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Harvest Thermal Response to SB 68 Information Request

The attached documents consist of a document providing input to the SB 68 One-Stop Shop Website

This document also contains links to a customer facing brochure and a website providing additional information.

Additional submitted attachment is included below.

SB 68 - CEC Building Decarb RFI Response

Information Requests and Questions for Stakeholders

The CEC is gathering data, information, and recommendations about building technologies, tools, software, or financial resources that advance or facilitate building decarbonization, building electrification, and EV charging. The questions apply to all building types, unless otherwise specified. Detailed responses, data, examples, references, cites, and weblinks are encouraged.

1) Which building technologies (devices, appliances, and equipment) that advance or facilitate building decarbonization, electrification, and EV charging would you recommend be included on CEC's informational website? Where applicable, please address the following in your response. Explain how your recommended technology facilitates the installation of EV chargers and reduces GHG emissions in buildings

Recommended technology: Harvest Thermal combined heating, cooling and hot water system with thermal storage.

Harvest Thermal enables the electrification of both heating, cooling and hot water with a single system. It is a streamlined solution that saves on equipment and installation costs compared to a conventional heat pump, heat pump water heater and home battery.

Harvest Thermal is one of the most efficient systems of the market, and it shifts both heating and hot water loads from high-price, high-emission peak periods to the middle of the day when electricity is cheapest and comes primarily from renewable energy.

Harvest Thermal offers two options for cooling:

- 1) A conventional AC condenser for high cooling loads;
- 2) A "night cooling" whole home ventilation option, that circulates cool, filtered outdoor air throughout the house during nights and mornings, providing cooling without the bills.

A customer brochure summarizing the technology can be found [here](#).

2) Does the technology offer additional benefits, e.g., reduces energy usage or energy burden, automates shifting of energy usage to non-peak hours, improves indoor air quality?

By using thermal storage to arbitrage time-of-use rates, Harvest Thermal is the only electrification solution on the market that reduces heating and hot water costs by 30 to 40% compared to conventional gas alternatives, providing a scalable solution that will reduce Californians energy costs while helping integrate renewable energy on the electricity grid.

3) *Is the technology capable of providing stored electricity back to appliances, buildings, or the grid?*

Harvest Thermal provides stored thermal energy back to the occupant in the form of heat and hot water.

4) *Is the technology market-available? Please include manufacturer(s) name and website(s).*

Harvest Thermal is available and is being installed in California today. For information on getting a quote, becoming an installer or just more information about the technology refer to the [website](#).

5) *What is the average retail cost point or cost range? Is the technology cost-effective? Please include references.*

The system reduces energy bills compared to gas and electric alternatives, for the same up-front cost as a good quality electric system, and typically without requiring a panel upgrade, delivering payback to most customers within a few years. In addition, with both heat pumps and Thermal Storage, Harvest Thermal systems are eligible for incentives and tax rebates to reduce the upfront investment and support accessibility.

6) *What is the useful life of the technology?*

The Harvest Pod comes with a 10 year warranty (1 year parts and labor plus 9 years parts). Expected life of 18-20 years, similar to regular heating and hot water systems.

7) *What is the expected maintenance and service frequency?*

Filters changes every 6 to 12 months depending on usage
Descaling of the hydronic coil every 3 to 5 years depending on water hardness.

8) *Does the technology require licensed contractor installation and labor? If so, please specify the trade(s) required and an estimate on installation and labor costs.*

HVAC and plumbing licenses, comparable installation costs to conventional heat pump and HPWH systems

9) *Does the technology require electrical upgrades to an existing building with a service panel of 30-amp fuse panel/120 volts? 60-amp fuse panel/240 volts?*

Requires 15A 240V for the heat pump, 15A 120V for the air handler, and 30A 240V for the AC condenser when selected.

In the Night Cooling configuration, Harvest Thermal requires **only one 15 A 240 V circuit to electrify heating and hot water** instead of two 30A 240V circuits for conventional heat pumps and heat pump water heaters.

10) *Specify average annual energy consumption, if applicable.*

Varies by home, the annual coefficient of performance is around 3.0.

11) *Specify the BTU capacity by tonnage, if applicable.*

36 kBTU/h

12) Specify the type of refrigerant used, including its global warming potential (GWP), if applicable.

CO2 refrigerant, GWP = 1

13) Specify the applicable building type(s) (single-family, commercial, and multifamily).

Single- and multi-family (with individual heating and hot water units)

14) Does the technology contain “smart” functionality? If so, please detail the “smart” capabilities or protocols.

Harvest Thermal features CTA-2045 and is capable of responding to both time-of-use rates and dynamic price signals through the MIDAS server.

Harvest Thermal features IoT functionality that allows users to access and control the system remotely.