

DOCKETED	
Docket Number:	23-ERDD-01
Project Title:	Electric Program Investment Charge (EPIC)
TN #:	253364
Document Title:	Notice of Staff Workshop Funding to Advance the Environmental Sustainability of the Clean Energy Transition (Enviro-SET)
Description:	N/A
Filer:	Archal Naidu
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	11/29/2023 9:50:38 AM
Docketed Date:	11/29/2023

CALIFORNIA ENERGY COMMISSION

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CEC-70 (Revised 7/22)

**IN THE MATTER OF:**

*Staff Workshop Regarding Advancing
the Environmental Sustainability of the
Clean Energy Transition*

DOCKET NO. 23-ERDD-01

NOTICE OF REMOTE-ACCESS
WORKSHOP

RE: Request for Comments on Forthcoming
Solicitation Regarding Advancing the
Environmental Sustainability of the Clean
Energy Transition (Enviro-SET)

Notice of Staff Workshop: Funding to Advance the Environmental Sustainability of the Clean Energy Transition (Enviro-SET)

Wednesday, December 13, 2023

10:00 a.m. –12:00 p.m.

Remote Access Only

See Attendance Instructions.

The California Energy Commission (CEC) will host a remote-access workshop to seek public comment on an anticipated research solicitation to help California achieve an environmentally sustainable clean energy transition. The solicitation proposes to monitor environmental and land use changes in response to solar expansion, assess wildlife risk from renewable energy generation and the built environment, and find mitigation solutions to these risks.

The public can participate in the remote staff-workshop consistent with the attendance instructions below. The CEC aims to begin promptly at the start time posted, and the end time is an estimate based on the proposed agenda. The workshop may end sooner or later than the posted end time.

Agenda

CEC staff will present preliminary ideas for research topics related to environmental sustainability of the clean energy transition and then seek input from researchers, state agencies, investor-owned utilities (IOUs), industry leaders, government agencies, and interested members of the public to inform the scope of an anticipated solicitation. The preliminary research topics are tentatively grouped in five areas:

1. Automated mapping of solar footprints and mapping areas suitable for agrivoltaics.
2. Assessing, monitoring, or mitigating the environmental and biological resource impacts of clean energy deployments.
3. Testing bird-friendly windows for decarbonized buildings.

4. Identifying biologically appropriate exterior lighting.
5. Advancing a clean energy circular economy.

The workshop will introduce staff's initial ideas on the scope and focus of the proposed solicitation, planned for release in the second quarter of 2024. Staff will invite participants to discuss posed questions and offer suggestions for consideration before staff refines the anticipated solicitation's focus and scope. There will also be a public comment period.

Background

The proposed research solicitation will contribute to implementation of the Electric Program Investment Charge (EPIC) 2021-2025 Investment Plan and responds to the Strategic Objective Initiative 45, "Advancing the Environmental Sustainability of Energy Deployments". The specific backgrounds for the five topics proposed follow.

Group 1. Automated mapping of solar footprints and mapping areas suitable for dual use purposes. To meet the renewable and zero-carbon goals set forth by Senate Bill (SB) 100 (De León, Chapter 312, Statutes of 2018)¹, by 2045, there is an anticipated rapid expansion of clean energy technologies requiring significant land use change. The *2021 SB 100 Joint Agency Report* recommends an analysis of the projected land and sea-use impacts of SB 100 scenarios and opportunities to reduce environmental impacts. Expanding automated mapping tools that track solar footprints would be valuable for monitoring land use change and the potential impacts of that change, while surveying for suitability of dual usage purposes (e.g., development of agrivoltaics to minimize loss of usable farmland).

Group 2. Assessing, monitoring, or mitigating the environmental and biological resource impacts of clean energy deployment. The magnitude and direction of the environmental effects associated with low carbon energy resources are often not well known, because the technologies are relatively new, evolving rapidly, and deployed in new landscapes. To achieve the state's SB 100 goals, regulators, energy planners, permitting agencies, energy developers, and other stakeholders need best-available science on the potential risks to wildlife and plant communities and how those risks can be mitigated. The lack of robust science can lead to delays or denials of new projects. The research topic provides an opportunity to proactively fill critical knowledge gaps in environmental and biological realms to enable achieving clean energy buildout goals.

Group 3. Testing bird-friendly windows for decarbonized buildings. Windows are one of the leading causes of premature bird deaths, with estimates of hundreds of millions of birds killed annually in North America, predominately at low rise and residential

¹ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100

buildings.² There is a growing movement to reduce bird collisions with the built environment's windows by adding visual cues to the exterior glass:

- The California Building Standard's Commission adopted new voluntary regulations in 2023 on bird-friendly building designs in the California Green Building Standards Code (part 11, Title 24 section A5.107), which specify types of treatments and conditions for bird-friendly mitigation strategies.³
- The U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) program also adopted a pilot credit for reducing bird collisions with windows under LEED Pilot Credit 55.

Independently, window technology has rapidly evolved in many directions in the effort to decarbonize buildings, such as the application of photovoltaic films or thermal insulation approaches.⁴ There exists an opportunity for interdisciplinary, systems engineering research to investigate the potential to simultaneously decarbonize buildings and reduce bird fatalities.

Group 4. Identifying biologically appropriate exterior lighting. California's Title 24 building standards have accelerated the deployment of light-emitting diode (LED) lighting for exterior settings, which has significantly reduced electricity loads and costs. Furthermore, in 2022, Assembly Bill 38⁵ was introduced to control artificial light at night (ALAN) pollution's deleterious effects on wildlife and humans. Initial studies on the biological consequences of nighttime LED lighting have shown that there may be serious biological effects on wildlife, such as birds, bats, and insects, that have not been adequately researched. Preliminary results suggest that these effects might be mitigated by limiting the spectral range of ALAN or implementing stronger controls on the duration and intensity for "biologically appropriate lighting". Expanding studies on the specific effects of LED lighting on wildlife and possible mitigation alternatives would help support both environmental and energy efficiency goals.

Group 5. Clean energy circular economy. As the renewable energy generation industry expands to meet state goals set forth by SB 100, there will be an associated significant increase in clean technology equipment demand together with unprecedented volumes of mined and processed virgin materials, which could lead to limited resource availability and supply chain concerns. In addition, the growing volumes of retired renewable energy equipment replaced by higher-performing newer technologies could, in turn, lead to waste management challenges and environmental concerns. There are many research opportunities to broaden the clean energy circular economy (for example in solar, wind, and

² Loss, S.R., Will, T., Loss, S.S. and Marra, P.P., 2014. Bird–building collisions in the United States: Estimates of annual mortality and species vulnerability. *The Condor*, 116(1), pp.8-23.

³ The new Natural Resources Agency building in Sacramento has bird-friendly design elements on its windows.

⁴ Achieving window decarbonization objectives is an active area of technology research within EPIC (e.g., EPC-20-014, EPC-20-032, EPC-21-027, and EPC-22-011).

⁵ <https://legiscan.com/CA/text/AB38/id/2831745>

geothermal fields), complementing EPIC's existing investments in building a circular battery economy.

Attendance Instructions

Remote participants may join via Zoom by internet or phone.

- **To join via Zoom.** Click on <https://energy.zoom.us/j/89441073757?pwd=VDdwU3hOSUlyck91T0R6MzFmTzhLdz09> or navigate to <https://join.zoom.us/> and enter the Webinar ID 894 4107 3757 and passcode **enviroset** and follow all prompts.
- **To join by telephone.** Call toll-free at (888) 475-4499 or toll at (669) 219-2599. When prompted, enter the Webinar ID 894 4107 3757.

Zoom Closed Captioning Service. At the bottom of the screen, click the Live Transcript CC icon and choose "Show Subtitle" or "View Full Transcript" from the pop-up menu. To stop closed captioning, close the "Live Transcript" or select "Hide Subtitle" from the pop-up menu. If joining by phone, closed captioning is automatic and cannot be turned off. While closed captioning is available in real-time, it can include errors.

Zoom Difficulty. Contact Zoom at (888) 799-9666 ext. 2, or the CEC Public Advisor at publicadvisor@energy.ca.gov, or by phone at (916) 957-7910.

Public Comment.

The CEC encourages the use of its electronic commenting system. Visit the e-commenting page for this docket **23-ERDD-01** at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-ERDD-01>. Enter your contact information and a subject title that describes your comment. Comments may be included in the "Comment Text" box or attached as a downloadable, searchable document in Microsoft® Word or Adobe® Acrobat®. The maximum file size allowed is 10 MB.

Oral comments will be accepted at the end of the workshop. Comments may be limited to three minutes or less per speaker and one person per organization. To comment via Zoom, use the "raise hand" feature so the administrator can announce your name and unmute you. To comment via telephone, press *9 to "raise your hand" and *6 to mute/unmute.

Written comments may be submitted to the Docket Unit by 5:00 p.m. on December 29, 2023. Written and oral comments, attachments, and associated contact information (including address, phone number, and email address) will become part of the public record of this proceeding with access available via any internet search engine. Written comments may also be submitted by email. Include docket number 23-ERDD-01 and "Advancing the Environmental Sustainability of the Clean Energy Transition" in the subject line and email to docket@energy.ca.gov.

A paper copy may be mailed to:
California Energy Commission
Docket Unit, MS-4

Docket No. 23-ERDD-01
715 P Street
Sacramento, California 95814

Public Advisor. The CEC's Public Advisor assists the public with participation in CEC proceedings. To request assistance, interpreting services, or reasonable modifications and accommodations, call (916) 957-7910 or email publicadvisor@energy.ca.gov as soon as possible but at least five days in advance of the workshop. The CEC will work diligently to meet all requests based on availability.

Media Inquiries. Email mediaoffice@energy.ca.gov or call (916) 654-4989.

Technical Subject Inquiries. Email David Stoms at David.stoms@energy.ca.gov or call (916) 776-0813.

General Inquiries: Email Julia Harnad at Julia.harnad@energy.ca.gov or call (916) 477-1302.

Availability of Documents: Documents and presentations for this meeting will be available at [23-ERDD-01](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-ERDD-01), at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-ERDD-01>.

When new information is posted, an email will be sent to those subscribed to the following list servers: EPIC, Research, Energy Research and Development, Wind Energy and Avian Mortality, Renewable Energy for Agriculture Program, Building Energy Efficiency Standards, Efficiency Topics, Geothermal Energy, and Opportunity. To receive these notices or notices of other email subscription topics, visit [Subscriptions](https://www.energy.ca.gov/subscriptions), at <https://www.energy.ca.gov/subscriptions>.

Dated: November 29, 2023, at Sacramento, California.

Jonah Steinbuck
Director of the Energy Research and Development Division

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