

**DOCKETED**

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**Rheem Comments on 2022 Update to Title 24, Part 6, the Building Energy Efficiency Standards**

*Additional submitted attachment is included below.*



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November 30, 2019

Commissioner Andrew McAllister  
California Energy Commission  
1516 9th St  
Sacramento, CA 95814

**Re: Comments on 2022 Update to Title 24, Part 6, the Building Energy Efficiency Standards**

Dear Commissioner McAllister,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to provide these comments on the 2022 Energy Code Pre-Rulemaking Workshop. Rheem supports California Energy Commission (CEC) efforts to improve alignment of the building code with California's climate policies and also recognizes that it will take more than one code cycle. Considering the multiple pathways presented at the Workshop, we encourage the Energy Commission to take a balanced energy approach and continue to provide choice between fuels for buildings. We offer the following specific comments for your consideration on how to update the 2022 Title 24 Building Energy Efficiency Standards.

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, 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 is headquartered in Atlanta, Georgia, and has U.S. based manufacturing facilities in Alabama, Arkansas, California, Connecticut, and North Carolina. The company also operates distribution facilities throughout the US, Canada and many other countries around the world.

- **We support maintaining separate baselines for mixed fuel buildings and all-electric buildings for Lowrise Residential Buildings.**

Continuing to maintain separate performance standards for natural gas and electric heating should provide options for the market to construct mixed fuel and all-electric buildings. Further, it should help preserve the flexibility to us natural gas powered equipment when it is more practical or economically beneficial as compared to all-electric. This is supported by the E3 pathways modeling that presents a balanced future



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scenario where decarbonization objectives are achieved not only with electrification, but also including high efficiency natural gas appliances and some renewable natural gas supply.

- **We urge CEC to publish additional technical information detailing the two-step energy design rating approach proposed**

We understand the two-step EDR using Time Dependent Source energy (TDS) and Time Dependent Valuation (TDV) reflects both the climate and air pollution impacts, and the electricity grid system costs of buildings. However, the materials presented were not sufficiently detailed to evaluate how the metrics would be applied, and for example, how they would impact the selection and design of HVAC equipment and water heaters.

- **The CEC should update the TDV metric to appropriately reward load shifting, demand response, energy storage, and other load flexibility technologies.**

Currently, the retail adjustment adder remains a constant value during every hour of the year. However, this “flat adder” does not properly reward the benefits of load flexibility technologies. Rather than reflecting near-zero or negative TDV prices at midday on some days, the TDV at best reaches half the peak price or slightly lower than the average price. This isn’t reflective of utility cost recovery through rates, which is mostly volumetric, with only a small share of cost recovery through fixed charges. Load flexibility technologies, such as demand response, pre-cooling, and energy storage should be properly rewarded for their benefits to the grid, but also balanced to ensure human comfort and health and safety are not compromised. The Energy Commission should consider making the retail adjustment adder proportional to other TDV components in order to better reward the advantages of load flexibility technologies.

- **While we support the CEC’s inclusion of non-combustion emissions, including refrigerants and methane leakage, the assumptions should be more carefully examined.**

We agree that California must account for non-combustion emissions to track these emissions and create mechanisms to incentivize non-combustion emission reduction. For methane, it is important to accurately quantify how much leakage could be avoided by electrifying an appliance or home. We do not agree that the estimate is simply represented by the sum of leakage rates behind-the-meter and in the distribution and transmission system. The 0.5 percent leakage rate reflecting behind-the-meter value is



more applicable than 0.7 percent reflecting all leakage sources in CA. We further agree that including emissions in the TDV framework will allow better lifecycle emissions comparison between all-electric and mixed-fuel buildings and may help incentivize the use of lower-GWP refrigerants. However, the most promising low-GWP refrigerants being developed for use in residential HVAC heat pumps are generally mildly flammable, requiring different installation practices and at this time still pending code approvals. The estimates for refrigerant leakage rates presented are unreasonably high and also failing to consider improvements provided with new coil designs and end-of-life reclaim/ recycling programs. The leakage rates are also inconsistent with Rheem's experience and warranty data. The code should acknowledge and provide incentives for reclaim programs and for appliances such as HPWH's that have sealed refrigeration systems with no service valve.

Rheem appreciates the opportunity to comment and looks forward to continued participation in the process.

Sincerely,

RHEEM MANUFACTURING COMPANY

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

Karen Meyers  
Vice President, Government Affairs

CC: Joe Boros

