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Res-Intel comments on equitable building decarbonization program

Please find Res-Intel's comments on the equitable building decarbonization program attached.

Additional submitted attachment is included below.

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Memorandum

To: Jennifer Nelson, CEC Staff and Commissioners

From: Hal Nelson, CEO; Hunter Johnson, CTO

Date: January 11, 2023

Subject: Comments on CEC 22-DECARB-03: Equitable Building Decarbonization Program

This document responds to the CEC's RFI for comments on the Equitable Building Decarbonization Program. We appreciate the opportunity to comment on the program.

Res-Intel is a CEC-funded analytics firm that is currently working with all the electric IOUs in California to improve the effectiveness and efficiency of their demand side management programs.

We want to start with some stylized facts that drive our recommendations but that shouldn't be (too) controversial.

1. The vast majority of energy savings, utility bill relief and GHG emissions reductions are in the existing building sector.
2. It is difficult to get property owners to enact whole building retrofits as evidenced by the sunsetting of Energy Upgrade California program that struggled to obtain energy savings and cost-effectiveness goals.
3. Historically marginalized and hard-to-reach customers can benefit the most from the decarbonization program but have the fewest financial and technical resources to enable participation.
    a. The multifamily sector houses the largest share of extremely vulnerable residents in terms of housing, food, and energy insecurity.
    b. The naturally occurring affordable housing (NOAH) subsector is least energy efficient and is the most vulnerable to displacement and gentrification.
4. Municipalities and community-based organizations are essential implementation partners to scale up decarbonization program outreach and success.
    a. California will not be able to meet its equitable decarbonization goals without including these stakeholders as full partners.
5. Big data analytics and cloud computing that leverage utility billing data can make statewide decarbonization planning and implementation more cost-effective and equitable.

Here are our responses to specific questions in the RFI.

1.a. Scoring Criteria: We believe that NOAH housing eligibility, both single family and multifamily should be the most important scoring criteria. California's housing costs are some of the highest in the nation and new housing supply is not going to meet demand for the foreseeable future. Household disposable income can be increased through aggressive electrification (and energy assistance funding) to help offset high housing burdens. NOAH housing can be identified at the mass-scale through Res-Intel's comparative rent analytics, property attributes, and/or non-invasive income qualification tools.

Our analysis of over 60,000 multifamily properties in California shows that NOAH properties are predominantly low-rise, tenant-metered, and have much higher energy use intensities (EUI) than non-NOAH properties. NOAH properties in DACs have even higher energy burdens likely due to additional landlord disinvestment.

1.b. We advocate in the *strongest possible terms* the that the CEC offer a statewide program tool to administrators and implementers. A statewide tool needs to 1) Incorporate *actual* (not modeled) meter data to ensure participant cost savings 2) Be inclusive across all property sectors and not just cherry pick the single family detached sector that is easy to model with single-meter, single-property attributes. The TECH sector presentation for the CEC's Dec 2022 workshop shows the limitations of existing approaches to targeting. The results were for the single family detached sector only (excluding 2-4 single family and all multifamily), and yet are still missing about ½ of SCE residential meters; apparently due to low rates of successful matching between property addresses and utility service addresses.

In contrast, Res-Intel's Benchmark.AI platform will be used by MultiFamily Whole Building program administrators and implementers in California in 2023. It provides rooftop solar potential (kW and kWh), energy use intensity, energy burden, income qualification, heating, cooling and whole building energy benchmarking scores, along with predictions about tenant vs master metering, customized electrification measure recommendations, best contact information, and many other key variables for stakeholders to persuade property owners to equitably electrify their properties. The tool also creates remote energy audits on the user dashboard without having to roll a truck. We are extending the Benchmark.AI platform to include the single-family and commercial property sectors in the 1st quarter of 2023.

2. While the concept of requiring layered incentives is appealing, given our preference for the inclusion of municipalities and CBOs as full partners, we can't support mandatory layering. Mandatory layering would likely lead to biasing awards to high capacity and high resource applicants and away from less fortunate applicants. Another way of thinking about this issue would be as a cross marketing program design. Many jurisdictions (and hopefully the state) will develop building performance standards in the coming years. The equitable decarbonization program should be designed to interact with, and support, related programs. The CEC should

integrate the US IRA incentives to be able to be used across a range of programs and by the full range of stakeholders.

3. The CEC program should target at the *property level*, not at the Census tract level. Rolling up program eligibility to a "geography" results in the ecological fallacy where all properties in that geography are held up to have the same attributes (median income, racial composition, etc). Given big data analytics and cloud computing, we can micro-target at the individual property level instead. Then the benefits from the decarbonization program can then be inclusive to LMI properties across the state and not only in DACs, tribal areas, etc. This is especially important in rural areas that have pockets of energy poverty but that don't meet DAC eligibility criteria.

4. Tenant protections: We appreciate the CEC's concern about displacement! The NOAH sector must be protected against rent increases in general, and specifically from increases due to decarbonization retrofits. We have performed the only empirical research on the efficacy of rent covenants that landlords enter into that limit future rent increases in return for efficiency investments with public funding. Our 2022 ACEEE paper indicates that 20% of landlords will likely walk away from *any* agreement with government actors. The longer the rent covenant, the less likely landlords are to agree to it. For example, the 10-year, unenforceable rent covenant design like the Weatherization Assistance Program's is probably the worst program design: participation is limited and rent increases are not being mitigated.

Instead, we suggest: 1) A program design that gets landlords to make public commitments to not increase rents by more than area inflation, 2) utilize peer influences from property associations that other landlords are not raising rents as a result of the program, and 3) a carrot rather than a stick. Cities can offer property tax increase moratoriums, the energy sector should increase energy bill payment assistance and provide a low-income rate design, and workforce programs can try to increase household incomes to prevent displacement.

5. Incentives: We are supportive of maximizing the incentives available to participants and stakeholders. We appreciate that California is leading the country in giving environmental justice stakeholders a seat at the table and compensation for participation in stakeholder engagement processes. We encourage the CEC to offer monetary incentives to CBOs and other stakeholders for converting properties to electrification.

6.a. Outreach and education must be done by CBOs, local governments, and other community stakeholders for community-based social marketing. Social marketing is more effective and cost efficient that traditional statewide program approaches. We propose the CEC authorize the use of a public-facing version of our dashboard that gives authorized CBOs access to non-personally identifiable information (non-PII) about the properties in their community. This information is similar to the information from the CEC's Benchmarking Ordinance (and sporadically in real estate databases) and would spread the benefits to properties that are much smaller than the existing 50,000 sqft size.

The Non-PII information could include:

- Rooftop solar potential (kW and kWh)
- Space heating and water heating fuel
- Presence of existing AC
- Heating, cooling, and overall energy benchmark scores
- Electrification measures that are customized for each residential property (single and multifamily)
- Tenant or master-metered (multifamily)
- Best contact information (multifamily)

Again, most of this is information is already in the public domain for large buildings and other data are located in some county assessor or real estate vendor databases. The contact information field would need to be evaluated against any existing California prohibitions on supplying "lead-lists" that Res-Intel has heard rumors of, but no-one has been able to confirm.

7. Initial Phase: Res-Intel does not have strong opinions on this other than to say that *simplicity* should be a primary evaluative criterion for equitable decarbonization program design and implementation. Many efficiency programs are way too complex and the marginal benefit of added complexity is almost always smaller than the marginal cost.

8. Measures: Res-Intel strongly suggests that the CEC make all efforts to meet participatory justice standards. *Customers who will use the technologies* need to be directly included in outreach efforts and not just rely on likely non-representative comments from grassroots and grasstops organizations who have the resources to respond to this RFI. We believe that direct customer survey research is a best practice to scale up participatory justice efforts.
8.d: It is especially important to include resilience measures in the program; including adding AC when none previously existed. For properties that add AC, the reduction of the emissions of greenhouse gases can likely be achieved with the addition of rooftop solar PV and improved envelope measures to reduce outside smoke infiltration. Res-Intel's Benchmark.AI tool can identify high energy users that are candidates for Net Zero retrofits with efficiency upgrades and solar PV. Including fuel cycle (upstream) emissions of methane from baseline natural gas use can also legitimately increase GHG reductions from electrification.

10. Mobile Homes: Res-Intel's experience with mobile homes is that they are difficult to analyze at the mass-scale since property information varies and is unreliable. It is worth considering the other jurisdictions have implemented mobile home replacement programs which are often cheaper that retrofitting existing mobile homes when there are structural problems, etc.

12. Data: Res-Intel performed an early normalized metered energy consumption (NMEC) impact evaluation report on an SDG&E multifamily project that caused program design and reporting requirements statewide. Those requirements included ensuring that implementers link meter numbers to measures installed. Utility service addresses need to be linked to

property information and county parcel numbers to that building permit data can be monitored for non-routine events that impact metered energy savings.