DOCKETED	
Docket Number:	25-BSTD-03
Project Title:	2028 Energy Code Pre-Rulemaking.
TN #:	271460
Document Title:	Opposition to Proposed Pool Heating Regulation 25-BSTD-03
Description:	The undersigned organizations representing aquatics programs, public health advocates, swim instruction providers, pool operators, nonprofit aquatic centers, and community recreation providers throughout California and the nation, write jointly and in strong opposition to the California Energy Commission's (CEC) proposed regulation that would require solar pool heating systems as a condition of operating or permitting public swimming pools.
Filer:	Gerry Root
Organization:	Drowning Prevention Foundation under nonprofit umbrella of California Coalition for Children's Safety and Health
Submitter Role:	Other Interested Person
Submission Date:	7/15/2026 2:11:26 PM
Docketed Date:	7/15/2026

July 15, 2026

Commissioner David Hochschild, Chair
California Energy Commission
715 P Street
Sacramento, CA 95814

RE: Opposition to Proposed Solar Pool Heating Regulation - Mandatory Solar Thermal Pool Heating Requirements for Public Swimming Pools
CEC Docket Number: 25-BSTD-03
Project title: 2028 Energy Code Pre-Rulemaking
Subject: Public Comment on "Solar Heating for an Existing Pool and Spa" CASE Proposal

Dear Commissioners and Staff:

The undersigned organizations — representing aquatics programs, public health advocates, swim instruction providers, pool operators, nonprofit aquatic centers, and community recreation providers throughout California and the nation — write jointly and in strong opposition to the California Energy Commission's (CEC) proposed regulation that would require solar pool heating systems as a condition of operating or permitting public swimming pools.

Our coalition spans a broad and diverse cross-section of stakeholders united by a shared commitment to aquatic access – especially for underserved populations and underserved communities - drowning prevention, and public health. We are not opposed to energy efficiency or environmental sustainability. To the contrary, many of our members have voluntarily invested in energy-saving technologies, both higher efficient heaters and solar equipment. We write because the proposed regulation, as structured, would cause serious and foreseeable harm — closing pools, reduce access to drowning prevention swim instruction, and disproportionately burdening the underserved communities that most depend on public aquatic facilities — without achieving any meaningful energy savings benefit.

This letter presents comprehensive legal, public health, equity, technical, and financial objections to the proposed rule, and urges the CEC to withdraw or substantially revise the proposed regulation before it advances further. We respectfully request that this letter be entered into the official rulemaking record.

I. STATUTORY AUTHORITY AND REGULATORY OVERREACH

We raise this issue because the proposed solar heating regulation would absolutely shutter many of California's pools that not only provide important recreational programs for and especially to underserved populations and communities, but as drafted the proposed regulation would also have a dramatic impact by removing pools desperately needed to carry out one of the state's essential drowning prevention strategies – making drowning prevention swim lessons available to California's most at-risk populations.

The research involving pool heating shows California's pools and swim lesson pools create less than 0.02% impact on California's greenhouse emissions. CEC's proposed regulation, largely because of the negligible impact of the regulation on greenhouse gas emissions, the proposed regulation may not be "reasonably necessary" to effectuate any statutory purpose and therefore - particularly in light of the public health consequences - can be argued to be beyond the CEC's authority or mandate. California Health & Safety Code Section 116035 governs standards for public swimming pools and expressly vests regulatory authority over pool operation, construction, and sanitation in the State Department of Public Health — not the California Energy Commission. The CEC is an energy agency; its mandate does not naturally extend to imposing operational conditions on public swimming pool facilities as a prerequisite to their lawful operation, as stated earlier, especially when doing so would create a severe detrimental impact on a majority of at-risk populations[i] and communities across the state.

By conditioning pool operation or permitting on the installation of solar thermal heating systems, the proposed rule effectively transforms an energy preference into a public health and operational mandate — a reach that is neither practical in this case nor authorized by statute nor consistent with the separation of regulatory authority established by the Legislature. Any regulatory authority the CEC has over pools affecting the operation of public swimming pools must be reasonable and consistent with the public health mandates that govern those facilities and cannot subordinate water safety, pool access, or public health to energy policy objectives – especially when the energy policy result in inconsequential savings in the state's greenhouse gas goals. And, as we will review later in this letter, research shows that pool water heating makes up less than 0.02% of California's greenhouse gas emissions, making this overreach unnecessary and ineffective for addressing California's climate goals.

This proposal differs from the kind of regulation the CEC has the authority to promulgate regarding energy efficiency of swimming pools because it would have a de minimus effect and would effectively determine whether many public pools can continue operating at all. This is a matter of public health. We urge the Commission to seek a formal interagency legal opinion before proceeding.

II. DROWNING IS A PUBLIC HEALTH CRISIS — POOL ACCESS SAVES LIVES

Drowning is the leading cause of unintentional injury death among children ages 1 through 4 in California and the United States and remains among the top causes of unintentional injury deaths and hospitalizations for children through age 14. Drowning in California based on data from California's Department of Public Health's EPICenter, the U.S. Center for Disease Control WISQARS, Red Cross, and other science-based data surveillance authorities is the third leading cause of death for California's teenagers and youth up through age 24. In California, drowning consistently ranks as one of the most preventable causes of childhood fatality. The Centers for Disease Control and Prevention (CDC) and the American Red Cross have both recognized that access to drowning prevention swim lessons is among one of the most effective and evidence-supported interventions for reducing drowning risk. Swim lesson programs require warmer water than what is achievable by solar pool heating.

Heated pools are not a recreational amenity or nicety. Heated water is required for biological and physiological reasons. They are the infrastructure upon which life-saving swim lessons, therapeutic aquatic programming, adaptive aquatics for individuals with disabilities, and competitive youth development programs are built. Cold-water or unheated pools cannot safely or reliably support infant and toddler swim instruction, special needs programming, or year-round community swimming — the very programs that save lives.

Any regulation that results in pool closures, reduced operating hours, restricted programming, or financial barriers to pool operation directly and foreseeably increases drowning deaths. This is not a speculative concern; it is a predictable, documented consequence of reducing pool access in communities where drowning rates are already elevated. The CEC is obligated to weigh the public health consequences of pool closures — including preventable drowning deaths — against the marginal energy savings the proposed regulation would generate. The CASE proposed regulation has not done so, and that failure is itself a basis for withdrawing the proposed rule.

III. DISPROPORTIONATE BURDEN ON LOW-INCOME, MINORITY, AND UNDERSERVED COMMUNITIES

The proposed regulation does not impose its burdens equally. Private clubs, luxury fitness facilities, and high-end residential communities operate pools with adequate capital

reserves and can absorb compliance costs without operational disruption. Pools that serve most of California's childhood and youth populations are the most at risk if this solar regulation were to be passed. Public pools operated by municipalities, school districts, YMCAs, nonprofit aquatic centers, and community recreation providers — the facilities that overwhelmingly serve low-income and minority communities — have no such financial or infrastructure cushion.

Disparate drowning rates in Black, Native American Indian, Latino, and low-income communities are among the most well-documented and persistent public health inequities in the United States. Studies consistently find that Black children drown at rates nearly three times higher than white children, and that Latino children face similarly elevated risk. One of the single most effective interventions is pool access and drowning prevention swim lessons — and the facilities that provide that access to these communities are precisely the ones the proposed regulation would place at greatest financial risk. And would box these facilities serving most of California's population into a situation where their pool inherited infrastructure cannot accommodate the building and land retrofits needed to comply. Most public and private swim lesson pools do not own their own building or land, and do not have the luxury of the building structure or space to comply with such a regulation.

Forcing expensive solar thermal retrofits on underfunded public pools will accelerate the closure of the very facilities that serve communities with the greatest need and the least access to alternative aquatic resources. This is not a theoretical concern — it is the predictable and foreseeable result of imposing a costly, infrastructure-intensive mandate on facilities already operating under severe budget constraints.

The proposed regulation, as written, would constitute a textbook environmental injustice: an ostensibly neutral policy that in practice concentrates harm on the communities least able to bear it. We respectfully but firmly urge the CEC to commission a formal Environmental Justice analysis — consistent with the Commission's obligations under California's environmental justice framework — before taking any further action on this rulemaking. That analysis has not been conducted, and proceeding without it is both legally and ethically indefensible.

IV. SOLAR THERMAL SYSTEMS ARE TECHNICALLY UNSUITABLE FOR MANY PUBLIC POOL FACILITIES

The proposed regulation proceeds from the assumption that solar thermal pool heating is a technically viable option for public swimming pool facilities across California. That assumption is incorrect for a significant proportion of affected facilities.

Solar thermal pool heating systems require large areas of unobstructed, south-facing roof or, ground space, which is space that many older urban pools, school campus facilities, YMCA buildings, and municipally operated aquatic centers simply do not possess. System performance is highly site-specific: shading from adjacent structures or vegetation, suboptimal roof orientation, local microclimatic conditions (including persistent coastal fog, marine layer, and overcast skies in significant portions of California), and roof structural load capacity each independently limit or defeat solar thermal feasibility. A mandate that ignores site-specific variation is a mandate that will force closures.

Moreover, solar thermal systems cannot reliably maintain required pool temperatures year-round across all California climates. Or maintain optimal swim lesson water temperatures even in optimal times of the year. In coastal, northern, and inland valley regions with extended cloudy seasons, supplemental heating — gas or electric — remains operationally necessary for virtually all facilities. The proposed regulation does not appear to account for this reality: it mandates the installation of systems that will, in many locations, provide only marginal benefit while consuming significant capital.

Unlike solar photovoltaic systems that export electricity to the grid and generate bankable energy credits, solar thermal systems produce heat only — heat that must be consumed on-site and that provides no export value, no grid benefit, and no transferable credit. System performance degrades materially over time due to chemical exposure from pool water off-gassing (particularly chlorine and chloramines), UV degradation of collectors, freeze-thaw thermal cycling, and general wear of pumps and controllers. Maintenance requires specialized expertise not available in-house at the vast majority of public pool facilities. A mandate premised on solar thermal as a broadly deployable solution reflects a fundamental misunderstanding of field-level operational reality.

V. EQUIPMENT LIFESPAN, FAILURE RATES, AND HIDDEN LONG-TERM COSTS

Even under ideal conditions, solar thermal pool heating collectors carry an estimated operational lifespan of 10 to 20 years. In practice, the chemically aggressive environment of public pool operations — characterized by chlorine off-gassing, humidity, thermal cycling, and UV exposure — substantially reduces effective service life. Collectors, manifolds, circulation pumps, and digital controllers all degrade and require periodic replacement, creating a recurring capital cost burden that the CEC's rulemaking cost-benefit analysis does not adequately capture. Swim lesson pool owners who have tried solar report the systems degrade in five to eight years, not the dozens of years projected by the CASE study and proposal.

Many public facilities across California are already contending with aging infrastructure and significant deferred maintenance backlogs. Layering a mandatory solar thermal retrofit obligation on top of those existing burdens compounds financial distress rather than

resolving it. The interaction between deferred maintenance and mandated capital expenditure is a formula for accelerated closure at precisely the facilities that serve the most vulnerable populations.

Perhaps most critically, solar thermal system failures are not merely inconvenient — they are operationally catastrophic for facilities that depend on those systems for pool temperature maintenance. A collector array or circulation pump failure during the peak summer season can force a pool to close for days or weeks while repairs are sourced and scheduled through a limited pool of specialized contractors. Pool closures during summer are not acceptable operational interruptions — they are precisely the periods when drowning prevention programming is most urgently needed. The CEC's CASE analysis does not model failure-mode costs, system downtime costs, or the cost to public health of mid-season pool closures attributable to solar thermal system failures. This is a material omission that must be corrected before the regulation advances.

VI. HIGH-EFFICIENCY GAS HEATERS OFFER A COST-EFFECTIVE, RELIABLE ALTERNATIVE

The Commission's CASE proposed regulation treats solar thermal pool heating as the singular acceptable pathway to energy efficiency compliance. This is a false choice — and a consequential one. Modern high-efficiency condensing gas pool heaters achieve thermal efficiencies of 95 percent and above, representing a substantial and proven advance over legacy heating equipment. These units are commercially available through multiple manufacturers, widely serviced by contractors throughout California, and can be installed and brought to full operation in a matter of days — without roof assessments, structural engineering reviews, or months-long procurement timelines. But this does not consider another troubling reality. Replacing an efficient gas heater for a higher efficient gas heater comes with real world difficulties and costs. The 90%+ efficient gas heaters require “brand” changes leading to re-plumbing the pool, changes in electrical panels and control systems, and most of the time a bigger base footprint for the new heater to rest on, taking up more space than many pools have available, in addition to not having the financing to alter this part of their infrastructure.

On a lifecycle cost basis — accounting for installation, maintenance, reliability, and actual heating performance across California's diverse climate zones — high-efficiency gas heaters are frequently competitive with or superior to solar thermal systems. The natural gas infrastructure required to operate these heaters is already present at virtually every public swimming pool facility in California; leveraging existing infrastructure is both more cost-efficient and operationally less disruptive than mandating the installation of an entirely new and complex solar collection system. And this change would require state and local government budget costs not easily obtainable in these tight public budget climates.

We do not suggest that gas heating is the permanent end-state of pool energy policy. We recognize that the state has long-term decarbonization goals, and our coalition supports the development of cost-effective, technically reliable pathways toward those goals. However, a regulation that mandates solar thermal systems while ignoring the substantial and achievable energy efficiency gains already available through high-efficiency gas equipment is neither sound energy policy nor sound public health policy. The proposed rule should, at minimum, explicitly recognize high-efficiency gas heaters meeting a defined thermal efficiency threshold (not less than 90 percent) as a fully compliant alternative pathway for facilities where solar thermal installation is not technically or financially feasible. Although as stated earlier it will be prohibitive for both public and private drowning prevention swim lesson pool operators that rely on local public budget adjustments to cover the increased financial costs of this alternative route.

VII. FINANCIAL IMPACTS ARE SEVERE AND THE CEC'S CASE COST-BENEFIT ANALYSIS IS INADEQUATE

The financial burden imposed by the proposed regulation on public and nonprofit pool operators is severe, and the CEC's cost-benefit analysis fails to account for it accurately. Solar thermal pool heating system installation costs range from $15,000 to $50,000 or more per pool, depending on pool size, site conditions, required roof reinforcement or ground-mount preparation, and system complexity. Large competition pools and multi-pool facilities regularly encounter installed system costs exceeding $75,000 — costs that dwarf any realistic energy savings projection.

Annual maintenance costs for solar thermal pool heating systems typically range from $1,000 to $3,000 or more per year, covering routine inspections, pump servicing, heat transfer fluid replacement, and controller calibration. These costs are recurring, escalate with system age, and are not captured in manufacturer payback projections, which are consistently optimistic relative to real-world operational experience.

Real-world utility bill savings data reported by pool operators who have installed solar thermal systems frequently diverges sharply from manufacturer projections. In many installations — particularly in coastal California markets with high cloud cover — net annual energy savings from solar thermal systems amount to $500 to $2,000 per year. At those savings rates, the simple payback period for a $30,000 system ranges from 15 to 60 years — far exceeding the realistic service life of the installed equipment. This is not a sound investment for any facility, and it is a fiscally irresponsible mandate to impose on public and nonprofit operators already operating under constrained budgets.

For municipal aquatic departments, school district pools, and nonprofit aquatic centers facing ongoing budget shortfalls, a capital expenditure of this magnitude — without dedicated and reliable state grant funding — will produce one outcome: pool closure. The

CEC must conduct and publish a full, transparent lifecycle cost-benefit analysis using independently verified, real-world operational data before finalizing any rule. The analysis must reflect actual facility-level savings — not manufacturer or modeled projections — and must account for replacement costs, system downtime, and failure-mode expenditures. If the regulation proceeds, the Commission must establish a dedicated grant program and low-interest loan fund to cover compliance costs for public, school, and nonprofit facilities that cannot finance solar thermal installation without closure risk.

VIII. REQUESTED ACTIONS

Based on the foregoing legal, public health, equity, technical, and financial objections, the undersigned organizations respectfully request that the California Energy Commission take the following actions:

1. Withdraw the proposed regulation in its entirety and conduct a comprehensive public health impact assessment — in coordination with the California Department of Public Health and supported by California's highly respected drowning prevention community — before re-initiating any rulemaking that would impose conditions on public swimming pool operation.

2. Commission an independent, peer-reviewed Environmental Justice analysis examining the regulation's disparate impacts on low-income, Black, Latino, and other underserved communities before any rulemaking action is taken, consistent with the Commission's obligations under California's environmental justice framework.

3. If rulemaking continues, explicitly recognize high-efficiency gas heaters achieving a minimum thermal efficiency of 90 percent – and acknowledging some pool operators and owners say 82% efficiency gas heaters can achieve real world comparison energy use bills on similar sized pools comparatively close to the energy use goals as higher efficiency gas heaters - as a fully compliant alternative to solar thermal systems, particularly for facilities where solar thermal installation is not technically or financially feasible.

4. Exempt public pools operated by municipalities, school districts, nonprofit organizations, and community recreation providers from any mandatory solar thermal requirement, or establish a meaningful hardship waiver process with clear, accessible eligibility criteria and an expedited review timeline.

5. Require a full lifecycle cost-benefit analysis using independently verified, real-world utility bill data from operating California pool facilities — not modeled or manufacturer-supplied projections — before any final rule is adopted.

6. Establish a dedicated grant and low-interest loan fund adequate to cover solar thermal or higher gas efficiency heater compliance costs for public, school district, and nonprofit

aquatic facilities that cannot finance required installations without closure risk, prior to any effective date for the regulation.

7. Extend the public comment period and schedule additional public hearings in communities disproportionately reliant on public pools — including urban, rural, and low-income areas — to ensure the voices of those most affected by this regulation are heard and incorporated into the rulemaking record. The Drowning Prevention Foundation and California Coalition for Children's Safety and Health are ready to assist CEC in identifying community leaders in areas most at risk to include in an extended public comment period.

The organizations signing this letter are committed to both environmental sustainability and the protection of public health. These goals are not in conflict — but the proposed regulation, as currently written, sacrifices the latter for a negligible contribution to the former. We stand ready to engage constructively and in good faith with the California Energy Commission to develop energy efficiency policies for aquatic facilities that are technically sound, financially realistic, legally defensible, and protective of the communities that depend on public pools for their safety and well-being.

We agree with the position letters and other data and facts submitted by our affiliates from the United States Swim Schools Association and the California Pool and Spa Association/Pool Hot Tub Association.

We respectfully request written confirmation of receipt of this letter and a substantive written response addressing each of the objections and requests set forth herein. This letter should be entered into the official rulemaking record in its entirety.

Thank you for your attention to this matter.

Respectfully submitted, submitted by:

Steve Barrow, Vice Chair
Drowning Prevention Foundation
428 J Street, Fourth Floor
Sacramento, CA 95814
Scbarrow88@gmail.com
Cell phone 530 902-5551

Catherine Barankin, Executive Director
California Coalition for Children's Safety and Health
428 J Street, Fourth Floor
Sacramento, CA 95814
cbarankin@aol.com
916 447-7341

Jim Spiers, Board President
Stop Drowning Now
6 Journey Suite #200
Aliso Viejo, CA 92656
Jim.spiers@swimjim.com

Jessica Heldman, Director, Professor of Children's Rights
Children's Advocacy Institute
University of San Diego School of Law
Pardee Legal Research Center L9
5998 Alcala Park
San Diego, CA 92110
jheldman@sandiego.edu

cc:
California Department of Public Health, Director
State Water Resources Control Board
Governor's Office of Planning and Research
Commissioner Nancy Skinner
Commissioner J. Andrew McAllister
Commissioner Siva Gunda
Commissioner Noemi Otilia Osuna Gallardo

[i] At-risk populations that would be negatively impacted by the proposed solar pool heating regulation would fall most dramatically on underserved communities especially communities with larger percentages of Black and Native American populations, and children with autism. CDC WISQARS, CA DPH EPICenter, Red Cross, American Academy of Pediatrics, and other academic and drowning prevention experts.