



**SUNSHOT TECHNOLOGY TO MARKET
(INCUBATOR ROUND 11, SOLARMAT ROUND 4)**
SunShot.T2M@ee.doe.gov for FOA Questions

**FOA Webinar
DE-FOA-0001400
10/28/2015**

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0001400 (“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.

About This Presentation:

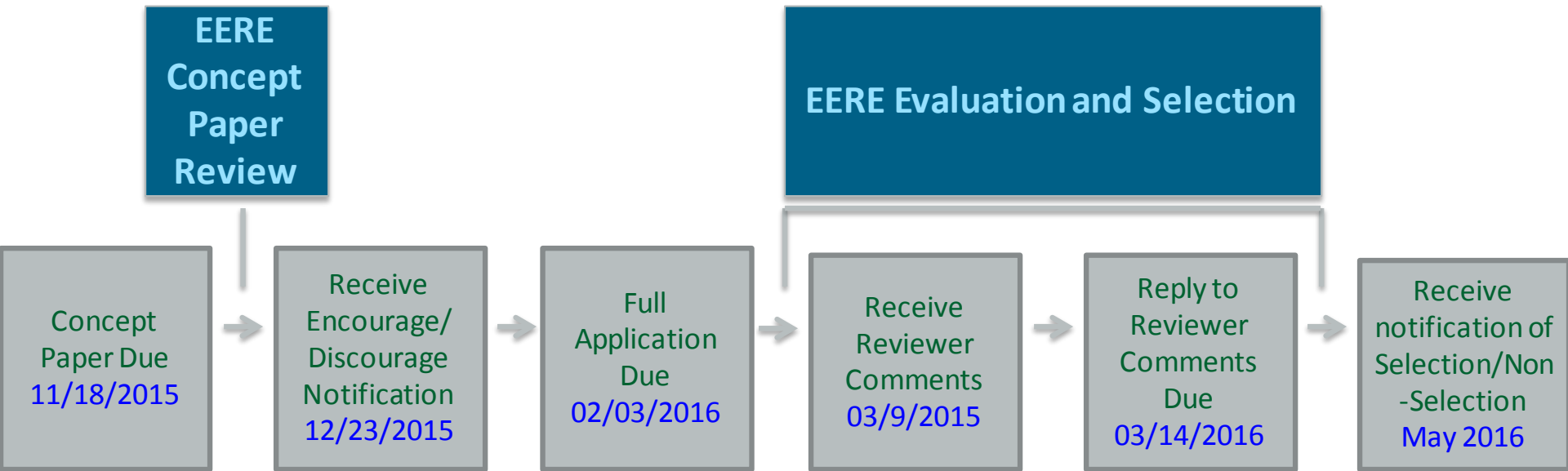
- We will not be recording this webinar
- Slides and script will be posted to EERE Exchange
- All questions submitted during this presentation will be answered in written form and posted to EERE Exchange
 - Please be patient, this will be done as fast as possible

DE-FOA-0001400
SunShot Technology to Market
(Incubator Round 11, SolarMat Round 4)

Anticipated Schedule:

FOA Issue Date:	09/15/2015
Submission Deadline for optional Letter of Intent:	11/02/2015, 3:00pm ET
Concept Paper Informational Webinar:	10/28/2015, 3:00pm ET
Submission Deadline for Concept Papers:	11/18/2015, 3:00pm ET
Full Application Informational Webinar	01/06/2016, 3:00pm ET
Submission Deadline for Full Applications:	02/03/2016, 3:00pm ET
Expected Submission Deadline for Replies to Reviewer Comments:	03/14/2016, 3:00pm ET
Expected Date for EERE Selection Notifications:	May 2016
Expected Timeframe for Award Negotiations	May-August 2016

FOA Timeline



EERE anticipates making awards by August 2016

Agenda

- 1) Award Information
- 2) FOA Description and Eligibility Criteria
- 3) FOA Tiers
- 4) Statement of Substantial Involvement
- 5) Letters of Intent
- 6) Concept Papers
- 7) Concept Paper Submission
- 8) FAQ

Award Information

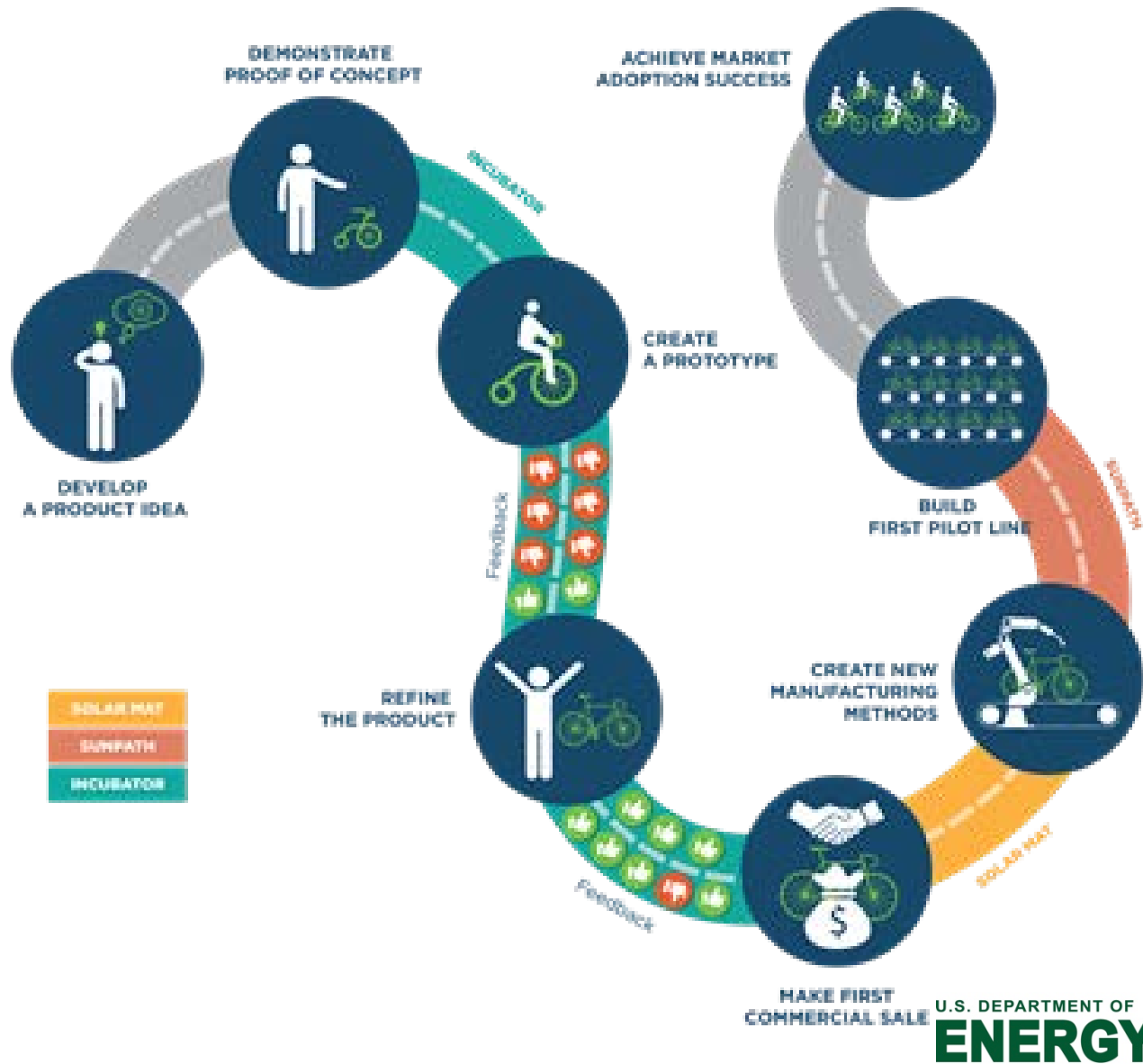
Total Amount to be Awarded	\$30 million
Average Award Amount	EERE anticipates making awards that range from \$500,000 to \$5 Million.
Types of Funding Agreements	Cooperative Agreements
Period of Performance	Up to 24 months
Cost Share Requirement	20-50% of Total Project Costs depending on Tier

*Subject to the availability of appropriated funds

FOA Description

- This funding program combines two funding programs into one:
 - SunShot Incubator Program Round 11,
 - SolarMat Round 4
- These programs have occurred annually in the past (combined for the first time last year)
- T2M intends to reopen this funding program for new applications in:
 - Q4 (Oct-Dec) 2016 and Q4 2017 (subject to availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority).

FOA Description- Continued



FOA Description- Continued

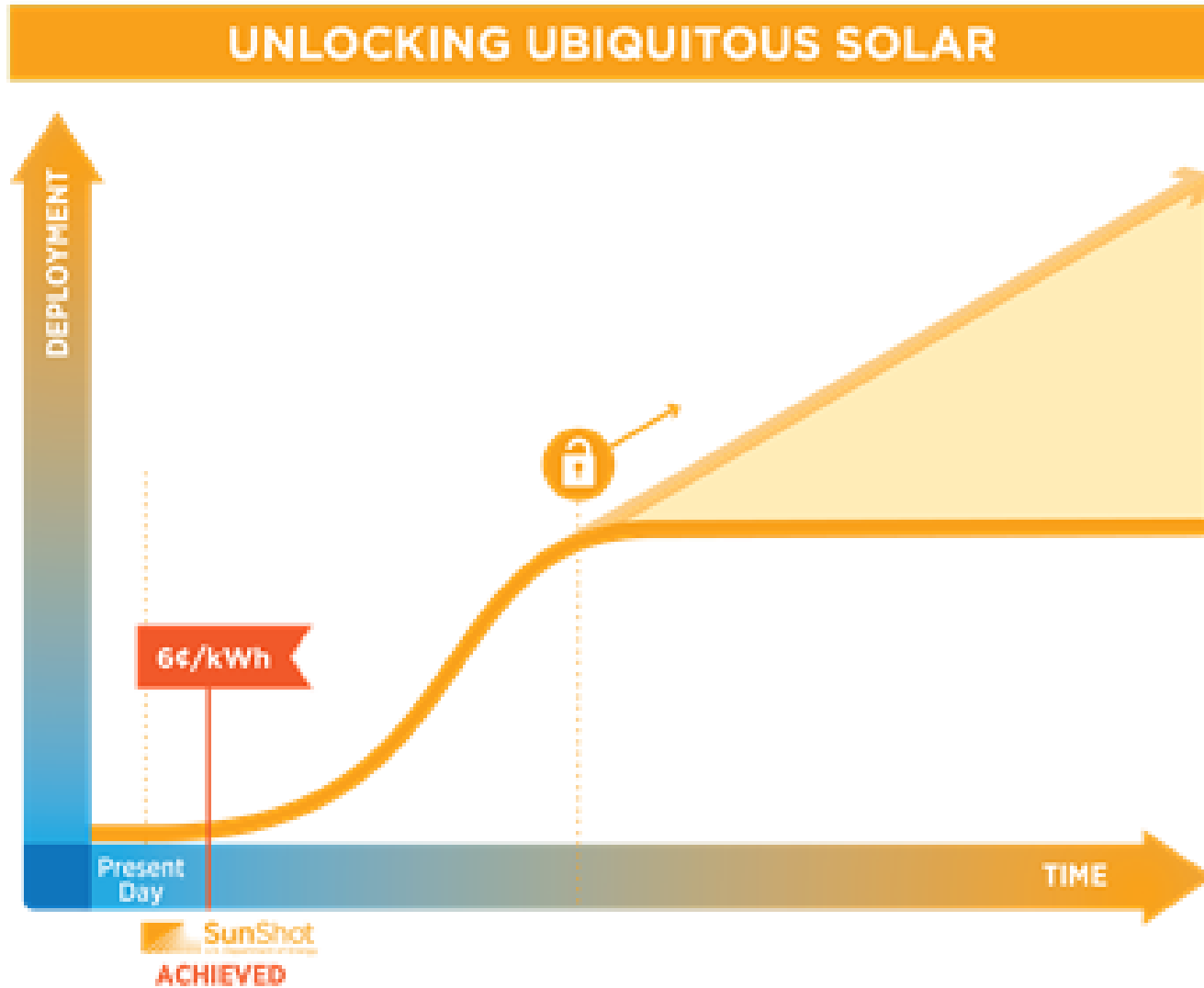
- The purpose of this funding program is to help remove technical and market barriers that are addressable by **technology and business innovation**.
- These solutions cover hardware innovation and manufacturing, software, cost-reductions throughout the value chain, and non-cost (capability) related solutions.
- These solutions are expected to **aid in achieving a ubiquitous solar energy solution** and provide a clear path for these highly impactful technologies and solutions to rapidly reach market success.

FOA Description- Continued

This funding program seeks to fund innovations that drive significant improvements in two primary ways:

1. Radical breakthroughs that result in disruptive industry solutions (Figure 2a, in FOA); and/or
2. Major (not minor/incremental) improvements to components that affect the solar system cost structure (Figure 2b, in FOA).

FOA Description - Continued



Who's Eligible to Apply?

Eligible applicants for this FOA include:

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 counts towards the Prime Recipient's expenditure under the award.

For more detail about each eligible applicant, please see Section III.A of the FOA for eligibility requirements

1. Individuals
2. Domestic Entities
3. Foreign Entities
4. Incorporated Consortia
5. Unincorporated Consortia

Topic Areas/Technical Areas of Interest

Hardware

Design

- Energy conversion efficiency
- Use of lower cost materials
- Materials requirements
- Size / Weight
- Complexity
- Durability/Lifetime
- Standardization
- Alternative form factor
- Ease of Use/Install
- Reduced O&M
- BIPV/BAPV

Manufacturing, Construction, and Operation

- Robotics for installation (assistance or full automation)
- Mobile/in-field manufacturing
- Product performance, reliability, and durability
- Throughput
- Yield
- Bill-of-materials
- Process simplification, optimization, and/or repeatability
- Capital expense (e.g. reduced processing steps, in-line/continuous processing)
- In-line metrology

Monitoring and testing

- Mean time between failure
- Guaranteed performance
- Degradation rate
- Failure Prediction

Grid Integration

- PV and load shifting/integration
- PV integration with DC electric vehicle charging systems
- Frequency and Voltage Regulation
- Storage (distribution level and behind the meter) controls and integration
- Microgrid management
- Dynamic Controls to Aid Overall Grid Stability
- Communications
- High Power Density Power Electronics

- **Automation (where applicable) to any of the above**

Topic Areas/Technical Areas of Interest- Continued

Non-Hardware (Soft Costs)	
Customer Acquisition	Financing and Contracting
<ul style="list-style-type: none"> • Customer and site identification • Sales calls and site visits • Bid preparation and phantom bids • Billing and collecting payments • Addressing tenant/landlord split incentive 	<ul style="list-style-type: none"> • Cost of capital • Legal agreement structuring, standards and templates (RFPs, PPAs, etc.) • Incentive application processing • Increasing access for new customer classes • Secondary markets • Asset Management
Permitting, Inspection, Interconnection	Installation and Performance
<ul style="list-style-type: none"> • Permitting, inspection, and interconnection times and expenses • Utility interconnection expenses • Feasibility assessment • Crew and truck inefficiencies • Standardization • Decision support 	<ul style="list-style-type: none"> • Service (Operations & Maintenance) • Installation labor • Labor skill level • System design optimization • Change order reduction • Data acquisition • Monetizing value of data assets • Fleet Management
Utility focused IT, Software, Platforms for:	
<ul style="list-style-type: none"> • Customer engagement • Utility data visualization/analytics for visibility, intelligence, and/or planning(e.g. distributed solar aggregation and control) • Forecast of System Output (all timescales) 	<ul style="list-style-type: none"> • Shared solar project development and management • Communications • Demand response • Load management • Modernized utility billing software systems
<ul style="list-style-type: none"> • Automation of any of the above 	

Areas Specifically Not of Interest

- **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 not of interest to this FOA.
- 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.

Areas Specifically Not of Interest, Continued

- **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.
- **HVAC and water heating applications.**
- 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.**

FOA Tiers

This FOA will be separated into Tiers based on the stage and type of technology development:

Hardware Tiers:

- **Tier 0:** SunShot Incubator Program Round 11, **20% cost share, up to \$500k in funding, up to 12 month project periods** - Accelerate transition from a proof-of-concept of all critical components to an early stage functional prototype.
- **Tier 1:** SunShot Incubator Program Round 11, **20% cost share, up to \$1M in funding, up to 12 month project period**- Accelerate transition of an early stage functional prototype to a lab made, manufacturing- and commercially-relevant prototype whose full functionality has been proven in all possible commercial use cases.
- **Tier 2:** SunShot Incubator Program Round 11, **50% cost share, up to \$2M in funding, up to 18 months project periods** – Accelerate transition of a lab made, manufacturing- and commercially-relevant prototype to a full developed prototype whose initial reliability and certification testing has been passed and is ready to begin/develop pilot manufacture.

FOA Tiers- Continued

- Tier 3: Solar Manufacturing Technology (SolarMat) Round 3, **50% cost share, up to \$5M in funding, up to 24 month project periods** - Develop and demonstrate innovative manufacturing technology, step process(es), or equipment that enable a globally best-in-class cost advantage.

Soft Cost (Non-Hardware) Tiers:

- Tier 1S: SunShot Incubator Round 11, **20% cost share, up to \$500k in funding, 12 month project periods** - Accelerate the transition of a proof-of-concept solution or business plan to alpha capability and early customer trials.
- Tier 2S: SunShot Incubator program Round 11, **50% cost share, up to \$2M in funding, 18 month project periods** - Transition alpha capability through beta launch and full commercialization.

Multiple Applications

Prime Applicants may only submit one Full Application for each tier (Tier 0, Tier 1, Tier 2, Tier 3, Tier 1S, and Tier 2S) of this FOA.

- **Each application must be for different and distinct products, processes, and/or technologies.** Further, each application must be its own unique, stand-alone project with no interdependencies on other applications. If an applicant submits more than one Full Application to the same tier, EERE will only consider the last timely submission for evaluation.
- Any other submissions received listing the same applicant for the same topic area will be considered noncompliant and not eligible for further consideration. This limitation does not prohibit an applicant from collaborating on other applications (e.g., as a potential Subrecipient or partner) so long as the entity is only listed as the Prime Applicant on one Full Application per tier submitted under this FOA.

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 Performance Metrics at that the Go/No Go decision point.

Statement of Substantial Involvement - Continued

- EERE participates in major project decision-making processes.
- EERE conducting site visits as required to: participate in recipient “Kick-off Meetings”, gain clearer understanding of problems or issues, observe testing, meet with stakeholders/attend public meetings, verify equipment installations, validate reported progress, review confidential/proprietary information, participate in progress and cost/financial reviews and conduct structured project review per programmatic direction
- EERE promoting and facilitating technology transfer activities, including disseminating program results through presentations and publications.
- The Recipient must adhere to EERE technical direction and comply with agency-specific and programmatic requirements.

Letters of Intent

- Letters of Intent (“LOIs”) are **NOT REQUIRED** in order to be eligible to submit a Concept Paper and Full Application
 - Used by SETO for review planning purposes
- The LOI must comply with the content and form requirements of Section IV.B.1 of the FOA, and
- The applicant must enter all required information and click the “Create Submission” button in EERE 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 acceptance for Letters of Intent

Concept Papers

- The Concept Paper is REQUIRED and:
 - Must be limited to a single concept or technology
 - Must include 1 Cover page, 4 page Project Description, 1 Page Letter(s) of Support, 1 Summary Slide
 - Must be submitted by 11/18/2015, 3:00pm ET, through EERE Exchange
- Use the checklist provided in the FOA to ensure compliance.
- See Section IV.C of the FOA for details
- EERE provides applicants with: (1) an “encouraged” or “discouraged” notification, and (2) the reviewer comments

Focus on Performance Metrics and SunShot Goals

- How the target outcomes support the SunShot Initiative goal in \$/W and/or LCOE.
- High-level vision for performance metrics. Describe what will be produced, when it will be produced, and how it will be verified. Start by defining the baseline capability and end project performance metric in quantifiable/verifiable terms. Then fill in interim performance metrics.

Concept Paper Review

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

- **Criterion 1: Innovation & Impact (50%)** This criterion involves consideration of the following factors:
 - **Mission** – Extent to which this project will enable the achievement of SETO goals as described in areas of interest
 - **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

EERE evaluates the Concept Papers based on the following technical review criteria (cont'd):

- **Criterion 2: Project Feasibility and Team (50%)** This criterion involves consideration of the following factors:
 - **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 mid-project and final deliverables.

What does Encouraged/Discouraged mean?

- Encouraged
 - Concept Paper contained elements of interest to the program
 - Does not have an impact on selection
- Discouraged
 - Applicants may apply, but are discouraged from doing so as DOE intends to convey its lack of programmatic interest in the proposed project
 - Discouraged assessments do not necessarily reflect judgments on the merits of the proposed project

Means of Submission

- Letters of Intent, 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 investigator and business points-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations
 - *These should not be the same person, unless absolutely necessary*

FAQ- Cost Sharing Requirements

- Tier 0, Tier 1, and Tier 1S awards: The minimum cost share requirement is greater than or equal to 20% of the Total Project Cost.
- Tier 2, Tier 2S, and Tier 3 awards: The minimum cost share requirement is greater than or equal to 50% of the Total Project Cost.
- Cost share is calculated with the following formula:

$$\text{Awardee cost share}\% = \frac{\text{Awardee contribution}}{\text{DOE contribution} + \text{Awardee contribution}}$$

FAQ – Proprietary/Confidential information

- The DOE does not release proprietary/Confidential information
- The header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure.”
- Every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked using double brackets i.e. [[text]]
- **DO NOT use highlighting**, it is very difficult to read many applications marked using highlighting.
- You will be contacted in the event of a FOIA request and be allowed to redact proprietary material.

FAQ – Software

The award will include the terms of the government licenses. Specifically, the award will contain the following government license for the subject inventions: “With respect to any subject invention in which the Recipient retains title, the Federal Government shall have a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the U.S. the subject invention throughout the world.” In addition to a government purpose license for any subject invention under award, the government will also have a license to any copyrighted software developed under the award. The award will contain the following license: “For such copyrighted data, including computer software, the Recipient grants to the Government, and others acting on its behalf, a paid-up nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government.”

While the Solar Program will retain the right to request any data, including software, generated under the awards, it does not intend to take possession of or request delivery of any software developed under the awards. In the event software developed under an award was delivered to DOE, an awardee may mark the software as protected. As will be set forth in the awards, an awardee may mark software a “protected data” and DOE will agree not to disclose, publish or disseminate outside the Government for 5-years.

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.
 - Include FOA name and number in subject line
- All questions asked during this presentation and these slides will be posted on EERE Exchange