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OhmConnect Response to Request for Information

Additional submitted attachment is included below.

January 12, 2024

California Energy Commission
Docket No. 23-DECARB-01

Submitted Electronically

RE: 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

OhmConnect values the opportunity to respond to the California Energy Commission's ("CEC") request for information to inform the CEC's application to the United States Department of Energy ("DOE") for the federal Home Efficiency Rebates ("HOMES") program. The HOMES funding presents an unprecedented opportunity to leverage the usage of federal funds to support the state's decarbonization and electrification goals. Our comments focus on the opportunity to maximize the grid benefits of HOMES funding participants' projects by incorporating their participation in demand response ("DR") programs.

OhmConnect is a third-party Demand Response Provider (DRP) founded in 2013 and headquartered in Oakland, California. The company provides Demand Response (DR) services to residential retail electric customers in California pursuant to Electric Rules 24 (Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE)) and 32 (San Diego Gas & Electric Company (SDG&E)). Specifically, OhmConnect's free software service notifies households of impending DR events and pays them for their energy reductions, without requiring purchase or installation of additional hardware. OhmConnect is registered to participate as a DRP in the wholesale electricity market operated by the California Independent System Operator Corporation (CAISO).

Our response is organized using the request for information's Q&A format for ease of navigation. Questions for which we do not presently have input are indicated by "no comment." OhmConnect looks forward to helping the CEC maximize the grid benefits of HOMES funding.

Respectfully submitted,

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Input Request
CEC is planning to braid California's allocation of HOMES funding into the Equitable Building Decarbonization ("EBD") Direct Install Program. RFI Question 1 below solicits feedback on that plan. The remaining questions apply should the CEC not braid HOMES funding into the EBD Direct Install Program. These questions fall into four categories: overall program design, rebate determination approach and rebates values, eligible recipients, and income verification.

1) *Braiding HOMES with Equitable Building Decarbonization Direct Install Program. Assembly Bill (AB) 209 (Chapter 251, Statutes of 2022) directs the CEC to develop and implement the Equitable Building Decarbonization Program which includes a direct install component. The CEC subsequently allocated $690 million[1] to the EBD Direct Install Program and adopted Direct Install Program Guidelines[2] in October 2023 with goals of reducing GHG emissions and advancing energy equity. The EBD Direct Install Program will serve low-income residents with energy decarbonization packages installed at no-cost. Packages will, at a minimum, include a heat pump for space or water heating and may also include induction ranges and electric clothes dryers, air sealing, insulation, solar window film, LED lighting, air filtration, electrical wiring and panel upgrades, and remediation and safety measures. Additionally, all households served must be located in an under resourced community.[3]*

   Braiding HOMES funding with the EBD Direct Install Program would support building decarbonization for additional low-income residents while streamlining implementation and minimizing administrative costs by utilizing the same set of administrators and regional infrastructure. In the braiding scenario, CEC would seek approval from DOE to cover 100 percent of project costs for low-income households in alignment with the EBD Direct Install Program. The HOMES requirement for portfolios of projects to realize certain thresholds of energy savings would only apply to federally funded projects.

   a. *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.*

      No comment.

2) *In the situation where CEC **does not incorporate/braid HOMES** program funding into the EBD Direct Install Program, respond to the following questions to inform CEC's HOMES program design and application to DOE.*

   a. Overall program design:

      i. *How can HOMES funds that are awarded to deliver residential whole building energy efficiency retrofits, be best utilized to support the state's decarbonization and electrification goals?*

         HOMES funds can be best utilized to support the state's decarbonization and electrification goals by incorporating similar goals, metrics, and

[1] As reflected in the EBD Direct Install Guidelines, CEC set aside an additional, separate $30 million for a Tribal Direct Install Program

[2] https://www.energy.ca.gov/publications/2023/equitable-building-decarbonization-direct-install-program- guidelines.

[3] "Under resourced communities" include the following three areas: (1) disadvantaged communities as defined by CalEPA; (2) Census tracts in which the median household income is at or below 80% of the statewide median income; and (3) Census tracts in which the median household income is at or below 80% of the area median income for the county.

requirements from the EBD Direct Install Program ("EBDDIP"). For example, a secondary goal from the EBDDIP is to support grid reliability. EBDDIP program guidelines provide several potential metrics to support grid reliability, such as: the number of smart thermostats installed; the number of JA-13 compliant heat pump water heaters installed; and the number of households signed up for load-flexibility programs. Similarly, the Self Generation Incentive Program Heat Pump Water Heater program requires participants to sign up for a qualified demand response program and a load shift program.[4]

Given the state's goals of 3 million climate-ready and climate-friendly homes by 2030 and 7 million homes by 2035, buoyed through the deployment of 6 million heat pumps statewide by 2030,[5] and 7,000MW load shift by 2030,[6] OhmConnect proposes the following program requirements to support achievement of these goals:

- Require program participants to enroll in a qualified[7] demand response program or the CEC's Demand Side Grid Support (DSGS) program. Not requiring a minimum length of enrollment in a program is administratively realistic and efficient.

- When participants apply for funding, include language within the program application providing agreement for the authorization of sharing utility data for program implementer approved DR providers to minimize administrative burden on participants.

- Develop a control group methodology for measurement and evaluation of demand response impacts instead of using existing baseline measurement methodologies.

Enrollment and participation in a DR program provides participants the opportunity to maximize the earnings from connected devices, provides for load shifting when the grid needs it the most, and helps to reduce greenhouse gas emissions. Failure to require a participant to enroll and participate in a DR program with a connected thermostat and/or heat pump hot water heater as a condition of receiving rebate funding is a missed opportunity to maximize the grid benefits of these technologies.

ii. *Aside from ensuring that program participation is a simple process from the resident's point of view and the need to avoid cash outlays, how should the program be structured to support widespread access and uptake in households located in disadvantaged communities or with a low income? How could CEC structure HOMES's pay-for-performance option to reach low-income communities more effectively?*

To support widespread access and uptake of the program in all households, especially households located in disadvantaged communities or with a low income, signing up for associated required programs should be optimized to only a few steps and minimize the input required from participants. This is

[4] Decision 23-12-004, Ordering Paragraph 1.
[5] Governor Newsom's Letter to Liane Randolph, Chair, California Air Resources Board, dated July 22, 2022.
[6] California Energy Commission Senate Bill 846 Load-Shift Report, May 2023, CEC-200-2023-008.
[7] Decision 23-12-005, Attachment 1.

especially important in requiring participants to sign up for a DR program as part of the funding requirements.

The click-through process currently in place for authorization of meter data sharing through the investor-owned utilities is burdensome. In OhmConnect's experience, more than 50% of people who begin the sign-up process fail to complete it. Additional consideration must be made for the incremental burden the click-through process imposes upon disadvantaged communities participating in the program. For example, there may be language or cultural barriers to the sign-up flow, lower levels of energy literacy, or distrust of institutions (including government and utilities). Program design should minimize the administrative burden the program requirements are placing onto disadvantaged community members who are already experiencing multiple adversities.

To minimize the administrative burden on disadvantaged communities, as well as other participants in the HOMES program, the CEC should allow device level data to be used for measurement and verification of performance in the DSGS program. As the eligible devices are installed in participants' homes, the sign-up flow could include sign-up for DSGS that would eliminate the need for the click-through process. This would allow for administratively simple and efficient participation in the DSGS program for all participants.

iii. *If funds are provided directly to existing residential efficiency programs, which programs will make the highest impact in terms of market transformation for efficiency and decarbonization technology?*

iv. *Leveraging and stacking:*

a) *CEC has gathered feedback on how electrification incentives could best be leveraged and stacked with existing programs. Are there additional considerations for best leveraging and stacking residential whole house efficiency rebates, like HOMES with existing programs?*

The CEC's HOMES program should be leveraged and stacked with existing DR programs, such as a qualified[8] DR program or DSGS. This requirement offers additional benefits to both the participants and the grid. As mentioned above, participants could earn additional compensation for their energy reductions during DR events and the grid also benefits from reduced demand during peak load and/or emergency conditions.

b) *Are there considerations for stacking pay-for-performance rebates with existing programs?*

Requiring participants to enroll in a qualified DR program or DSGS will help the participants to realize additional energy savings in support of achieving the pay-for-performance minimum savings requirements to earn rebates. When drafting program requirements, the CEC should consider using a baseline methodology that best captures the impacts of the HOMES funded efficiency improvements.

Ten in ten or five in ten baseline methodologies are commonly used to

[8] Id.

calculate residential electricity usage absent any load reduction efforts. These methodologies often underestimate the typical load on a demand response event day, resulting in under-counting of DR load reductions and undermining the value of DR as a resource.

The incorrect under-quantification of DR impacts could be avoided by facilitating the usage of a control group baseline methodology. Section 4.13.4.3 of the CAISO tariff specifies that proxy demand resources can elect to use the control group methodology to calculate customer load baselines and measure demand response. The primary issue currently preventing the usage of a control group methodology for third party DR providers is the inability to secure the data necessary to create the control group under current data privacy policies. The CEC could receive data to construct control groups, however, current dissemination of interval data from utilities to the CEC occurs with a significant delay that would not allow for timely reporting to CAISO or support a satisfactory customer experience.

With regard to the issue of maintaining privacy of customer usage data, Recurve provided proof of concept for utilizing control group methodologies while protecting customer data privacy in an analysis and subsequent report prepared for CAISO titled *Demand Response Advanced Measurement Methodology*.[9] The report recommended that "[t]he California Public Utilities Commission, in collaboration with the California Energy Commission and CAISO, should authorize secure data access to a non-participant pool for qualified vendors to allow this method to be used."[10] The CEC could facilitate the application of control group methodologies.

There is precedent for the CPUC supporting the usage of confidential customer data in program implementation. For example, in Decision 20-03-027, Finding of Fact 29 stated:

> It is reasonable for the pilot program implementers and the program evaluator to sign non-disclosure agreements with the CPUC in order to gain access to confidential customer data rather than sign separate non-disclosure agreements with each investor-owned utility (IOU).

Furthermore, Ordering Paragraph 26 stated:

> The BUILD Program administrator and TECH Initiative implementer shall ensure that any applicants to the program are made aware that program-related and customer data will be shared with authorized entities, including but not limited to, policy makers, implementers and evaluator, under confidentiality protocols. As this data will not be made public and will follow the confidentiality rules and protocols established

[9] Glass, Suffian, Scheer and Best, February 2022. *Demand Response Advanced Measurement Methodology, Analysis of Open-Source Baseline and Comparison Group Methods to Enable CAISO Demand Response Resource Performance Evaluation.*
[10] Id. at 11.

by the CPUC in prior proceedings, it does not require individual customer permission.

In addition to the precedent of using customer data in program implementation, the CEC has the opportunity to improve the timeliness of receiving data, as well as improve customer data authorization and access for participants, when developing the Data Access Plan portion of the application. Leveraging the Data Access Plan to improve data sharing would allow the CEC to avoid the under-quantification of DR impacts by acquiring customer usage data to calculate control group baselines. This approach would allow for proper treatment of customer data with regard to privacy and assign the calculation of anonymized control groups to a trusted government entity.

c) *What are the best strategies for effective and efficient integration into existing programs' administration, websites, and materials?*

The best strategies for effective and efficient integration into existing programs' administration, websites, and materials is to feature the eligible program providers in marketing materials, including print and internet based copy; educate installers that are interfacing with customers on DR program participation requirements and sign-up information; and most importantly to provide a streamlined sign-up and data sharing authorization process for customers that can be completed quickly in the presence of installation contractors.[11]

d) *Which existing program quality assurance, quality control, workforce, or other implementation standards or best practices should be taken into consideration or used as a model?*

No comment.

b. ***Rebate determination approach and rebate values.*** *DOE offers both a modeled and a measured savings pathway. The measured savings pathway requires energy savings of 15 percent or greater per home or portfolio of homes.*

As noted above, through the measured savings pathway, the state can choose to set rebate values by either 1) paying a fixed portion of the project cost (80 percent for low-income households and 50 percent for households with income at 80 percent AMI or greater or 2) a pay-for-performance calculation payment rate equal to $4,000 for a 20 percent reduction of energy use for the average home in the state for low-income households and $2,000 for a 20 percent reduction of energy use for the average home in the state for households with income at 80 percent AMI or greater. States may seek approval from DOE to increase the maximum amount available for low-income households.

For both measured pathway options, CEC is to receive and review nine to 12 months of each retrofitted home's energy consumption data to confirm 15 percent of energy savings ***prior*** *to issuing a rebate to the contractor, aggregator,*

[11] Adapted from the Self Generation Incentive Program Handbook for Heat Pump Water Heaters.

or program implementers. Additionally, states must design programs such that low-income households are not required to use personal funds to pay for rebate-covered work.

i. *What are the advantages and drawbacks of program design using the fixed costs versus pay-for-performance method? Can the pay-for-performance method effectively serve low-income households?*

No comment.

ii. *What are the options to manage and allocate performance risk and financing costs during the 9 to 12-month post-installation period prior to issuing the rebate? Options should consider at a minimum that: low-income households are not required to utilize personal funds to pay for rebated work, the inability for many contractors, installers, or small businesses to "float" rebate costs, and the cost of capital for aggregators (or some designated entity) to float those costs.*

No comment.

iii. *For the fixed cost method, how should the CEC approach setting allowable project cost caps? What are similar programs CEC should use as examples?*

No comment.

iv. *What is the best way for the CEC to obtain consistent and sufficient documentation for contractors, such as itemized cost breakdowns, while remaining consistent with contractor business practices?*

No comment.

c. ***Eligible recipients.***

i. *Should CEC reserve additional HOMES funds for low-income households, beyond the DOE-requirement of 50 percent of total rebate funds? If so, why, and what percent?*

No comment.

d. ***Income Verification.***

i. *What approaches should CEC consider to verify individual household income that are efficient and accurate, safeguard information, and create a minimal burden for residents? Please provide examples of other programs and why you consider them effective models? The EBD Direct Install Guidelines established a list of federal and state assistance programs that can be accepted to qualify a resident as low- income (i.e., "Categorical Eligibility"). Should the CEC utilize the same list of programs for Categorical Eligibility for a program(s) developed with HOMES funding? In addition to the programs found in Section E.3. of the Guidelines, are there additional programs CEC should consider?*[12]

No comment.

[12] https://www.energy.ca.gov/publications/2023/equitable-building-decarbonization-direct-install-program- guidelines.