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Gradient comments on RFI

Additional submitted attachment is included below.



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California Energy Commission Docket Unit
Docket No. 23-DECARB-01

Submitted Electronically

To whom it may concern,

Treau Inc. (DBA Gradient) respectfully submits the following comments to the California Energy Commission (CEC) on its Request for Information to inform the California Energy Commission's Application to the United States Department of Energy for the federal Home Efficiency Rebates Program.

Gradient is an industry leader in the development and manufacture of window heat pumps¹, having released the first-ever window heat pump with a variable speed compressor in 2022. By eliminating the need for extensive building modifications and the associated costs, window heat pumps are set to revolutionize heat pump accessibility in underserved communities. Gradient welcomes CEC's Equitable Building Decarbonization (EBD) Program as a tremendous step forward in advancing the deployment of heat pumps to such communities in California.

CEC requested feedback on Braiding HOMES with Equitable Building Decarbonization Direct Install Program, particularly to:

Share any best practices for braiding federal and state funds for highly effective rebate, incentive, and/or direct install programs aimed at households in disadvantaged communities or meeting low-income guidelines.

¹ In some regulations and programs these products are alternately referred to as room heat pumps, room air conditioners with reverse cycle, or super efficient room conditioners.



There is a potential issue involved with braiding the two programs that Gradient will highlight: **the technical requirements for the two programs are different.** The previously released guidelines for the EBD Program² require that heat pumps “Must meet the highest efficiency tier (not including any advanced tier) established by the Consortium for Energy Efficiency (CEE)”. However, the HOMES requirements³ state that the states must “Provide rebates for heating, cooling, and water heating products only if they are certified as meeting the ENERGY STAR product criteria in effect on the date of installation.”

In general, the CEE highest efficiency tier (not including any advanced tier) is meant to require an efficiency at least as high as ENERGY STAR, so in most cases the EBD requirements guarantee compliance with the HOMES requirements⁴.

However, as noted in the HOMES guidelines, “Room heat pumps currently do not have a heating test procedure, metric, or ENERGY STAR criterion in heating mode allowing manufacturers to certify.” ENERGY STAR is in the process of developing a heating test procedure and metric that is expected to be finalized in February 2024, with CEE finalizing a criterion for CEE room heat pump recognition in May 2024⁵. **This means that by May 2024 room heat pumps will be able to qualify for the EBD program.**

However, ENERGY STAR has indicated that the next major revision of their room air conditioner criterion (6.0) is not expected until 2026⁶. This may be the first opportunity for ENERGY STAR to include heating-specific criterion for room air conditioners, **meaning that room heat pumps may not be able to qualify for the HOMES program until 2026.**

²<https://efiling.energy.ca.gov/GetDocument.aspx?tn=252609&DocumentContentId=87700>

³https://www.energy.gov/sites/default/files/2023-10/home-energy-rebate-programs-requirements-and-application-instructions_10-13-2023.pdf

⁴<https://cee1.org/index.php/program-resources/tiers-and-energy-star/>

⁵<https://www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Draft%20%20Test%20Method%20to%20Determine%20Room%20Air%20Conditioner%20Heating%20Mode%20Performance%20Webinar.pdf>

⁶<https://www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Room%20Air%20Conditioner%20Version%205.0%20and%206.0%20Draft%20%20Specification%20Cover%20Letter.pdf>



Braiding the two programs together could therefore have the consequence of disqualifying room heat pumps from EBD participation until 2026. The total installed cost of these room heat pumps is often a fraction of the cost of conventional heat pumps, due to the fact that they can be installed without an EPA 608 technician (since the refrigerant is factory charged), without an electrician (since they are cord connected to a standard 120 VAC 15 A circuit), and without building modifications (since they are installed through a window). **Therefore, including room heat pumps in the EBD program would significantly increase the number of homes that could be decarbonized within the available program budget.**

To counteract the issue raised in this letter, Gradient proposes that CEC retains the previous program requirements that heat pumps “Must meet the highest efficiency tier (not including any advanced tier) established by the Consortium for Energy Efficiency (CEE)” and only requires ENERGY STAR certification for heat pump installations that benefit from HOMES funding. Gradient acknowledges that maintaining two sets of criteria will increase administrative burden but posits that the cost savings from allowing room heat pumps to benefit from EBD funding will more than outweigh that burden.

Best regards,

Jason Wexler, PhD

SVP Policy and Technology