

DOCKETED	
Docket Number:	21-IEPR-06
Project Title:	Building Decarbonization and Energy Efficiency
TN #:	239328
Document Title:	Notice of IEPR Commissioner Workshop on Building Decarbonization Embodied Carbon and Refrigerants
Description:	<p>The workshop will be held in two sessions on Thursday, August 26, 2021, as follows:</p> <ul style="list-style-type: none"> 9:30 a.m. Session 1: Embodied Carbon https://energy.zoom.us/j/92992564213?pwd=UkJpcGs1ZWIDaGM1UIJscC9iVXNVQT09#success Webinar ID: 929 9256 4213 Webinar Passcode: IEPR2021 2:00 p.m. Session 2: Refrigerants https://energy.zoom.us/j/97866872496?pwd=NUhrZnJOZEE0ZWhySkhiWCswRHgrZz09#success Webinar ID: 978 6687 2496 Webinar Passcode: IEPR2021
Filer:	Raquel Kravitz
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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CEC-70 (Revised 2/2021)

*IN THE MATTER OF:**2021 Integrated Energy Policy Report
(2021 IEPR)*

Docket No. 21-IEPR-06

NOTICE OF REMOTE-ACCESS WORKSHOP

RE: Building Decarbonization: Embodied Carbon
and Refrigerants

Notice of IEPR Commissioner Workshop on Building Decarbonization: Embodied Carbon and Refrigerants

Thursday, August 26, 2021

The California Energy Commission (CEC) will host a workshop to discuss the role of embodied carbon and refrigerants as California decarbonizes its buildings. Commissioner J. Andrew McAllister is CEC's Lead Commissioner for the *2021 Integrated Energy Policy Report (2021 IEPR)* and is the lead for the analysis of building decarbonization and energy efficiency for the 2021 IEPR proceeding.

A quorum of commissioners may participate, but no votes will be taken.

The workshop will be held remotely, consistent with Executive Order N-08-21 to continue to help California respond to, recover from, and mitigate the impacts of the COVID-19 pandemic. The public can participate in the workshop consistent with the direction in this executive order.

The workshop will be held in two sessions on Thursday, August 26, 2021, as follows:

- 9:30 a.m. Session 1: [Embodied Carbon](#)
<https://energy.zoom.us/j/92992564213?pwd=UkJpcGs1ZWlDaGM1UjJscC9iVXNVQT09#success>
Webinar ID: **929 9256 4213**
Webinar Passcode: **IEPR2021**
- 2:00 p.m. Session 2: [Refrigerants](#)
<https://energy.zoom.us/j/97866872496?pwd=NUhrZnJOZEE0ZWWhySkhiWCswRHgrZz09#success>
Webinar ID: **978 6687 2496**
Webinar Passcode: **IEPR2021**

Remote Attendance

Remote access is available by both internet or call-in options. Participants may join any or all scheduled panel sessions by clicking on the links above or by logging in via Zoom™ at

<https://zoom.us/>, entering in the unique Webinar ID and Passcode for the session of your choice, and following all prompts.

To participate by telephone, call toll-free at (888) 475-4499 or at (669) 219-2599. When prompted, enter the Webinar ID and Passcode for the session of your choice.

If you experience difficulties joining, contact Zoom at (888) 799-9666 ext. 2, or the Public Advisor's Office at publicadvisor@energy.ca.gov, or by phone at (916) 654-4489, or toll-free at (800) 822-6228.

Agenda

During the morning session, there will be presentations and panel discussions by leading experts in the field of embodied carbon. The session will cover an exploratory discussion on the concept and boundaries of embodied carbon frameworks, potential pathways for considering reduction of embodied carbon in California's regulatory portfolio, and other strategies to incentivize consideration of embodied carbon within statewide building decarbonization plans.

During the afternoon session, there will be presentations and panel discussions by leading experts in the field of refrigerants, energy efficiency, and the role refrigerants have in achieving California's energy efficiency and climate goals.

A meeting schedule will be posted prior to the workshop at the CEC's [2021 IEPR webpage](https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report/2021-iepr) (<https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report/2021-iepr>).

Background

There are significant GHG emissions associated with the building materials used to construct buildings. A growing body of academic work has been assessing the role that this embodied carbon plays in building decarbonization. While accounting for the emissions associated with building materials, and other life-cycle emissions from buildings, is complex and current regulatory boundaries in California are unclear, the potentially significant scale of GHG emissions implicated warrants exploration.

As described in the CEC's recently released final [California Building Decarbonization Assessment](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-DECARB-01) report (<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-DECARB-01>), most greenhouse gas (GHG) emissions from buildings come from onsite use of electricity, gas heating and water-heating equipment, and other gas appliances. Smaller amounts come from the use of propane, kerosene, diesel, and wood, mostly in rural areas with limited or no electric or gas distribution systems. The substantial remainder comes from hydrofluorocarbons (HFCs) leaked primarily from refrigeration and space-conditioning equipment.

HFC refrigerants are an important source of building GHG emissions. HFCs have a high global warming potential that can be hundreds to thousands of times more potent than carbon dioxide in contributing to climate change. The use of refrigerants containing HFCs is commonplace in refrigeration, air-conditioning, and heat pump equipment in buildings. Some equipment,

particularly larger refrigeration systems, develop leaks that release HFCs into the atmosphere during operation. Other leakage occurs for air conditioners and heat pumps not only during operation but also when that equipment is scrapped without capturing the refrigerant gases.

Due to their high efficiencies, heat pumps, which commonly use HFC-containing refrigerants, have been identified as a preferable technology for use in residential and commercial space and water heating applications to replace fossil fuel-based appliances. The demand for heat pumps for space and water heating will grow substantially in California and throughout much of the United States as buildings continue to reduce the consumption of fossil-based fuels in buildings. The high global warming potential of HFCs makes them significant sources of GHG that must be considered and addressed as heat pumps proliferate.

Public Comment

Oral comments will be accepted at the end of the morning and afternoon sessions. Comments may be limited to three minutes or less per speaker and one person per organization. Depending on the number of members of the public seeking to make a comment, the facilitator may adjust the total time allotted for public comment and the time allotted for each comment.

If participating via Zoom's online platform, use the "raise hand" feature to alert the administrator that you would like to make a comment after the lead commissioner opens the floor for public comment.

If participating by telephone, press *9 to "raise your hand" and *6 to mute/unmute. A workshop administrator will call on you by the last three digits of your phone number and you should unmute your phone before introducing yourself and sharing your comment.

Additionally, the Public Advisor may, upon the request of public participants who may be absent during the workshop when a matter of interest to them is being discussed, neutrally and publicly relate those participants' points to the CEC on behalf of members of the public. If you are interested in this service, please email concise comments, specifying your main points, before the start of the workshop to the Public Advisor's Office at publicadvisor@energy.ca.gov. Comments submitted after the workshop starts will be filed in the workshop docket.

Written comments must be submitted to the Docket Unit by 5:00 p.m. on **September 9, 2021**.

The CEC encourages use of its electronic commenting system. Visit the [e-commenting page](https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=21-IEPR-06) (<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=21-IEPR-06>), which links to the comment page for this docket. Enter your contact information and a comment title describing the subject of your comment(s). Comments may be included in the "Comment Text" box or attached as a downloadable, searchable document consistent with title 20 of the California Code of Regulations, section 1208.1. The maximum file size allowed is 10 MB.

Written comments may be submitted by email. Include docket number **21-IEPR-06** and [Building Decarbonization \(Embodied Carbon/Refrigerants\)](#) in the subject line and email to docket@energy.ca.gov.

If preferred, a paper copy may be sent to:

California Energy Commission
Docket Unit, MS-4
Docket No. 21-IEPR-06
715 P Street
Sacramento, California 95814-5512

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.

Contacts

The CEC's Public Advisor's Office provides the public with assistance in participating in CEC proceedings. For information on participation or to request interpreting services or reasonable accommodations, please contact the Public Advisor's Office at publicadvisor@energy.ca.gov, by phone at (916) 654-4489, or toll free at (800) 822-6228. Requests for interpreting services and reasonable accommodations should be made at least five days in advance. The CEC will work diligently to accommodate all requests.

Direct media inquiries to mediaoffice@energy.ca.gov or (916) 654-4989.

Direct technical subject inquiries to Kristy Chew at kristy.chew@energy.ca.gov or (916) 764-5605.

Direct general inquiries regarding the IEPR proceeding to Raquel Kravitz, IEPR Project Manager, at raquel.kravitz@energy.ca.gov or (916) 907-4284.

Availability of Documents

Documents and presentations for this meeting will be available on the CEC's webpage titled [2021 IEPR Workshops, Notices and Documents](https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report/2021-iepr) at <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report/2021-iepr>, or on the CEC's docket page [21-IEPR-06](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-IEPR-06) at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-IEPR-06>.

When new information is posted, an email will be sent to those on the energypolicy list serve. To receive these notices, subscribe at [Integrated Energy Policy Report - IEPR | California Energy Commission](https://energy.ca.gov/data-reports/integrated-energy-policy-report) page, <https://energy.ca.gov/data-reports/integrated-energy-policy-report>. Manage existing list servers or sign up for others at [CEC List Servers](https://ww2.energy.ca.gov/listservers/index_cms.html), https://ww2.energy.ca.gov/listservers/index_cms.html.

Dated: Monday, August 16, 2021, at Sacramento, California

List Servers: energypolicy, decarbonization, existing_buildings, efficiency, dcag