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California Efficiency + Demand Management Council Comments on Title 24 Codes and Standards Enhancement (CASE) Initiative 2022 California Energy Code Controlled Environment Horticulture

I. Overview

The California Efficiency + Demand Management Council (The Council) appreciates the opportunity to submit these comments to the California Energy Commission (CEC) in response to the proposed changes to Title 24 code requirements relating to controlled environmental horticulture (CEH) facilities. While the Council eagerly supports the CEC’s long-standing efforts aimed at developing standards that drive various markets toward energy efficiency as a standard practice, we have concerns about the current proposal as it pertains to lighting, building envelope and dehumidification requirements for existing CEH facilities. We believe that the CEH market is not ready for such an aggressive standard and propose that the timeline for the adoption of this standard for existing facilities be extended 3-5 years. We support the proposed standard as it pertains to new construction. As such, our comments only pertain to existing facilities.

The Council is a statewide trade association of non-utility businesses that provide energy efficiency, demand response, and data analytics services and products in California. Our member companies employ many thousands of Californians throughout the state. They include energy efficiency (EE), demand response (DR), and grid services technology providers, implementation and evaluation experts, energy service companies, engineering and architecture firms, contractors, financing experts, workforce training entities, and manufacturers of EE products and equipment. The Council’s mission is to support appropriate EE and DR policies, programs, and technologies to create sustainable jobs, long-term economic growth, stable and reasonably priced energy infrastructures, and environmental improvement.

II. Background

Indoor agriculture in California, specifically CEH growers have been largely underserved by ratepayer-funded EE programs due to EE program administrators’ (PA) interpretation of

California Public Utility Commission (CPUC) guidance within evaluation reports and/or dispositions issued since 2012. Although some clarification was provided in 2016 that allowed energy savings claims to occur related to lighting and fenestration, indoor agriculture and its energy savings potential have been overlooked and in the most severe case, subject to a moratorium.

In 2018, changes within CPUC guidance allowed for access to energy savings within the indoor agriculture subsector (including the formal removal of PG&E's moratorium on greenhouse energy savings claims) however, existing EE programs were not equipped to serve the specialized needs of CEH customers, nor were these customers targeted by EE programs, leaving energy savings and customer service opportunities on the table.

Agricultural customers have thin margins, tight budgets, and skeleton staff. Addressing energy use typically falls far behind competing priorities perceived as critical to business success as customer resources are extremely limited. This customer group requires the assistance of energy related services and rebates to place energy efficiency on the priority list. An additional significant barrier for cannabis cultivators is they do not have access to capital due to federal restrictions, so any expense literally needs to be paid from cash on hand. Furthermore, California's indoor agriculture market continues to grow, especially among greenhouses as well as the rapid expansion of adult-use cannabis, which should still be considered a nascent market in and of itself.

III. Summary of Our Concerns

Our key concerns with the proposed update are summarized below.

1) Timing - Based on the proposed code update schedule, the market will have a year to adapt to the new code. This is aggressive for any market but from a horticultural standpoint where plant health is critical to business success, farmers should be afforded time to experiment with products to ensure code compliance is achieved without jeopardizing crop output. According to the CEC's own analysis, there are mixed results regarding the impact of LED technologies on CEH crop production.¹

2) Energy savings impacts – The significant opportunity for indoor agriculture to contribute to state and IOU energy use reduction goals will be eliminated due to new baselines set by the proposed code. It is important to consider this sub sector as underserved due to previous CPUC guidance.

3) Customer service, education, and market engagement impacts – As a rapidly growing, energy intensive sub sector, CEH stakeholders are playing a critical role in California's economy, and

¹ [Title 24, Part 6 Draft CASE Report](#) at page 43.

perhaps more importantly due to the COVID crisis. The code update will severely reduce or eliminate the ability for utilities to engage and influence these customers via ratepayer funded programs and services.

4) Equipment supply – Market reports indicate HID fixtures are standard practice and LED adoption is very low. This is driven by the high cost of horticultural LEDs, limited options for qualified products and the relatively unproven efficacy of growing under LED compared to HID. Anecdotally, there are similar barriers related to horticultural specific HVAC equipment. These are issues that cannot be resolved within the timeframe of this proposed code update, yet critical to the customers’ ability to meet the code requirements.

5) Workforce supply - Indoor agriculture requires a specialized workforce that understands the connections between energy systems and horticultural process. It is not clear whether such a workforce exists or can be developed in time to support the demand this rapid roll out will create. This concern extends to measurement and verification (M&V) and enforcement resources that may inaccurately scrutinize an indoor agriculture project as if it were a regular commercial project.

6) Customer resource availability – CEH growers have tight margins and limited resources which typically are focused on non-energy related priorities, where energy costs are misunderstood or perceived as comparatively unimportant. Without ratepayer funded resources such as incentives and education, CEH growers will be less able to effectively meet the updated code. Specific to cannabis, cultivators are subjected to significantly higher costs to initiate and run their business, all without access to financial tools common to other customer types due to federal prohibition on their crop. This update requires greater financial burden on indoor agriculture customers within a small timeframe and will put many growers out of business.

7) Single code for all indoor growing - Standardization of code may not be appropriate in a CEH setting since different plants/cultivars require different growing conditions to achieve various outcomes desired by the farmer.

IV. Recommendations

The Council recommends the following changes be made to the proposed language relating to CEH lighting, building envelope and dehumidification requirements:

1) Create a steppingstone approach to adopting the proposed language so the indoor agriculture market has a more reasonable timeframe to work towards reducing energy use while in the meantime be able to rely on ratepayer funded EE resources. As such, we propose a 3-5 year timeframe for the phased implementation of this rule to allow This will create space

for influencing market players to make informed and cost-effective decisions relating to energy efficiency, hence allowing the PAs to claim the significant energy savings while at the same time ensuring customer service and market engagement objectives are met.

2) Separate code requirements for existing operations and new construction. While the Council is supportive of the proposed timeframe for imposing the lighting, building envelope and dehumidification efficiency requirements for new construction, the timeline for imposing this requirement for existing facilities must be extended to 3-5 years, thus allowing for sufficient time for the market to explore possible solutions.

3) Separate code requirements based on crop type. More study is needed to determine whether the change in LED lighting results in demonstrative impacts on quality and yield depending on crop. This should include building envelope and dehumidification codes given the dynamic nature of horticultural processes.

V. Conclusion

The Council appreciates the opportunity to provide comments on the Title 24 Codes and Standards Enhancement (CASE) Initiative 2022 California Energy Code Controlled Environment Horticulture. As a growing contributor to California's economy, indoor agriculture should not have further obstacles to success. In combination, the years of underservice, lack of resources and the degree of market growth present significant energy savings, education and customer engagement opportunities through this customer segment. All of which are desperately needed to ensure this sector's economic success and achieve California's aggressive energy and greenhouse gas reduction goals. We look forward to the CEC's final decision.

Respectfully submitted.

A handwritten signature in black ink, appearing to read "Greg Wikler". The signature is fluid and cursive, with the first name "Greg" being more prominent and stylized than the last name "Wikler".

Greg Wikler