

DOCKETED

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CEC-70 (Revised 7/22)

*IN THE MATTER OF:**Grid Modernization Research*

DOCKET NO. 23-ERDD-01

NOTICE OF REMOTE-ACCESS
WORKSHOPRE: Grid Modernization Research Scoping
Workshop**Notice of Grid Modernization Research Scoping Workshop**
July 21, 2023

9:30 a.m. – 12:00 p.m.

Remote Access Only

See Attendance Instructions.

The California Energy Commission (CEC) will host a staff workshop to present and solicit feedback on proposed grid modernization research funding concepts as part of administering the 2021-2025 Electric Program Investment Charge (EPIC) Program (EPIC 4 Investment Plan¹). Input received on the funding concepts will inform the development of future solicitations.

The public can participate in the 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

This workshop will introduce potential grid modernization research funding concepts from the EPIC 4 Investment Plan and provide an update on the latest efforts and outlook from stakeholders including grid operators, utilities, and research institutes. The CEC plans to do the following at the workshop:

¹ Lew, Virginia, Anthony Ng, Mike Petouhoff, Jonah Steinbuck, Erik Stokes, and Misa Werner. 2021. The Electric Program Investment Charge Proposed 2021–2025 Investment Plan: EPIC 4 Investment Plan. California Energy Commission. Publication Number: CEC-500-2021-048-CMF.

<https://www.energy.ca.gov/publications/2021/electric-program-investment-charge-proposed-2021-2025-investment-plan-epic-4>

- Present the general purpose and draft concepts of a future CEC grant funding opportunity (GFO) titled “Accelerating Grid Modernization Research for Building a Future-Ready Grid.”
- Present research needs, plans, and lessons learned from stakeholders.
- Offer stakeholders, experts, and the public the opportunity to provide their input on research priorities, technology barriers, performance metrics, value propositions, and infrastructure considerations necessary to achieve Senate Bill 100 (De León, Chapter 312, Statutes of 2018)² (SB 100) clean electricity goals.

A detailed workshop agenda will be posted prior to the workshop at <https://www.energy.ca.gov/events>.

Background

Achieving the goals of SB 100 will necessitate technological advancements in both renewable energy generation and the electric grid infrastructure itself. This includes transmission and distribution line networks, substations, and the equipment that connects customers to generation resources. It is crucial to address the potential challenges arising from growing deployments of variable inverter-based generation, new load from transportation and building electrification, and changing patterns in grid operation.

The CEC’s EPIC Program invests approximately \$130 million annually into scientific and technological research to accelerate the transformation of the electricity sector to meet the state’s energy and climate goals. The EPIC 4 Investment Plan supports technology advancements to reduce grid congestion, maintain system reliability, and increase flexibility as more renewables, storage, and distributed energy resources (DER) are added to the grid. One notable research area is developing and demonstrating intelligent sensors and control systems that can significantly improve situational awareness for both transmission and distribution grid operators. Moreover, implementing flexible power electronic devices in substations and power lines can enable efficient power conversions and better control over power flow while maintaining optimal power quality. Furthermore, in managing the growing number of DER installations and the variability of bulk power resources, it is essential to have data-driven tools that are cyber-secure and resilient. These tools play a pivotal role in effectively managing and recovering from emergency events, ensuring the reliable and secure operation of the grid.

The EPIC 4 Investment Plan includes three topics under the Grid Modernization research initiative:

- Topic 10: Technology Demonstrations to Address Grid Congestion in a Decarbonized California
- Topic 11: Demonstrate Technologies to Maintain Reliability and Power Quality in the Inverter-centric Grid of the Future

² [Bill Text - SB-100 California Renewables Portfolio Standard Program: emissions of greenhouse gases.](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100)
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100

- Topic 12: Furthering Cybersecurity with Highly Modulatable Grid Resources

CEC staff is seeking input from stakeholders to inform the development of a future solicitation. Specifically, staff seeks responses and comments to the following questions:

- What specific research gaps or technology advancements should be prioritized to enhance grid reliability, resiliency, and flexibility to meet SB100 goals?
- What target metrics can be used to assess the efficacy of grid modernization technologies in mitigating grid congestion, ensuring system reliability, and enhancing operational flexibility?
- Are there developed technologies or lessons learned and best practices from other regions including internationally that could be applied to grid modernization efforts in California?
- What collaboration opportunities exist between stakeholders, utilities, technology providers, research institutions, and government agencies to accelerate grid modernization research and implementation?
- Are there other considerations or requirements that should be considered for future funding opportunities?

Attendance Instructions

Participants may join via Zoom by internet or phone.

- **To join via Zoom.** Click on <https://energy.zoom.us/j/86760068829?pwd=bWw1L2haZm1wVU1zaG8rRGxJM1UxQT09> or login in at <https://zoom.us/> and enter the Webinar ID 867 6006 8829 and passcode 563849 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 867 6006 8829 and passcode 563849.
- **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 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 [August 25, 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 Grid Modernization Research Concepts 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.

General Inquiries: Email Qing Tian at qing.tian@energy.ca.gov or call (916) 776-0820.

Availability of Documents: Documents and presentations for this meeting will be available at <https://www.energy.ca.gov/events>, or 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 Energy Research and Development or Electric Program Investment Charge (EPIC) Program topics. To receive these notices or notices of other email subscription topics, visit [Subscriptions](#), at <https://www.energy.ca.gov/subscriptions>.

Dated: July 6, 2023, at Sacramento, California.

Jonah Steinbuck

Director of the Energy Research and Development Division
Energy Research and Development Division

Subscriptions:

Energy Research and Development, Electric Program Investment Charge (EPIC) Program, Grid Modernization