Aeroseal Comments CA Inflation Reduction Act Residential Energy Rebate Programs

Additional submitted attachment is included below.

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January 26, 2024

California Energy Commission
Docket Unit, MS-4 Docket No. 23-DECARB-01
715 P Street
Sacramento, California 95814

RE: RFI Inflation Reduction Act Residential Energy Rebate Programs (HOMES), Docket No. 23-DECARB01

Aeroseal appreciates the opportunity to provide input on California's proposed programs to implement the federal Inflation Reduction Act's (IRA) Home Energy Rebate programs, specifically the Home Efficiency Rebate Program (HOMES). We commend the California Energy Commission (CEC) for convening this call for public input and its commitment to effective and efficient implementation of the Home Energy Rebate programs to California residents.

<u>Introduction</u>

Aeroseal is a climate technology company that uses an innovative air sealing technology to seal leaks in building ductwork and envelope. Aeroseal's technology was developed at the US Department of Energy (DOE)'s Lawrence Berkeley National Laboratory with partial funding from the DOE and the Environmental Protection Agency.

Aeroseal provides duct and envelope-sealing services to existing and new residential, multi-family, and commercial buildings. Aeroseal offers advanced duct and envelope sealing directly and through a network of over 1,000 contractors that operate in all 50 states across the United States. Aeroseal trains and certifies a variety of local contractors and businesses to participate in this market, including HVAC contractors, insulation installers, home improvement contractors, duct cleaners, and solar installers. This robust network has completed more than 230,000 residential energy-saving duct seals nationwide, including a growing market in California.

Aeroseal commends California's commitment to efficient and equitable electrification by designing programs like the Equitable Building Decarbonization that provide incentive for home upgrades and pairing weatherization with heat pump installations for low-income residents. To enable California to achieve the program's goals of reaching carbon neutrality by 2045, installing 6 million heat pumps by 2030, and prioritizing energy equity, technologies like Aeroseal are critical to minimize energy loss, maintain affordable energy bills, and ensure resident comfort.

Importance of duct sealing and benefits of advanced duct sealing

According to EnergyStar, duct sealing can address up to 20% in energy savings for households in the United States. However, traditional manual sealing methods like tape and mastic are unreliable and difficult to do effectively especially in homes with inaccessible ducts.

Aeroseal's advanced sealing process uses a non-toxic water-based glue formula that is aerosolized and sprayed throughout a pressurized duct system, filling both small holes and cracks and all gaps throughout the entire duct system from the inside out. This approach to duct sealing delivers much greater leakage reduction than traditional manual sealing methods and can enable significantly lower duct leakage than the 10% maximum currently required by the California Energy Code. Sealing ductwork is critical for heat pumps, furnaces and cooling systems to perform at their designed efficiency levels. Data from over 230,000 advanced duct seals completed by Aeroseal installers nationwide suggests that Aeroseal results in natural gas savings of up to 30% per home per year and electricity savings of up to 40% per home per year depending on home type, climate zone, and type of HVAC equipment. Enabling an average of 90% leakage reduction, advanced duct sealing meets the requirements of ANSI/ ASHRAE/ IES Standard 215. Additionally, this method enables sealing of *all* ductwork in buildings, including ducts that are inaccessible, behind walls, or otherwise not reachable by traditional manual sealing processes. When performed as a pre-electrification measure or paired with a heat pump conversion, advanced duct sealing helps ensure that heat pumps perform to their designed efficiency, mitigate operational cost impacts, and improve comfort by reducing hot air loss in the system.

Importantly, sealing through advanced methods allows measurement of results and leakage reduction in real-time during the sealing process, providing reliable results and instant, built-in verification. It is widely recognized that visual inspections to test for leakage do not provide accurate results, and that quantifiable, diagnostic tools like blower door and duct blaster tests are much more reliable. A survey conducted by the Midwest Energy Efficiency Alliance in 2018 found that visually inspected homes tend to have insufficient levels of ventilation jeopardizing occupant health and safety.

Comments

Aeroseal appreciates California's commitment to ensure that the federal IRA rebate programs are implemented and coordinated to support California's existing building decarbonization goals. **To this end Aeroseal's overarching recommendation is that the requirements of the HOMES rebate should be aligned with the requirements of the EBD Direct Install program to ensure streamlined and effective implementation**. Specifically, whether or not the CEC braids the HOMES rebate with the EBD Direct Install program, the duct leakage testing requirements under the EBD Direct Install program should be extended to the HOMES rebate[1]

Aeroseal supports the plan to braid HOMES funding with the EBD Direct Install Program and cover 100% of the project cost for low-income households. Aeroseal recommends that the CEC structure the EBD Direct Install and HOMES rebates such that residents and contractors are incentivized to deploy advanced technologies like advanced duct sealing that enable lower duct leakage, higher energy savings, and verification of results be incentivized especially for leaky homes and homes converting to air-source heat pumps. CEC could adopt a leakage threshold as part of the energy audit, e.g. 200 CFM, and offer higher incentives for those homes to achieve greater leakage reduction through advanced technology.

In the event that CEC does not braid the two programs, Aeroseal recommends that contractor requirements are consistent across programs to enable widespread participation. Additionally, **Aeroseal recommends that the CEC take the following steps to ensure the HOMES program has widespread participation from low income communities**:

a. Offer rolling or periodic qualification for contractors to allow a wide range of contractors, and therefore, communities to participate,
b. Support partnerships with local community organizations especially those serving disadvantaged communities, including partnerships between community organizations and contractors, and workforce programs to increase hiring from within these communities as part of program development and deployment,
c. Consider alternative compliance pathways to the BPI 2400 requirement which can be quite onerous, and
d. Adopt the same set of qualifying income-based programs adopted by the EBD program to streamline income verification.

Conclusion
Aeroseal appreciates the opportunity to submit these comments, and looks forward to supporting these programs to deliver building decarbonization for California residents.

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[1] Equitable Decarbonization Program Direct Install Guidelines, page 14.

Respectfully submitted,

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