

**DOCKETED**

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*Comment Received From: Laura Petrillo-Groh  
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**AHRI Comments â€“ Title 24-2022 Pre-Rulemaking January 26, 2021  
Staff Workshop â€“ Heat Pump Baseline**

*Additional submitted attachment is included below.*

February 11, 2021

California Energy Commission  
Docket Unit, MS-4  
Re: Docket No. 19-BSTD-03  
1516 Ninth Street  
Sacramento, California 95814-5512

(submitted electronically to Docket 19-BSTD-03)

Re: AHRI Comments – Title 24-2022 Pre-Rulemaking January 26, 2021 Staff Workshop  
– Heat Pump Baseline [*Docket No. 19-BSTD-03*]

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Dear CEC Staff:

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) respectfully submits this letter in response to the California Energy Commission (CEC) January 26, 2021 staff workshop on the 2022 Pre-Rulemaking for Building Energy Efficiency Standards regarding the Heat Pump Baseline.

AHRI represents 332 air-conditioning, heating, and refrigeration equipment manufacturers. In North America, the annual output of the HVACR and water heating industry is worth more than \$44 billion. In the United States, the industry supports 1.3 million jobs and \$256 billion in economic activity annually. AHRI represents the majority of the manufacturers of North American water heater, central air conditioners, and heat pumps, all of which manufacture products within the scope of the rulemaking. AHRI's members are continuously working to review and design new higher efficiency equipment that improves consumer comfort, without compromising consumer choice, product quality, or safety. In fact, AHRI members offer the most technologically advanced and efficient HVACR and water heating equipment available anywhere in the world. AHRI and its members support the reduction of greenhouse gas (GHG) emissions and will continue to collaborate with stakeholders to work toward that goal.

**AHRI agrees with CEC's assessment that moving to an all-electric baseline in 2022 is premature.** On January 26, CEC correctly identified that neither the market, nor the workforce is ready to support electric only new construction. Technicians of heat pumps must be trained to the latest of both technical and professional standards. Title 24 is also not ready for policies limiting a consumer's choice to freely select equipment regardless of energy used. Rather than regulations preventing the use of energy sources for space- and/or water-heating, CEC should focus on financial incentives for reducing carbon emissions through policies that encourage the installation of equipment that

reduces carbon emissions and structural updates that reduce the amount of energy needed for space- and/or water-heating. It is imperative that CEC preserve the flexibility for equipment to use any energy source when it is more practical, economical, and environmentally beneficially to do so.

AHRI recommends CEC evaluate certain provisions within Title 24 to further increase the adoption of space heat pumps. Residential Appendix Rated Heat Pump Capacity Verification, RA 3.4.4.2, imposes requirements for verification of system performance are based on 350 cfm per *nominal* ton; however, AHRI has consistently advocated that instead, these requirements should be based on *rated* capacity. The 350 cfm per nominal ton minimum airflow requirement is not an accurate representation of airflow rates at which systems operate. While most residential HVAC systems do operate in the 350-450 cfm per rated ton range, and most HVAC manufacturers do design their systems to operate somewhere in that range, there are some outliers to this nominal range. The optimal airflow rate for an HVAC system depends on many factors, such as the option for several different indoor coils, which can change the rated airflow for the system. Certified capacity and airflow rates are publicly available on the AHRI Certification Directory. Inspectors are easily able to find rated capacity and airflow rates in the AHRI Certification Directory, the same place CEC permits for the look up of heat pump capacity at 17 °F. CEC should allow airflow rates that are utilized to achieve federally mandated minimum efficiency performance.

AHRI urges CEC to address the artificially low performance required when modeling variable capacity heat pumps (VCHP) in the Alternative Calculation Method (ACM) Reference Manual and the residential California Building Energy Code Compliance (CBECC-Res) performance compliance software used for demonstrating compliance with the Performance Standards specified in Title 24, Part 6, Section 150.1(b). CEC responded to five years of AHRI advocacy by adopting modest credits for heating and cooling; however, modeling ductless heat pumps as barely more efficient than a split system equivalent to the standard design with default duct conditions (minimum efficiency) is misrepresentative and presents a barrier to California consumers adopting more efficient technologies. CEC should consider permitting the use of rated efficiencies for these products in the ACM and CBECC-Res performance compliance software program.

Lastly, in response to CEC's recent Flexible Demand Appliance Standards December 14, 2020 stakeholder workshop,<sup>1</sup> AHRI noted that harmonization with industry standards, such as AHRI Standard 1380 (I-P/2019): Demand Response through Variable Capacity HVAC Systems in Residential and Small Commercial Applications (AHRI 1380), will allow manufacturers the ability to produce heat pumps for a broader market. Again, AHRI urges CEC's efforts be geared towards incentivizing the adoption of DR-products (e.g., performance compliance credits) and to not limit product availability for consumers.

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<sup>1</sup> AHRI Comments in Response to the December 14, 2020 Lead Commissioner Workshop on Senate Bill 49 Flexible Demand Appliance Standards and December 9, 2020 Staff Paper, Introduction to Flexible Demand Appliance Standards [Docket Number 20-FDAS-01]

AHRI appreciates the opportunity to provide these comments and would like to continue to be engaged with this effort as CEC develops its future work in this arena. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'LPG', with a long horizontal flourish extending to the right.

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