

**DOCKETED**

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**Comments for Docket 22-BSTD-01 2025 Energy Code Pre-Rulemaking**

*Additional submitted attachment is included below.*

February 15<sup>th</sup>, 2023

California Energy Commission / California Energy Codes & Standards  
Docket # 22-BSTD-01, Title 24 2025 Energy Code Pre-Rulemaking  
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Re: Request for comment and Pre-Rulemaking Title 24 2025, Solar Swimming Pool and Spa Heating, Docket # 22-BSTD-01

Esteemed California Energy Commission and California Energy Codes & Standards,

Fluidra appreciates the opportunity to participate in the rule making process for the 2025 Title 24 California Energy Code. As a pool equipment manufacturer with U.S. Headquarters in California, Fluidra recognizes the importance and demand for energy efficient and environmentally sustainable swimming pool operation. Accordingly, continual efforts are made in the development of products that can meet the competitive goals of a sustainable future.

As a member of the Pool & Hot Tub Alliance and AHRI Fluidra fully supports and endorses the comments jointly submitted by the Pool & Hot Tub Alliance (PHTA) and AHRI. In addition, we submit the following comments to the Title 24 2025 updates.

### **General Comments**

Fluidra agrees with the intent to conserve energy and improve the sustainability of pool operation, maintenance, and heating. However, there are concerns over the substantial incremental increase in cost of building a pool, making pool ownership increasingly unattainable, particularly in low-income areas, as well as the impact to an industry that supports thousands of California jobs due to this code update.

Additionally, there are concerns over the practicality of roof space for Solar PV + Solar Collectors, particularly in single home residential buildings. And the lack of options for heating of permanent inground spas.

### **Draft Code Language**

With regards to the proposed code updates, Fluidra respectfully submits the following suggested edits and additions to improve clarity of the approved heating options, and to provide pool owners with additional options of using existing on-site energy options.

A. Include provisions to allow utility supplied renewable and recovered energy, such as renewable natural gas which can be verifiable by the local utilities.

Section 110.4, item (c), sub item 2.

2. Derive at least 60 percent of the annual heating energy from on-site **or utility supplied** renewable energy or on-site **or utility supplied** recovered energy; or

B. Clarify the use of a Heat Pump Pool Heater as a standalone option to comply with the code.

Section 110.4, item (c), sub item 3.

3. In all Climate zones, **the use of** a heat pump pool heater ~~shall have~~ **with** a Coefficient of Performance (COP) of not less than 5.5 at the High Air Temperature-Mid Humidity rating condition rated in accordance with 10 C.F.R. section 430.23(p) (Appendix P to subpart B of part 430). In addition, a heat pump pool heater installed in climate zones 1, 2, 4, 11, 12, 14, and 16, shall have a Coefficient of Performance (COP) of not less than 4.0 at the Low Air Temperature-Mid Humidity rating condition rated in accordance with 10 C.F.R. section 430.23(p) (Appendix P to subpart B of part 430). A heat pump pool heater shall be sized using the following steps:

- i. Determine desired pool temperature.
- ii. Determine average temperature for the coldest month of pool use.
- iii. Determine temperature rise by subtracting the average temperature for the coldest month from the desired pool temperature.
- iv. Calculate the pool surface area in square feet.
- v. Use the following formula to determine the Btu/h output requirement of the heater:  
 Pool Area x Temperature Rise x 12

C. Add the following exception to Section 110.4, item (c) to allow single-family home owners the option to use existing energy utilities when building a pool or upgrading a pool on their own property.

**Exception 3 to Section 110.4(c):** Additions and alterations to single-family buildings with existing gas utilities.

A fourth option to consider is the use of a Powered Safety Pool Cover certified to ASTM F1346. The US Department of Energy recognizes pool covers as an effective method to not only conserve heating energy, but also conserve water from evaporation, and reduce pool chemical consumption<sup>1</sup>, as well as provide a safety barrier that meets California Safety and ISPSC requirements when certified to ASTM F1346.

<sup>1</sup> <https://www.energy.gov/energysaver/swimming-pool-covers>



## **Spa Only Heating**

For pool/spa owners with permanent inground Spas or Pool/Spa combos who wish to install heating only to their spa; the sizing requirements for heating, such as solar collector surface area that is equivalent to at least 70% of the pool surface area, do not make practical sense. Internal survey data we've gathered for annual gas heater run times in residential Spa applications show an average of 150 – 200 hours of run time annually, with spa use typically in the evenings during cooler weather when solar and heat pumps are much less effective for the quick heat up expected by spa users.

Fluidra suggests the inclusion of code language with options for consumers who only wish to provide heating for their permanent in-ground spas.

## **Information Requests:**

Fluidra would like to provide comments on the following items.

### **Market Readiness –**

*5) What information describes the current pool and spa heating practices in California? How often are pools and spas heated seasonally vs. year-round? How does the choice of heating equipment influence heating behavior?*

Internal surveys of residential gas heater run times show an average of 150 – 200 hours of gas pool heater operation annually in residential applications. Additionally, spa users expect a rapid heat up time when choosing to use their spa which may not be possible using solar and heat pumps, especially in the evenings and cooler weather when spas are mostly used.

### **Pool pumping systems Energy Savings –**

*2) Estimates of the opportunity through smart pumping for pool pump to adjust flow to changes in the system pressure due to condition of the pool filter.*

There are several patents around this technology which may create a competitive disadvantage for pool equipment manufacturers.

Respectfully,



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