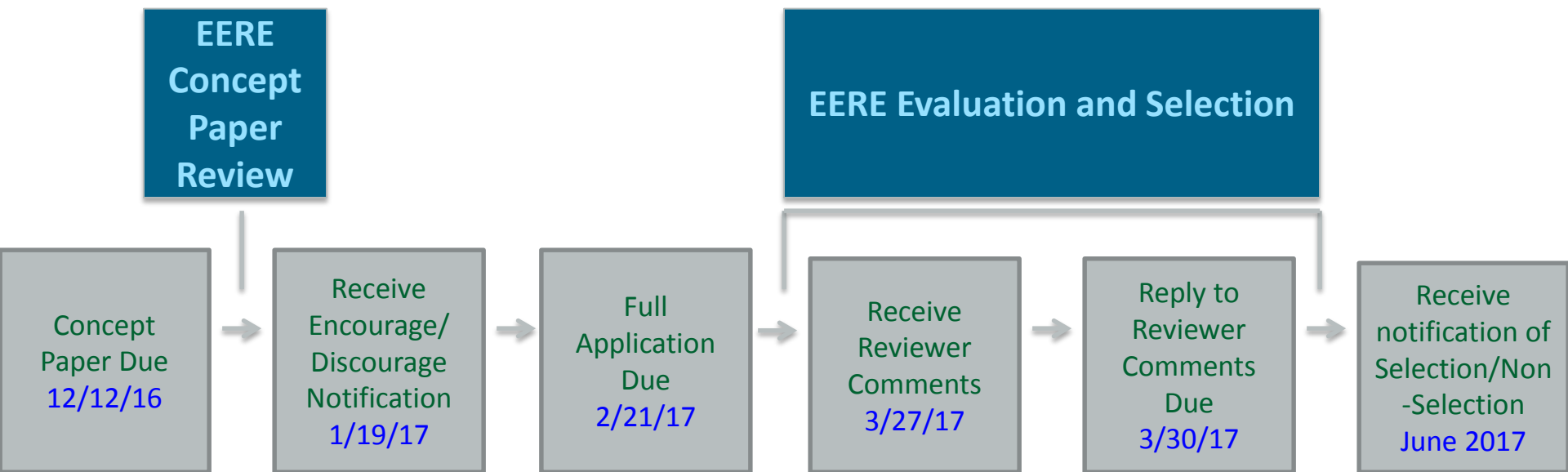
Unallowable Cost Share

- The Prime Recipient may not use the following sources to meet its cost share obligations including, but not limited to:
 - Revenues or royalties from the 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 reimbursed under a separate Federal Technology Office
 - Independent research and development (IR&D) funds
 - The same cash or in-kind contributions for more than one project or program

Cost Share Payment

- 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 of the FOA.

FOA Timeline



EERE anticipates making awards by August 2017

Pre-Selection Interviews

- EERE may invite one or more applicants to participate in Pre-Selection Interviews
- All interviews will be conducted in the same format
- EERE will not reimburse applicants for travel and other expenses relating to the Pre-Selection Interviews, nor will these costs be eligible for reimbursement as pre-award costs
- Participation in Pre-Selection Interviews with EERE does not signify that applicants have been selected for award negotiations

Letters of Intent

- Letters of Intent (“LOIs”) are encouraged, but not mandatory
- The LOIs should not contain any proprietary or sensitive business information
- EERE will not provide notification of acceptance for Letters of Intent
- LOIs should be submitted to SunShot.T2M@ee.doe.gov by November 28, 2017 at 5:00 PM ET

Concept Papers

- Applicants must submit a Concept Paper
 - Each Concept Paper must be limited to a single concept or technology
- The Concept Paper must include a technology description (See Section IV.C of the FOA)
 - The technology description is limited to 5 pages
 - The Concept Paper can also include graphs, charts, or other data (limited to 1 page)
- Concept Papers must be submitted by December 12, 2017 at 5:00 PM ET through EERE Exchange, and must comply with the content and form requirements in Section IV.C of the FOA
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments

Concept Paper Review

EERE evaluates the Concept Papers based on the following technical review criteria:

Criterion 1: Innovation & Impact (50%)

- **Mission** – Extent to which this project will enable the achievement of SETO goals as described in areas of interest in the FOA
- **Innovation** - Extent to which the proposed product represents a significant market improvement with respect to existing commercial products or solutions.
- **Market Impact** –
 - Extent to which the proposed technology will result in a commercially successful product and company.
 - Extent to which the project will result in either a product or solution that transforms or replaces existing industry approaches or a new product or solution that can be widely used by the existing industry and represents a significant improvement of industry approaches (an improvement leveraged across the entire industry can be as valuable as a new transformational standalone product).

Concept Paper Review (continued)

EERE evaluates the Concept Papers based on the following technical review criteria:

Criterion 2: Project Feasibility and Team (50%)

- **Team** - The extent to which the capability of the Principal Investigator(s) and the proposed team, including sub-recipients and partnerships, can address all aspects of the proposed project with a good chance of success, including, but not limited to, qualifications, relevant expertise, and time commitment of the individuals on the team.
- **Plan** - Adequacy, value, and reasonableness of the schedule and quality of the plan to achieve stated project outcomes, while identifying and addressing the expected barriers and risks.
- **Measurable goals** - Extent to which the proposed activities in the proposal are validated through explicitly stated measurable milestones

Full Applications

- The Full Application includes:
 - **Technical Volume:** The key technical submission - info relating 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.
 - **SF-424A Budget & Budget Justification:** a detailed budget and spend plan for the project.
 - **Summary Slide**
 - **Administrative Documents:** E.g., U.S. Manufacturing Plan, FFRDC Authorization (if applicable), Disclosure of Lobbying Activities, etc

Full Applications: Technical Volume Content

- **Technical Volume: the key technical component of the Full Application**

| Content of Technical Volume | Suggested % of Technical Volume |
|--|---------------------------------|
| Cover Page | 5% (1 page) |
| Project Overview | 10% |
| Technical Description, Innovation and Impact | 25% |
| Workplan | 30% |
| Commercialization Plan | 20% |
| Technical Qualifications and Resources | 10% |

Full Application Eligibility Requirements

- Applicants must submit a Full Application by February 21, 2017 at 5:00 PM ET
- Full Applications are eligible for review if:
 - The Applicant is an eligible entity Section III.A of FOA;
 - The Applicant submitted an eligible Concept Paper;
 - The Cost Share requirement is satisfied Section III.B of FOA;
 - The Full Application is compliant Section III.C of FOA; and
 - The proposed project is responsive to the FOA Section III.D of FOA
 - Limit of one application per topic area. Only the most recent, timely application will be considered if multiples are submitted to the same topic area.
 - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Who's Eligible to Apply?

This FOA has restricted eligibility requirements to the following entities:

- Standalone Applicants: Only for-profit entities are eligible to apply for funding as Standalone Applicants.
- Project Teams: Only project teams led by for-profit businesses are eligible to apply for funding. The for-profit business designated as the Prime Recipient must incur at least 60% of expenditures under the project, as measured by the Total Project Cost. Expenditures incurred for the use of facilities including laboratories, and fees paid to vendors by the Prime Recipient count towards the Prime Recipient's expenditure under the award. A standalone applicant is an applicant that applies for funding on its own, rather than being part of a Project Team
 - Individuals, For-Profits, Non-Profits, Universities and National Labs can be sub-recipients on awards.

Multiple Applications

Applicants may submit one application (Concept Paper/Full Application) to each topic area of this FOA

If an applicant submits more than one application to the same topic area, EERE will only consider the last timely submission for evaluation.

Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an initial eligibility review and a 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

Technical Merit Review Criteria

Criterion 1: Technical Merit, Innovation, and Impact

| | | | | |
|------------------|---------------|-------------------|-------------------|---------------|
| <i>Weighting</i> | Tier 0 | Tier 1, 1S | Tier 2, 2S | Tier 3 |
| | 40% | 30% | 25% | |

Technical Merit and Innovation

- Extent to which the proposed technology or process is innovative and has the potential to advance the state of the art and enable the achievement of SunShot goals;
- Degree to which the current state of the technology and the proposed advancement are clearly described;
- Extent to which the application specifically and convincingly demonstrates how the applicant will move the state of the art to the proposed advancement; and
- Sufficiency of technical detail in the application to assess whether the proposed work is scientifically meritorious and revolutionary, including relevant data, calculations, and discussion of prior work in the literature with analysis that supports the viability of the proposed work.

Impact of Technology Advancement

- How the project supports the topic area objectives and target specifications and metrics; and
- The potential impact of the project on advancing the state of the art.

Technical Merit Review Criteria - Continued

Criterion 2: Project Plan and Risk Identification

| <i>Weighting</i> | Tier 0 | Tier 1 | Tier 2 | Tier 3 |
|------------------|---------------|---------------|---------------|---------------|
| | 25% | | | |

Research Approach, Workplan and SOPO

- Degree to which the approach and critical path have been clearly described and thoughtfully considered; and
- Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.

Identification of Technical Risks

- Extent to which applicant discusses and demonstrates understanding of the key technical and commercial risks involved in the proposed work. Hardware applications must include manufacturing risks; and
- Adequacy, specificity, and reasonableness of the schedule and plan and degree to which it convincingly conveys how the applicant will move the technology from its current state to the proposed advancement.

Baseline, Metrics, and Deliverables

- The level of clarity in the definition of the baseline, metrics, and milestones; and
- Relative to a clearly defined experimental baseline, the strength of the quantifiable metrics, milestones, and mid-point deliverables defined in the application, such that meaningful interim progress will be made.

Technical Merit Review Criteria - Continued

Criterion 3: Team and Resources

Weighting

| Tier 0 | Tier 1 | Tier 2 | Tier 3 |
|--------|--------|--------|--------|
| 25% | | | |

- The capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work with a good chance of success. Qualifications, relevant expertise, and time commitment of the individuals on the team;
- The sufficiency of the facilities to support the work;
- Degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further development and commercial deployment of the proposed technologies;
- Extent to which the final team, facilities and equipment required to complete this project is fully in place, assembled and committed to the project (e.g., are there any key members that are “to be hired at a later date?”);
- Level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and
- Reasonableness of budget and spend plan for proposed project and objectives.

Technical Merit Review Criteria - Continued

Criterion 4: - US Manufacturing and/or Commercialization Strategy

| | | | | |
|------------------|---------------|-------------------|-------------------|---------------|
| <i>Weighting</i> | Tier 0 | Tier 1, 1S | Tier 2, 2S | Tier 3 |
| | 10% | 20% | 25% | |

- **Contribution to Domestic Manufacturing** [applications to hardware Topics 0, 1, 2, and 3 only]: Extent to which the project will strengthen the competitiveness of domestic PV manufacturing and/or supply chain as demonstrated in the U.S. Manufacturing Plan and the commercialization plan; likelihood of the proposed technology achieving best-in-class cost when implemented at its intended scale; and extent to which those expectations are supported by a realistic, factually based, financially sound implementation approach.
- **Quality and reasonableness** – Quality and reasonableness of the Applicant’s business plan for market penetration/adoption and the associated assumptions used to form the business strategy (e.g., market research, analysis, and assessment; competitive analysis of firms and products; identified product specifications).
- **Viability** - Strength of business plan, including customer letters of intent, current sales and identification of commercialization pathways. Identification of realistic target market(s), discussion of competitive advantage, and the clarity of the business strategy in identifying market objectives (segment, price, volume/size, region, etc.) and that these objectives are aligned with the Applicant’s capabilities and resources; and
- **Capitalization** - Adequacy of the plan to secure the required funding for the project costs, including the strength of financial commitments made to the project and clarity of the capital plan for commercialization as well as anticipated funds required to commercialize/publicly release the proposed project or solution.

Replies to Reviewer Comments

- EERE provides applicants with reviewer comments
- Applicants are not required to submit a Reply - it is optional
- To be considered by EERE, a Reply must be submitted by March 30, 2017 at 5:00 PM ET and submitted through EERE Exchange
- Content and form requirements:

| Section | Page Limit | Description |
|----------|-------------|--|
| Text | 2 pages max | Applicants may respond to one or more reviewer comments or supplement their Full Application. |
| Optional | 1 page max | Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable. |

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

Program Policy Factors

The Selection Official may consider the following program policy factors in making his/her selection decisions (Section V.C):

- The degree to which the proposed project, including proposed cost shares, optimizes the use of available EERE funding to achieve programmatic objectives;
- The level of industry involvement and demonstrated ability to commercialize energy or related technologies;
- Whether the proposed project is likely to lead to increased employment and manufacturing in the United States;
- The degree to which the proposed project directly addresses EERE's statutory mission and strategic goals;
- The degree to which there is portfolio diversity associated with time to market and/or development of pipeline;
- The degree to which there is diversity of technologies, approaches, methods, and institutions (including the degree to which proposed technologies, approaches, and methods would be complementary to and support a diversity of geographic locations and of technical approaches and methods that, in conjunction with the existing portfolio of projects funded by EERE, best achieve the overall goals and objectives of the Solar Energy Technologies Office);

Program Policy Factors (cont'd)

The Selection Official may consider the following program policy factors in making his/her selection decisions (Section V.C):

- Whether 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; and
- Whether the applicant is a Climate Action Champion designated under DOE's Request for Applications DE-FOA-0001189 (RFA) or the applicant has a letter of support from a Climate Action Champion designated under the above referenced RFA.

Registration Requirements

- To apply to this FOA, Applicants must register with and submit application materials through EERE Exchange: <https://eere-Exchange.energy.gov>
- Obtain a “control number” at least 24 hours before the first submission deadline
- Although not required to submit an Application, the following registrations must be complete to received an award under this FOA:

| Registration Requirement | Website |
|--------------------------|---|
| DUNS Number | http://fedgov.dnb.com/webform |
| SAM | https://www.sam.gov |
| FedConnect | https://www.fedconnect.net |
| Grants.gov | http://www.grants.gov |

Means of Submission

- Letters of Intent should be sent to SunShot.T2M@ee.doe.gov
- Concept Papers, Full Applications, and Replies to Reviewer Comments must be submitted through EERE Exchange at <https://eere-Exchange.energy.gov>
 - EERE will not review or consider applications submitted through other means
- The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements can be found at <https://eere-Exchange.energy.gov/Manuals.aspx>

Key Submission Points

- Check 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 full upload of application documents and to avoid any potential technical glitches with EERE 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 Exchange Confirmation page at each step, which contains the application's Control Number

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

Questions

- Questions about this FOA? Email SunShot.T2M@ee.doe.gov
 - All Q&As related to this FOA will be posted on EERE Exchange
 - You must select this specific FOA Number 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](mailto:EERE-ExchangeSupport@hq.doe.gov).
 - Include FOA name and number in subject line
- All questions asked during this presentation will be posted on EERE Exchange

SunShot 2030 Goals Webinar

Tuesday, December 6 @ 12:00 PM EST

An overview of the SunShot 2030 Goals and what it means for the solar industry and future funding opportunities.



Register now: bit.ly/SunShot2030Goals