DOCKETED	
Docket Number:	22-DECARB-03
Project Title:	Equitable Building Decarbonization Program
TN #:	248390
Document Title:	Iain Walker Comments - Multiple comments on equitable home decarbonization
Description:	N/A
Filer:	System
Organization:	Iain Walker
Submitter Role:	Public
Submission Date:	1/13/2023 8:33:42 AM
Docketed Date:	1/13/2023

Comment Received From: Iain Walker
Submitted On: 1/13/2023
Docket Number: 22-DECARB-03

Multiple comments on equitable home decarbonization

Additional submitted attachment is included below.

Request for Information
Equitable Building Decarbonization Program

See comments in-line in *red italic*.

The California Energy Commission (CEC) is seeking input and comment to inform the development of the Equitable Building Decarbonization Program. To facilitate recommendations, staff has developed a list of questions in the Discussion and Input Request section of this document. Individuals are invited to provide input on staff's questions and program-related topics not posed.

Comments and supporting documentation are due by January 13, 2023.

Background

In September of 2022, Governor Newsom signed Assembly Bill (AB) 209 (Chapter 251, Statutes of 2022) and AB 179 (Chapter 796, Statutes of 2022). AB 209 includes Public Resources Code sections 25665-25665.6, which directs the CEC to develop and implement an Equitable Building Decarbonization Program. The Equitable Building Decarbonization Program includes two primary components: a direct install program focused on low-to-moderate income residents and a statewide incentive program to accelerate deployment of low-carbon building technologies. AB 179 (the 2022-23 Budget Act) provided CEC with $112 million for the Equitable Building Decarbonization Program for its first year, and up to $922 million is budgeted to this effort over the next four fiscal years.

CEC will be holding a scoping workshop (https://www.energy.ca.gov/event/workshop/2022-12/lead-commissioner-workshop-scoping-californias-equitable-building) on December 13, 2022. At that workshop, staff will provide an overview of the Equitable Building Decarbonization Program authorized by the 2022 state budget; facilitate a discussion with panelists on key topics related to program design; and identify opportunities to leverage and align with local, federal, and state-funded incentive programs focused on decarbonizing existing buildings. Representatives from California Native American Tribes, state agencies, non-governmental organizations, industry, and/or environmental groups will participate in panel discussions and provide recommendations,

considerations, proposed priorities, data sources, and pilots for staff and decision makers to consider when scoping the Equitable Building Decarbonization Program.

Discussion and Input Request

Based on legislative direction and input received from other building decarbonization proceedings, CEC staff has framed questions in four broad categories: (1) Direct Install Program Criteria, (2) Direct Install Third-Party Implementers and Solicitation Scoring, (3) Direct Install Eligible Equipment and Installation, and (4) Incentive Program.

CEC staff request commenters address the following questions.

Direct Install Program Criteria

1) AB 209 directs CEC to establish a direct install program that shall be "at minimal or no cost for low to moderate income residents" and defines direct install program as an "energy efficiency, decarbonization, or load flexible solution provided directly to a consumer at minimal or no cost through a third-party implementer." "Low-to-moderate income" is defined in section 50093 of the Health and Safety Code as persons and families whose income does not exceed 120 percent of area median income, adjusted for family size and amended from time to time by the U.S. Department of Housing and Urban Development.[1] The CEC is considering segmenting the state into different regions for the purposes of this program and requesting proposals from program implementers to implement the program across these regions.

   The CEC is preliminarily planning to allocate 66 percent of total budget funds – up to approximately $610 million – to the direct install program. While this is a significant amount of funding relative to previous decarbonization investments in existing buildings in California, it is a small amount relative to the need in the sector. The program will be able to cover only a small fraction of the millions of potentially eligible households. Program criteria used to prioritize and score proposals will need to be both flexible enough to meet the needs of the different regions of the state and sufficiently uniform to establish appropriate baselines and metrics for implementation.

   a. What criteria should be weighed more heavily or prioritized when scoring program proposals?

i. Best carbon saving for dollars spent. e.g., prioritize the high end uses: heating, hot water and include things like paying a little extra for higher performance heat pumps and programs that avoid spending on panel and service upgrades and instead spend on power-efficient (120V) appliances and other technologies such as circuit sharing or meter collars.
ii. Make sure that programs recognize some technology limitations. A key one would be heat pump water heaters.... they are typically pretty noisy, so choosing appropriate locations is very important.
iii. Consider programs that also include home weatherization: basic air sealing and insulating. I realize there may be a conflict with my point i, but programs that can effectively recognize and take advantage of synergies would be great. One example might be to reduce the cost of a heat pump purchase by downsizing capacity from

the weatherization upgrades.
iv. Prioritize programs that focus on "difficult to electrify" homes. i.e., homes that have a lot of gas end-uses, have space limitations for installing heat pumps (both indoors (where to put a HPWH, for example) and outdoors (older homes with little space), or multi-family buildings with limited electric system capacity.
v. Prioritize programs that limit the total power requirements (using power-efficient appliances, or storage control systems). This helps to reduce the need for panel/service/circuit work and reduces extreme grid impacts.
vi. Future-proofing of homes: include adding wiring for Solar PV and EVs, even if PV is not a measure in the proposal and households currently don't have an EV. This should include circuit sharing devices (typically used for EVs to share with clothes drying (and possibly cooking)).

b. The CEC plans to require the use of meter data and analytical-based tools to prioritize and target participant households and measures through the lens of greenhouse gas (GHG) emissions, energy usage, and bill impacts. Should the CEC require all proposals to include independent, data-driven targeting of participants and eligible measures, or should the CEC itself contract to provide a single, program-wide tool to target participants and eligible measures that program administrators would be required to use?

A single tool seems like the best way to spend CEC program $, rather than re-inventing this capability multiple times. It also allows easier/more consistent comparison across funded projects.

c. Should low-income and moderate-income households be incentivized at different levels? If so, how should that be approached?

No. Creating an arbitrary cutoff is not helpful - particularly for households that are close to whatever limit is chosen. It might be possible to use a sliding scale rather than cutoffs, but the administration and effort for everyone (including occupants) required to do this would be better spent on electrification of more homes.

[1] See Public Resources Code section 25665(e).

2) To optimize program funds, CEC may offer preference for proposals that layer incentives or leverage other programs.

No. We need solutions that are going to function in the future without the complexity of integrating many incentives and multiple programs. We need the simplest possible solutions that require little or no occupant effort and give occupants clear unambiguous information on total projects costs and incentives. This CEC program should have a strong focus on getting to scale.

   a. What best practices, program elements, or state actions would facilitate layering or leveraging different program offerings?
   b. Should layering or leveraging other programs be a requirement for proposals or a prioritization when scoring proposals?

3) The inclusion of both low-income and moderate-income households allows flexibility for proposals that want to electrify specific neighborhoods or communities.
   a. What program elements, geographic targeting, or state actions would facilitate this approach?

4) AB 209 authorizes the CEC to require tenant protections in participating rental properties.
   a. What tenant protections could be applicable in all regions of the state?

i. No rent increases.
ii. If a home needs to be vacated a guarantee of a right to return.
iii. Programs should be prioritized that limit or eliminate the need for tenants to have to vacate the property.

   b. Who would be responsible for enforcing the agreements?
   c. What programs should the CEC look to for examples of effective building retrofit and decarbonization programs with tenant protection requirements?

Direct Install Third-Party Implementers and Solicitation Scoring

5) AB 209 defines "third-party implementer" as "non-commission staff under contract to the commission who propose, design, implement or deliver Equitable Building Decarbonization Program activities." Proposals from third-party implementers that include at least one community-based organization and employ workers from local communities shall be prioritized.
   a. How should the CEC segment the state for a multiple-implementer solicitation (e.g., by climate assessment regions, climate zone, groupings of air districts, counties, etc.)? Are there other ways to segment the state to provide geographic diversity and advance equity?

This is unclear. The CEC program should try to be as geographical and socio-economically diverse as possible. But does every application need to cover everything? Probably not, right?

   b. What opportunities for workforce development should be considered, encouraged, or leveraged?
   c. Should maximum incentives – at building, unit, and/or region – be established? If yes, at what level(s)?

Probably not. If the commission funds several proposals and they have differing levels then we might gain some insight into how participation changes with incentive level.

6) Preference for participation in the direct install program shall be given "where the building meets one or more of the following criteria: (1) the building is located in an under-resourced community; (2) the building is owned or managed by a California Native American Tribe or a California Tribal organization; (3) the building is owned by a member of a California Native American Tribe."

   a. How can the CEC best facilitate awareness for residents and building owners within under-resourced communities to encourage program participation?

i. I think that existing community outreach programs/efforts shoudl be referred to /consulted by teh CEC. While not an exhaustive list, the presenters (and attendees) at the recent Redwood Energy Zero Carbon retreat is a great place to start - best to contact Sean Armstrong of Redwood Energy directly.

   b. Are there any unique considerations that should be taken into account when developing program criteria or reviewing proposals for decarbonizing homes on Tribal lands?

   c. Should CEC issue a Tribal-only solicitation to fulfill items (2) and (3) more effectively?

7) While designing the criteria and solicitations for the regional decarbonization programs, CEC is considering offering an initial phase of the Equitable Building Decarbonization Program to support or expand currently active decarbonization programs with established infrastructure and demand. These programs may be more limited in geographic scope or decarbonization activities than what is expected from the regional programs.

   a. Should other currently active building decarbonization programs be allowed to compete for funding from the Equitable Building Decarbonization Program?

Yes

   b. Should the CEC fund decarbonization programs that have existing infrastructure in an initial phase to allow for the Program to quickly decarbonize homes and provide benefits to residents?

Yes

Direct Install Eligible Equipment and Measures

8) The statutory direction on eligible measures is broad: "Projects eligible to be funded through the direct install program include installation of energy efficient electric appliances, energy efficient measures, demand flexibility measures, wiring and panel upgrades, building infrastructure upgrades, efficient air conditioning systems, ceiling fans, and other measures to protect against extreme heat, where appropriate, and remediation and safety measures to facilitate the installation of new equipment." The CEC plans to require the use of meter data driven analytical tools to inform what measures should be prioritized based on GHG reduction, energy reduction, and bill impacts.

   a. What specific equipment and measures should be prioritized?

i. Biggest GHG impacts in order of energy use: heating (heat pump), DHW (heat pump), clothes drying (heat pump combo - 120V), cooking (induction).
i.a. Install the highest performance heat pumps you can. the small marginal increase in unit cost might be one of the most cost effective ways to save energy/carbon.

ii. Devices that minimize the need for panel/service upgrades: 120V heat pumps, meter collars/circuit sharing
iii. Solar PV. Possibly with batteries and find a way to island for resiliency, BUT carefully consider the new NEM requirements to ensure that PV does not overly penalize a household.
iv. Pre-wiring for Solar PV if not installed and for EVs whether there is one at a home now or not. We need to future-proof these homes.
v. Definitely include basic weatherization air sealing and insulating (drill and fill for walls, blow-in for attic) to reduce loads (saves on heat pump capacity and need for high power supply for electric resistance backup heat which should not be needed in CA) and improve comfort.

b. What, if any, equipment standards or certifications should be considered as requirements?
c. What unique equipment and measures should be considered for different building segments, i.e., existing single-family, multi-family, and mobile/manufactured homes?
d. How should the CEC consider equipment and measures that mitigate impacts from extreme heat, wildfires, or local air pollution but increase individual energy use (e.g., installing a heat pump heating and cooling system in a home that previously did not have an air conditioner)? How does this align with the legislative direction that the program shall "reduce the emissions of greenhouse gases"?
e. Should the CEC consider unique portfolios, technologies, and measures to reflect California regional diversity, such as different climate zones, electric utilities or community choice aggregator providing service, technology performance, electric reliability, wildfire risk, etc.?

9) This program offers a significant opportunity to advance load flexibility in the residential sector and across the state. Load flexibility or load management provides residents with the ability to shift their energy usage in response to hourly energy prices, GHG emissions, or grid conditions. This can provide savings on consumer bills, as well as provide grid reliability support.

a. What load flexibility requirements should be included in the direct install program, and which load flexibility measures should be prioritized?

i. Circuit sharing (typically an EV with some other end use - but could be cooking and clothes drying). Batteries and other storage are probably too expensive for this program.

ii. Smart water heater controls

10) AB 209 includes mobile homes as eligible buildings. The ability to decarbonize existing mobile and manufactured homes depends on factors such as location (mobile home park or rural), ownership, size, age, condition, access to electricity, and access to appropriately sized efficient-electric equipment.

a. What considerations should be taken for mobile or manufactured homes that are different from other eligible buildings?

i. Low amp capacity of electric panels - needs careful consideration of power of installed electric end uses.
ii. Unique end use products: e.g., water heaters with unique water connections/locations (outdoor closets).

b. What programs focused on retrofitting or decarbonizing mobile and manufactured homes or mobile home parks could offer recommendations or lessons?

Incentive Program

11) The CEC is directed to establish and administer a statewide incentive program for low-carbon building technologies such as heat pump space and water heaters and other efficient electric technologies. A minimum of 50 percent of the funds allocated "shall benefit residents living in under-resourced communities." Incentives for manufacture, distribution, sale, and installation; financing; and direct purchase of equipment are all under consideration.

a. How should the CEC prioritize the use of funds between these options? What market actor should be incentivized? Why?

There isn't just one area to focus on. For lowest income households, though, we need to do direct installs at no cost to the occupants (or, more likely, their landlords). The main barrier is then reaching the most needy households. This is probably best doen through collaborating with community organizations (schools, churches, etc.) who best know their community and how to persuade locals to participate. There needs to be the development of trust between the recipients and the program - both in terms of things we have traditionally tried to address-"will these new devices really work and give me a better life, not make my energy bills go up, and not become an unreliable maintenance headache", but also subtleties in peoples trust of government programs.

b. What criteria or factors beyond the reduction of direct GHG emissions should be considered when evaluating incentive options? How do these considerations benefit residents living in under-resourced communities?

i. The key is change in energy bills. We need to limit the increases in cost of living. Particularly for multifamily applications where central gas water heat (buried in rent) might get replaced with electric heat pumps (bigger electric bill). Also - electricity is most costly per unit energy... implying that load reduction measures should probably be used (air sealing and insulating building envelope and ducts (or replacing ducts entirely) for under-resourced households.
ii. Possibly consider embodied carbon?
iii. Consider indirect effects. e.g., methane leakage from nat gas infrastructure is a considerable GHG problem. We need homes to 100% electrify and dismantle/remove the leaky gas infrastructure.

c. Where are the gaps in current incentive offerings that if addressed could advance the market for low and zero-carbon building technologies?

d. How should incentives from this project interact with other incentives such as those available from the direct install program, utility programs, tax credits, etc.?

e. What, if any, criteria should there be regarding the disposal of replaced equipment including refrigerants where applicable?

f. Should CEC consider funding currently active building decarbonization incentive programs in an initial phase?

g. CEC aims to leverage and/or align with programs supported by the federal Inflation Reduction Act and the Infrastructure, Investment, and Jobs Act. Should CEC continue to

leverage or align if it is at the cost of earlier implementation?

12) The CEC will require ongoing data collection and measurement and verification to evaluate program success. This may include, but is not limited to, energy and GHG savings, bill impacts for ratepayers, number of homes retrofitted, number of people in the household affected, cost per home, occupant satisfaction, indoor air quality changes, location, and other programs or funds leveraged. CEC will work to align data collection principles (fields, formats) with other programs, and share program data with the public via reports or a website. For example, the Technology and Equipment for Clean Heating (TECH) program is currently incorporating project application data, meter data, and survey data into a publicly reportable site.

    a. What data not mentioned above should be collected for tracking program performance and evaluating program success?

i. Consider thermal comfort or other indicators in improved space useability. Particularly for lower income where previously unheated space may now be heated, for example.
ii. Divide cost into labor, materials, over head etc.
iii. Track time taken to complete work.
iv. Track electric panel upgrades (initial panel capacity at project start, if panels are upgraded and to when new capacity)

Responses and Comments

Written comments may be submitted to the Docket Unit until 5:00 p.m. on January 13, 2023. Written 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.

The CEC encourages the use of its electronic commenting system. Visit the e-commenting page for this docket 22-DECARB-03 at https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-DECARB-03. 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 compliance with California Code of Regulations, Title 20, section 1208.1. The maximum file size allowed is 10 MB.

Written comments may also be submitted by email. Include docket number 22-DECARB-03 and Equitable Building Decarbonization Program 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. 22-DECARB-03
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 and General Inquiries: Email Jennifer Nelson at jennifer.nelson@energy.ca.gov or call (916) 508-8394.

Availability of Documents: Documents and presentations for this meeting will be available at docket 22-DECARB-03, at https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-DECARB-03.

When new information is posted, an email will be sent to those subscribed to the subscription lists stated below under "Subscription Lists." To receive these notices or notices of other email subscription topics, visit Subscriptions, at https://www.energy.ca.gov/subscriptions. The Equitable Building Decarbonization Program webpage can be found at https://www.energy.ca.gov/programs-and-topics/programs/equitable-building-decarbonization-program .

Subscription Lists: Adaptation; Barriers Report SB 350; Decarbonization Topics; Disadvantaged Communities Advisory Group; Efficiency Topics; Energy Efficiency Programs for Existing Buildings; Health Equitable Energy Transition (HEET) Working Group; Tribal Program