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CALIFORNIA ENERGY COMMISSION

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Request for Information Solar on Uneven Terrain Docket # 23-ERDD-01 Due Date: July 8, 2024

The California Energy Commission (CEC) is releasing this Request for Information (RFI) to gather information on needed research to reduce costs and decrease environmental impacts for installation and operations and maintenance (O&M) of solar photovoltaic (PV) systems on uneven terrain. Responses to this RFI may inform a future grant funding opportunity addressing the [Electric Program Investment Charge \(EPIC\) 2021-2025 Investment Plan](https://www.energy.ca.gov/publications/2021/electric-program-investment-charge-proposed-2021-2025-investment-plan-epic-4) (<https://www.energy.ca.gov/publications/2021/electric-program-investment-charge-proposed-2021-2025-investment-plan-epic-4>) Initiative 3 "Emerging Solar Energy Technologies."

Stakeholders and any interested members of the public are encouraged to respond to the specific questions they feel most suit their knowledge and background.

1. Technology innovations needed to expand solar PV deployment on uneven terrain may include: 1) non-intrusive mounting options for slopes, grades, and hills; 2) improved preliminary site surveying and topographic data collection methods optimized for uneven terrain; and 3) artificial intelligence, remote monitoring, or predictive maintenance software applications designed to reduce the cost of solar PV O&M on slopes. To what extent would advancing these technology areas expand cost-effective solar PV deployment on uneven terrain? Which of these areas is most crucial to advance the industry? Which could result in California ratepayer benefits?
2. In addition to the examples listed in Question #1, are there other novel technologies (including software and hardware) needed to facilitate field installation and/or O&M of solar PV on uneven terrain in California? How can research and development (R&D) funding be most effectively applied to help increase deployments of solar PV on uneven terrain in California?
3. What novel technologies for solar PV on uneven terrain have been successfully demonstrated at a Technology Readiness Level (TRL) of 4, 5, or 6? Are there examples of lab-scale projects that may be ready for pilot demonstration testing?

4. Should EPIC funds be used for projects optimized for utility-scale (>5 megawatts alternating current (MW_{AC})) or a smaller scale (e.g., community solar)? With limited funding, what scale would be more impactful to Californians in terms of cost savings, environmental benefits, and/or community benefits?
5. What factors or metrics for installation and/or O&M for solar PV on uneven terrain should be prioritized when determining the feasibility of siting in California?
6. What key supply chain and manufacturing technologies or capabilities are needed in-state and/or nationally to lower the cost of installation and O&M of solar PV on uneven terrain in California?
7. What technologies or processes can monitor the condition and performance of solar PV panels sited on uneven terrain? What additional O&M needs are necessary?
8. For technology developers or others with responsive information: what is the range of estimated project costs for lab-scale and demonstration-scale projects that could help your technology reach the >5 MWAC utility-scale in the next 3-6 years? What is the approximate number of acres/MW needed for such a pilot project?
9. Are there any other questions or information the CEC should consider for research on PV installation and O&M on uneven terrain that is not otherwise covered by the questions above?

How to Provide Information

Respondents to this RFI should not include any proprietary or confidential information. Comments must be submitted by 5:00 p.m. on July 8, 2024, using the [e-commenting feature](https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=23-ERDD-01) (<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=23-ERDD-01>) to submit to [Docket 23-ERDD-01](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-ERDD-01) (<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-ERDD-01>).

To use the e-commenting system, respondents will be asked for a full name, email address, comment title, and either a comment or an attached document (.doc, .docx, or .pdf format). After a challenge-response test is used by the system to ensure that responses are generated by a human user and not a computer, click on the "Agree & Submit Your Comment" button to submit the information to the CEC's Docket Unit.

Written comments, attachments, and associated contact information included within the documents and attachments will become part of the viewable public record and searchable on the internet.

Interested stakeholders are encouraged to use the electronic filing system described above to submit information. If you are unable to submit electronically, a paper copy of your information may be sent to:

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 23-ERDD-01
715 P Street
Sacramento, CA 95814-5512

Alternatively, you may email responses to doCKET@energy.ca.gov with the subject line "23-ERDD-01: RFI Solar on Uneven Terrain"..