DOCKETED	
Docket Number:	20-EPIC-01
Project Title:	Development of the California Energy Commission Electric Program Investment Charge Investment Plans 2021-2025
TN #:	248704
Document Title:	Notice of DC Nanogrid Scoping Workshop
Description:	February 27, 2023 - 10:00 a.m. - 12:00 p.m. The California Energy Commission (CEC) will host a workshop to solicit feedback on the scope of an upcoming proposed solicitation under the Electric Program Investment Charge 2021-2025 Investment Plan. This new grant funding opportunity is anticipated to be available summer 2023. The workshop will focus on the research topic #28, entitled "Nanogrid HVAC Module Development and Demonstration," and will discuss proposed scope, existing technologies, and research needed to develop a direct current nanogrid (DC nanogrid) for Heating Ventilation and Air Conditioning (HVAC) heat pumps.
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STATE OF CALIFORNIA — NATURAL RESOURCES AGENCY Gavin Newsom, *Governor*

CALIFORNIA ENERGY COMMISSION
715 P Street
Sacramento, California 95814

energy.ca.gov

CEC-70 (Revised 7/22)

IN THE MATTER OF: *DC Nanogrid*	DOCKET NO. 20-EPIC-01 NOTICE OF REMOTE-ACCESS WORKSHOP RE: DC Nanogrid Scoping Workshop

Notice of DC Nanogrid Scoping Workshop

February 27, 2023

Start Time 10:00 a.m. – End Time 12:00 p.m.
Remote Access Only
See Attendance Instructions.

The California Energy Commission (CEC) will host a workshop to solicit feedback on the scope of an upcoming proposed solicitation under the Electric Program Investment Charge 2021-2025 Investment Plan. This new grant funding opportunity is anticipated to be available summer 2023. The workshop will focus on the research topic #28, entitled "Nanogrid HVAC Module Development and Demonstration," and will discuss proposed scope, existing technologies, and research needed to develop a direct current nanogrid (DC nanogrid) for Heating Ventilation and Air Conditioning (HVAC) heat pumps.

A DC nanogrid module is proposed to consist of a factory-built DC HVAC heat pump unit combined with battery storage and Photovoltaic (PV) as the main energy sources. The unit would typically be powered by the PV and storage, except when solar and stored energy is unavailable and the HVAC load would be powered by the grid. The system could reduce the installation complexity of integrated PV and storage while gaining efficiency benefits from direct DC connection to HVAC equipment, and it could provide solar benefits to ratepayers who have limited roof space or can't afford a larger building-level PV and storage system. Projects under this solicitation could also eliminate or reduce building HVAC load during peak hours in summer months.

Stakeholders and members of the public will have the opportunity to provide feedback during the workshop and via written comment.

The workshop will be held remotely. 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
The workshop will present similar past research funded by the CEC and seek public input on future research to develop a nanogrid HVAC module.

1. Introduction to the EPIC program and the DC Nanogrid initiative

2. Overview of similar past and current research on DC-powered HVAC systems

3. Panel discussion with researchers and representatives who have experience with similar systems

4. Open discussion with workshop attendees on:

    a. Is there a need for and interest in this research?
    b. What are barriers and challenges that research could address, such as high costs?
    c. What are the high priority end use sectors that are potential markets for this type of system in California?
    d. Can these systems increase the benefits of solar to under-resourced communities and small and medium businesses?

5. Overview of a proposed solicitation to fund demonstrations of DC Nanogrid HVAC modules

A detailed meeting schedule will be posted prior to the workshop at https://www.energy.ca.gov/events.

Background
The solar PV and energy storage revolution presents an economic opportunity for many electricity ratepayers, while others face significant barriers to adoption in residential and nonresidential applications. In many cases, retrofit opportunities are not realized because of physical and infrastructure constraints, complexity, lack of personnel, or other barriers. Under-resourced communities, low- and middle-income households, dense urban commercial customers, and renters face many of these barriers and are often unable to take advantage of the benefits of onsite renewable generation. To address these challenges, reduce interconnection issues, and realize the efficiency gains from direct DC installations, research is needed to evaluate the potential for powering major DC loads, such as HVAC electric heat pumps, in a self-contained module that includes PV and battery storage.

Attendance Instructions
Remote participants may join via Zoom by internet or phone.

- **To join via Zoom**
  https://energy.zoom.us/j/85275472063?pwd=bVVNRTc0S2RCdzZ6L053U1YvVjdGdz09 or login in at https://zoom.us/ and enter the Webinar ID 852 7547 2063 and passcode meeting@10 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 852 7547 2063 and passcode 1709800751.

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. A more accurate transcript of the workshop will be docketed and posted as soon as possible after the meeting concludes.

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 https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-EPIC-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 March 17, 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 20-EPIC-01 and DC Nanogrid 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. 20-EPIC-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 Jason Tancher at Jason.tancher@energy.ca.gov.

General Inquiries: Email Jason Tancher at Jason.tancher@energy.ca.gov.

Availability of Documents: Documents and presentations for this meeting will be available at https://www.energy.ca.gov/events.
Refer to Topic #28 in the Electric Program Investment Charge 2021-2025 Investment Plan.
https://www.energy.ca.gov/publications/2021/electric-program-investment-charge-proposed-2021-2025-investment-plan-epic-4
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: February 9th, 2023, at Sacramento, California.

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Angela Gould

Deputy Director, Energy Research and Development Division

Subscriptions: Energy Research and Development; Electric Program Investment Charge (EPIC) Program