

<b>DOCKETED</b>	
<b>Docket Number:</b>	19-BSTD-03
<b>Project Title:</b>	2022 Energy Code Pre-Rulemaking
<b>TN #:</b>	236106
<b>Document Title:</b>	Rheem Manufacturing Company Comments - Rheem Comments on All-Electric Multifamily Compliance Pathway, Dec 8 Workshop
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	Rheem Manufacturing Company
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	12/23/2020 9:18:56 AM
<b>Docketed Date:</b>	12/23/2020

*Comment Received From: Rheem Manufacturing Company  
Submitted On: 12/23/2020  
Docket Number: 19-BSTD-03*

**Rheem Comments on All-Electric Multifamily Compliance Pathway,  
Dec 8 Workshop**

*Additional submitted attachment is included below.*



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December 23, 2020

California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814  
Docket office, Ms-4  
Docket No. 19-BSTD-03

**Re: Staff Workshop comments on All-Electric Multifamily Compliance Pathway, 2022 Building Energy Efficiency Standards (Title 24, Part 6)**

Dear Commissioners,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to provide these comments on the California Energy Commission's (CEC) 2022 Building Energy Efficiency Standards proposal presented at the December 8 workshop on heat pump baselines for multifamily and non-residential buildings

Rheem is an industry leader in total heating, cooling, refrigeration and water heating solutions and one of the few global brands with product offerings covering residential and commercial heating, cooling, conventional and hybrid storage water heaters (HPWH), tankless water heaters, solar water heating systems, pool and spa heaters, commercial boilers, residential hydronic and geothermal systems, commercial refrigeration products, indoor air quality accessories, and replacement parts for all categories. Rheem has a manufacturing facility in Oxnard, California and is headquartered in Atlanta, Georgia. Rheem also has U.S. based manufacturing facilities in Alabama, Arkansas, Connecticut, and North Carolina and distribution facilities throughout the US, Canada and around the world.

Rheem appreciates CEC's efforts to set an all-electric baseline for heat pumps to encourage and accelerate the construction of zero-emission buildings while at the same time preserving options for mixed-fuel solutions for this code cycle. We recognize California's intent to implement a market shift towards all-electric new construction and actively support commercialization of new heat pumps to enable this pathway.

We thank the CEC for their hard work on this proposal and comments made by staff during the webinar concerning the state's decarbonization goals. In support of continued progress towards these goals, we make the following recommendations and comments:



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- **We support the CEC’s proposal to establish a heat pump baseline for space heating in buildings types where it is feasible and cost effective; therefore, additional building types should be added to meet this goal.**

Rheem supports the December 8 proposal to establish a heat pump space heating baseline for small offices, high-rise multifamily buildings, small schools, and warehouse office spaces. Based on the CEC’s criteria of feasible and cost-effective buildings, we recommend the CEC expand the scope of the heat pump baseline proposal to include all educational facilities and multifamily buildings. The CEC’s presentation only included cost-effective modeling data for small schools. However, given that many large campuses across the state (such as the University of California system) are already shifting to all-electric construction, the CEC should consider an all-electric baseline for large schools as well. The CEC’s modeling also demonstrates that heat pump space heating baselines are cost-effective for both mid-rise and high-rise multifamily; therefore, the CEC should review to determine if a single electric space heating baseline across this entire building types can be set.

- **We recommend the CEC reduce barriers for the electrification of building types that have typically relied on central boilers for space heating.**

The current proposal does not include a heat pump baseline for large non-residential building types that typically rely on residential central boilers for space heating. Continuing to set a gas baseline for these buildings will make it costly and burdensome for all-electric buildings to comply with the code. We recommend that the CEC conduct additional analysis to consider where a single electric baseline for space heating may be feasible, and at a minimum, the CEC should set a fuel neutral baseline for building types that do not have an electric baseline.

- **We recommend that the CEC require mixed-fuel construction be built electrification-ready.**

California’s 2045 carbon neutrality goal requires the state to be forward-thinking and prepare for a carbon-free economy. Most mixed-fuel construction built in the present day will need to be electrified in the future in order to meet the state’s emission reduction goals.

Although some electrification-ready measures currently exist in the code for water heating, current measures do not include a plan for the required infrastructure to easily electrify in the future. Therefore, the CEC should pursue additional electrification-ready measures to avoid burdensome costs placed on the building owner in the future. These



electrification-readiness measures should include measures in all building types (single family, multifamily, and non-residential buildings) for unitary and central water heating, space heating, cooking, and drying.

- **We recommend further development and refinement of the “JA14 Qualification Requirements for Central Heat Pump Water Heater System”.**

Rheem supports the performance and prescriptive compliance approach for low-rise residential buildings including the prescriptive pathway for central HPWHs and reference to JA14. While Rheem recognizes the intent of the details in JA14, we find some aspects such as systems design and performance testing to be overly prescriptive. For example, the multiple tests conditions required appear reasonable to establish an initial performance map. However, if these tests were applied to all new model configurations it would add an undue test burden. Also, the requirement to include a loop tank is well founded, but it is not necessary for every system to achieve needed performance objectives. Including too many systems design limitations at this early stage of adoption could stifle innovation and deployment of central heat pump water heaters. Therefore, we recommend further development and refinement of “JA14” and the Compliance Manual.

We thank the CEC for their continued work in the building code development process and look forward to continued collaboration.

Sincerely,

RHEEM MANUFACTURING COMPANY

A handwritten signature in black ink that reads "Karen B. Meyers".

Karen Meyers  
Vice President, Government Affairs

CC: Joe Boros

