

**DOCKETED**

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**Bowery Comment to Docket Number 22-BSTD-01 on Controlled Environment Horticulture (CEH) standards**

*Additional submitted attachment is included below.*



*November 17, 2023*

California Energy Commission  
Docket Number 22-BSTD-01  
715 P Street Sacramento, CA 95814

RE: Draft 2025 Energy Code Express Terms

Dear Chairman Hochchild, Vice Chair Gunda, and Commissioners McAllister, Monahan, and Gallardo,

Bowery appreciates the opportunity to comment on the California Energy Commission's (CEC) Draft 2025 Energy Code Express Terms (Express Terms)(Docket Number 22-BSTD-01).

Bowery is a leader in the Controlled Environment Agriculture (CEA) industry and the largest vertical farming company in the United States. Bowery was a founding member of the CEA Alliance, is an active member of the International Fresh Produce Association and FMI, and regularly engages with NGO stakeholders around sustainability, energy efficiency and water circularity.

Through its network of smart indoor farms and proprietary end-to-end technology, Bowery leverages cutting edge technologies with the most advanced methods of CEA production to grow fresh produce all year round, independent of extreme weather and seasonality. As a result, our indoor farms use a fraction of the land, water, and fertilizer required by traditional operations and do not require the use of pesticides.

Energy sourcing and energy efficiency are critically important to our business. Bowery uses 100% renewable energy to power our farms and we are constantly looking for ways to improve the energy performance of our farms. In just the last year, we have improved our energy efficiency in our production by over 35% in our farms. As we add new farms to the Bowery network, we incorporate the most efficient systems, including lighting and HVAC systems, to improve our energy efficiency and drive down operating costs.

**Bowery supports revisions to horticultural lighting requirements.**

Lighting is one of the most significant energy usage drivers within CEA facilities, both within indoor farms and greenhouses. It is essential that all CEA facilities are held to the same high

standard and prioritize grow lighting efficiency. The 2.3 micromoles per joule standard proposed by CEC is a reasonable minimum standard that can be readily achieved by using LED light fixtures already commercially available from a multitude of vendors. Energy efficient lighting is a hallmark of responsible CEA operations as it reduces the overall impact such operations may have while simultaneously minimizing the operational costs of production.

**Bowery urges CEC to remove the requirements established by Section 120.6(h)(1)(D).**

Bowery believes that the requirement for a desiccant based dehumidification system for any farm system with a dew point of 50°F or less will create a number of unintended consequences for CEA leafy green production where a dew point below that setpoint is common and therefore should be removed.

1. Use of solid or liquid desiccant dehumidification systems will require a secondary source of heating for regeneration air, which will drive up energy consumption as compared to Direct Expansion (DX) with Hot Gas Reheat (HGRH). Therefore, this requirement runs counter to CEC's goals of improving the energy performance of CEA operations.
2. One of the systems improvements that allows CEA producers to achieve high levels of water circularity is the ability to capture and reuse HVAC condensate for irrigation ([\*Resource Innovation Institute, CEA Energy & Water Benchmarking Report\*](#)). However, any ambitions to recapture condensate from the dehumidification process will require an additional heat pump (or other) to strain the water out of the regen airstream, which will add yet additional energy consumption.

Bowery appreciates the opportunity to comment on the Draft 2025 Energy Code Express Terms update to the California Energy Code (Part 6 of California's Building Standards Code) and looks forward to continuing to work with the CEC throughout this process.

Respectfully submitted,

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