DOCKETED	
Docket Number:	24-BSTD-01
Project Title:	2025 Energy Code Rulemaking
TN #:	259030
Document Title:	Western Propane Gas Association Comments - WPGA Comments on 2025 Energy Code Rulemaking
Description:	N/A
Filer:	System
Organization:	Western Propane Gas Association
Submitter Role:	Other Interested Person
Submission Date:	9/6/2024 12:25:25 PM
Docketed Date:	9/6/2024

Comment Received From: Western Propane Gas Association
Submitted On: 9/6/2024
Docket Number: 24-BSTD-01

WPGA Comments on 2025 Energy Code Rulemaking

Please see attached letter.

Additional submitted attachment is included below.

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September 6, 2024

California Energy Commission
715 P Street
Sacramento, CA 95814
VIA ONLINE SUBMISSION

RE: CEC 2025 Energy Code Rulemaking, Dkt. 24-BSTD-01, 2025 Building Code Standards

The Western Propane Gas Association (WPGA) appreciates this opportunity to comment on the California Energy Commission's proposed changes for the 2025 Building Energy Efficiency Standards and submits these comments in addition to and in alignment with our previous letter dated May 13, 2024. Our comments focus on the following points: the draft language as presented could be construed as a violation of EPCA and be preempted by federal law, for colder climate zones, propane – especially renewable propane – can improve the energy efficiency and cost to consumers, and that our industry is working with appliance manufacturers to bring new appliances to market that maximize energy efficiency and minimize energy waste (like dual-fuel systems) and should be recognized by CEC in the rulemaking.

EPCA AND CURRENT CASE LAW PREEMPTS THE PROPOSED REVISIONS

As WPGA noted in its initial comments, the Ninth Circuit has made clear that "regulations that address the [appliances] themselves and building codes that concern their use" of fuels are preempted under the federal Energy Policy and Conservation Act (EPCA). *Cal. Rest. Ass'n v. City of Berkeley*, 89 F.4th 1094 (9th Cir. Jan. 2, 2024). EPCA establishes a nationally uniform system of energy conservation for appliances, and it expressly preempts state and local regulations concerning the energy use of a covered product.[1] The Ninth Circuit focused on the *effect* of a regulation on the energy use of covered appliances, and explained that states "can't skirt the text of broad preemption provisions by doing *indirectly* what Congress says they can't do *directly.*" *California Rest. Ass'n v. Berkeley*, 89 F.4th at 1107 ("EPCA would no doubt preempt an ordinance that directly prohibits the use of covered natural gas appliances in new buildings.").

Here, the 2025 Prescriptive Path requires that residential new buildings use heat pump water heaters and heat pump space conditioners and that non-residential new buildings use a single heat pump appliance (water heating or space conditioning).[2] EPCA preempts rules requiring heat pumps because they are regulations concerning the energy use or energy efficiency of covered appliances. The effect of these provisions is to prohibit the use of other covered appliances such as propane furnaces or hot water heaters and make them unavailable to consumers. *Cal. Rest.*, 89 F.4th at 1103 ("Put simply, by enacting EPCA, Congress ensured that States and localities could not prevent consumers from using covered products in their homes,

[1] *See* 42 U.S.C § 6297(c) (residential appliances); § 6316(b)(2)(A) (industrial appliances).
[2] *See generally* 2025 Energy Code Rulemaking, Dkt. 24-BSTD-01, Title 24, Subchapter 1, Section 100.0; Subchapter 8, Sections 140.1-140.10; 150.1(a)-(c).

kitchens, and businesses."). Moreover, that a performance path to compliance is also available does not save the prescriptive path from preemption; the prescriptive path is still a state regulation subject to preemption under EPCA.[3]

In addition, to be exempt from preemption pursuant to the building code exception, a rule must meet all the statutory requirements.[4] Those requirements are strict—and intentionally so.[5] Only a specific type of building code can satisfy the exemption: one that, among other things, sets an overall conservation objective and allows builders to "select[] items whose combined energy efficiencies," considered on a one-for-one basis, "meet the objective" without requiring any covered product to exceed federal standards. 42 U.S.C. § 6297(f)(3)(A)-(C), (F).

The CEC's Prescriptive Path does not meet these narrow statutory criteria. It does not "permit[] a builder to meet an energy consumption or conservation objective for a building by selecting items whose combined energy efficiencies meet the objective," 42 U.S.C. § 6297(f)(3)(A). Rather, without regard to any consumption target, the ban requires certain appliances and prevents builders from selecting other (gas) appliances. Nor does it provide credits "for installing covered products having energy efficiencies exceeding" federal standards "on a one-for-one equivalent energy use or equivalent cost basis," *id.* § 6297(f)(3)(C). No matter how far they exceed federal standards, certain gas appliances get no credit at all because they cannot be installed. And the Prescriptive Path does not "specif[y]" any "energy consumption or conservation objective" "in terms of an estimated total consumption of energy" calculated in the manner prescribed by statute, *id.* § 6297(f)(3)(F).[6]

EPCA Preempts the CEC'S Performance Path

The CEC's proposed Performance Path for compliance for residential and non-residential buildings is also preempted under the Ninth Circuit's holding in *Cal. Rest. Ass'n. v. Berkeley.* The Performance Path nominally sets an energy budget that a building must meet, equal to the energy consumption of the Prescriptive Path.[7] The Standard Design Building is a "building that is automatically simulated by Commission-approved compliance software to establish the Energy Budget that is the maximum energy consumption allowed by a Proposed Design Building to comply with the Title 24 Building Energy Efficiency Standards." The Standard Design building is simulated using the same location and having the same characteristics of the

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[3] *See AHRI v. Albuquerque,* 2008 WL 5586316, *14 (D. NM Oct. 3, 2008) (rejecting the argument that "a local law is not preempted when it presents regulated parties with viable, non-preempted options").

[4] *See* 42 U.S.C § 6297(f)(3) (requirements for residential appliances); § 6316(2)(B)(i) (industrial appliances).

[5] *See* S. Rep. No. 100-6, at 10-11 (1987) (explaining that Congress meant to allow only "performance-based codes" that "authorize builders to adjust or trade off the efficiencies of the various building components so long as an energy objective is met").

[6] And similarly, it may as a practical matter require appliances with energy efficiency exceeding "the efficiency requirements in ASHRAE/IES Standard 90.1." § 6316(2)(B)(i) 6316(2)(B)(i). *See also Alburquerque* (requiring "water heaters with energy efficiency standards more stringent than federal standards" is preempted by EPCA).

[7] *See, e.g.,* 2025 Energy Code Rulemaking, Dkt. 24-BSTD-01, Title 24, Subchapter 8, Sections 140.1 ("A building complies with the performance standards if the energy consumption calculated for the proposed design building is no greater than the energy budget calculated for the standard design building using Commission-certified compliance software"); 150.1(b) *(" A building complies with the performance approach if the energy consumption calculated for the proposed design building is no greater than the energy budget calculated for the standard design building using Commission-certified compliance software").

Proposed Design building, but assuming minimal compliance with the mandatory and prescriptive requirements that would otherwise be applicable to the proposed building, as specified by the Alternative Calculation Methods Approval Manual.[8] Because the Performance Path "energy budget" is based on the Prescriptive Path (the standard design building) that includes heat pumps, it sets the "budget" so low that in a mixed fuel building, it would require appliances more efficient than federal standards.

The energy budget that a building must meet is based on three metrics: an energy efficiency score and a total energy score (which collectively are used in the LSC), and a "source energy" score. As noted, the energy efficiency score and total energy score use a baseline from the Prescriptive Path, in effect forcing either appliances more efficient than federal standards in a mixed-fuel building or all-electric (or both). Moreover, the "source energy" score, which is a proxy for emissions based on the type of fuel,[9] is generally the most difficult to meet and therefore limits the permissible options. Source energy is defined as the long run marginal source energy of fossil fuels that are combusted as a result of building energy consumption considering the long-term effects of Commission-projected energy resource procurement. For a given hour, the value in that hour for each forecasted year is averaged to establish a lifetime average source energy.[10] The source energy metric was first added in 2022 and has been made more stringent in 2025. By basing this metric on building fuel emissions rather than energy use, the CEC puts a thumb on the scale against combustion appliances.

These metrics and the scores that must be achieved for compliance under the Performance Path have the net effect of making gas appliances unavailable in practice to most people, particularly in higher heating climate zones (Zones 1, 2, 11-13 and 16). Under the 2025 "energy source" metric, for a building in these climate zones to comply with the Performance Path, it must either be all-electric or, if it has a *single* propane appliance (e.g., a propane furnace), it must add other efficiency measures such as better windows, additional insulation, or higher efficiency appliances. These additional measures add product costs and construction expenses, ranging from a low end of $500 to more than $4,000. As a practical matter, adding *two* propane appliances while still meeting the 2025 "energy source" metric would likely more than double the price penalty.[11]

The Performance Path for compliance is preempted under EPCA.[12] It is a regulation concerning the energy efficiency or energy use of covered appliances. Indeed, each of the three metrics concerns energy use and energy efficiency in new buildings.

As an initial matter, the Performance Path must satisfy all seven statutory criteria to qualify for the building code exemption for residential appliances in § 6297(f)(3). But it flunks several of

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[8] See Title 24, Subchapter 1, Sections 100.1.

[9] It is unclear whether the CEC has the statutory authority to adopt policies that regulate emissions rather than energy use, given that other state agencies are tasked with air quality regulation. But to the extent the CEC purports to regulate emissions, that does not make the regulation fuel-neutral or immunize it from scrutiny under EPCA.

[10] *See* Title 24, Part 1, Chapter 10, Section 102.

[11] The CEC's proposed rules impose even more onerous obligations on natural gas, by predicting increasing costs for natural gas utility service that effectively preclude natural gas appliances in new buildings under either the prescriptive or performance path. WPGA's comments, however, focus on the proposed rules' impact on propane, rather than their other shortcomings.

[12] *See* § 6297(c); § 6316(b)(2)(A).

those criteria. The Performance Path does not provide one-for-one credit for energy efficiency improvements. § 6297(f)(3)(C). And it effectively requires builders who wish to select propane appliances to use products that exceed federal standards. § 6297(f)(3)(B). Moreover, the "source energy" and LSC metrics "used in calculating the objective" and in scoring appliances appear to depart from the requirements that the code state energy consumption in terms of estimated total consumption of energy and that its testing procedures comply with EPCA's required measures. § 6297(f)(3)(F),(G). EPCA's building code exemption does not allow states to define energy use for themselves; rather, a qualifying building code must calculate its overall energy objective and "[t]he estimated energy use of any covered product permitted or required in the code" by "using the applicable test procedures prescribed under" § 6293. *Id.* EPCA's definitions and test procedures require measuring site energy, not source energy or emissions or system costs.[13] The proposed rules, by contrast, focus on source energy and system costs and thus do not comply with § 6297(f)(3)(G).

This conclusion is consistent with the building code exemption's purpose and Ninth Circuit precedent regarding the exemption. The overall thrust of EPCA's building code exemption is to require evenhanded, fuel-neutral regulation that allows builders and consumers a choice among appliances that meet federal standards.[14] The CEC's Performance Path does not permit builders to select any covered appliance to meet neutral objectives (set in compliance with EPCA); instead, in practice, it effectively requires some types of appliances and limits the choices among other types of appliances, making most if not all gas appliances effectively unavailable.

The Washington state regulations at issue in *Building Industry Ass'n of Washington* required an aggregate 15% reduction in new buildings' energy consumption. 683 F.3d at 1149. The state agency implementing the standard offered "different ways of achieving" it, including "by addressing the 'efficiency of a building's shell,' or 'efficiency of a home's heating equipment,' or 'efficiency of other energy consuming devices.'" *Id.* The Ninth Circuit held that those regulations were permissible because they only "require[d] builders to reduce a building's energy use by a certain amount," allowing the builder to "choose how to meet that requirement." *Id.* at 1145. But the court emphasized that EPCA would bar a regulation "requir[ing] a builder, as a matter of law, to select a particular product or option."[15] Unlike the Washington standard, the CEC's proposed 2025 Performance Path effectively *requires* a builder to use certain options rather than allowing the builder to choose how to accomplish a fuel-neutral aggregate energy objective. The Performance Path will in practice effectively prevent certain fuels from being used across all climate zones—and thus functions as a *de facto* ban.

Finally, EPCA's building code exemption applies only to new buildings; it does not provide an exception to preemption for building code provisions relating to alterations or appliance

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[13] *See* § 6291(4) (defining "energy use" as "the quantity of energy *directly consumed* by a consumer product *at point of use*, determined in accordance with test procedures under" § 6293 (emphasis added)); *id.* § 6293(b)(3) (requiring test procedures to "be reasonably designed to produce test results which measure energy efficiency, energy use, . . . or estimated annual operating cost of a covered product during a representative average use cycle or period of use").

[14] *See Bldg. Indus. Ass'n of Wash. v. Wash. State Bldg. Code Council*, 683 F.3d 1144, 1151, 1146 (9th Cir. 2012) (EPCA's building code exemption does not permit local regulations to "favor[] certain options over others" or to favor "particular products or methods").

[15] *Id.*; *see also id.* at 1154 (EPCA "provides that where a building code grants credits for reducing energy use, the code must give credit in proportion to energy use savings, without favoring certain options over others").

replacements. Thus, provisions such as Section 141.0(b)2C, which requires heat pumps for appliance replacements, do not qualify for the building code exception from preemption.

COLD CLIMATE CONSUMERS BENEFIT MORE FROM PROPANE

In cold climate zones, many California homeowners utilize propane furnaces in their home due to propane's affordable and reliable natural as a fuel source. The 2025 Building Code Standards would obstruct new homeowners from being easily able to choose propane furnaces for their home heating needs. WPGA conducted an analysis to better understand what those obstructions would be for those consumers. The following analysis reviews the additional features necessary for a new construction home in California to maintain the use of a propane furnace in select heating dominant climate zones under the 2025 California Building Energy Efficiency Standards (BEES) as compared to the 2022 BEES. Further, this review outlines the impact on homeowner utility bills under these various scenarios.

		Initial Margins				Post Margins			
Climate Zone	Modifications to Achieve Compliance	LSC - Efficiency	LSC Total	Source Energy	Peak Cooling	LSC - Efficiency	LSC Total	Source Energy	Peak Cooling
1	80 AFUE -> 95 AFUE Furnace UEF 2 ->NEEA Tier 3 HPWH R5 Sheathing -> R10 Sheathing 0.35 SHGC -> High SHGC Window	-7.95	-7.91	-6.33	N/A	3.51	3.47	0.06	N/A
2	0.35 SHGC -> High SHGC Window	-2.7	-2.68	-2.03	N/A	2.58	2.57	2.86	N/A
11	UEF 2.0 HPWH -> NEEA Tier 3 HPWH 80 AFUE Furnace -> 97 AFUE Furnace	-1.76	-1.86	-0.75	206	0.07	0.01	0.7	206
12	Prescriptive Window -> Suncoat 3/4" 80 AFUE Furnace -> 95 AFUE Furnace	-2.33	-2.34	-1.09	76	0.27	0.31	1.48	24
13	Gas WH Efficiency 81% -> 90% HP SEER 2 14.3 -> 15.2 HP HSPF 2 7.5 -> 9.0 R5 Sheathing -> R7 Sheathing	-1.21	-1.41	0.2	218	0.26	0.01	1.13	231
16	Prescriptive Window -> High SHGC 80 AFUE Furnace -> 90 AFUE Furnace	-2.85	-2.85	-4.71	N/A	2.67	2.77	0.56	N/A

The chart above lists the additional features and efficiency measures necessary to meet 2025 BEES compliance compared to 2022 when a propane furnace is included in the home. As the chart demonstrates, the strategies for maintaining compliance vary significantly based on climate zone. These variations are caused by how the amount of heating demand varies by climate zone; generally, an area with higher heating demand is going to require greater efficiency to maintain compliance when using a combustion appliance.

In climate zone 1, a higher efficiency furnace is expected to add roughly $500 in cost, R10 exterior sheathing to add $2,000 in cost, and upgraded glazing to add $1,800 for a total of $4,300 in additional construction costs. In climate zone 11, an upgraded furnace is expected to add $500 in costs. In climate zones 2 and 12, only upgraded glazing is required, at a total cost of $1,800. The R7 sheathing required in climate zone 13 is expected to add $800, for a total added cost of $3,000. Upgraded glazing and furnace efficiency required in climate zone 16 is expected to add $2,300 in cost. Upgraded water heating units mentioned in climate zones 1, 11, and 13 are expected to have a negligible impact on cost. All to say that the proposed Building Code Standards for 2025 would create burdensome costs on consumers who prefer to use propane for their home heating.

The following table displays the total annual utility costs for a home meeting 2025 BEES compliance in the listed climate zones (CZ).[16]

[16] The lowest cost electric rate schedule is selected in each climate zone.

CZ	Total Cost 2025 With Propane	All Electric Cost	Schedule Used	$ Cost Increase (Relative to 2025 with Propane)
1	$ 1,757	$ 2,878.67	E-TOU-C	$ 1,122.09
2	$ 1,510	$ 2,320.64	E-TOU-C	$ 810.36
11	$ 1,616	$ 2,081.24	E1	$ 465.37
12	$ 1,525	$ 1,740.65	E1	$ 215.62
13	$ 1,627	$ 1,896.57	E1	$ 269.83
16	$ 1,671	$ 2,614.64	E-TOU-C	$ 943.66

As the chart above demonstrates, in every case the all-electric home costs significantly more to operate than a home with a propane furnace.

The CEC's selected strategy for the 2025 BEES forces homeowners in heating dominated climate zones to choose between bad options. Homeowners that wish to minimize their long-term utility costs are forced to select additional efficiency measures to meet the CEC's energy design rating 1 score (EDR1), the source energy metric that otherwise serves as a proxy measure for carbon emissions. Homeowners seeking to reduce construction costs are forced into building all-electric homes that will add thousands in utility bill costs over the lifetime of the home. Fundamentally, the CEC's selected strategy for building energy efficiency seeks to lay the cost of mitigating climate change not at the feet of electric companies and other major polluters, but upon the individual ratepayer with little to no regard given to how those strategies will affect either the cost of building, or of occupying a home.

NEW TECHNOLOGY MINIMIZES ENERGY WASTE

Not currently being considered in the 2025 BEES is that of dual-fuel heating systems. There are hydronic heating appliances on the market that maximize energy efficiency and minimize energy waste to the benefit of consumers. Using proprietary performance data of dual-fuel systems provided by Rinnai America, a manufacturer of space and water heaters, an analysis was conducted to understand the impacts of a high-efficiency system under the 2025 BEES.

Data from this manufacturer shows that compliance with the 2025 Building Code Standards, in its current form, could be met with hydronic heating using propane in dual-fuel systems. Based upon technical data from ConSol's analysis, we believe that the CEC should formally recognize the benefit of hydronic heating systems to meet 2025 Energy Code requirements for climate zones 1, 2, 11, 12, 13, and 16.

The next few tables[17] show the annual utility costs and the compliance margins, checking the comparative system performance. The conclusion being that the reduction in source energy

[17] Analysis Provided by ConSol, using California Energy Commission provided CBECC-Res 2025.0.9 RV (1340), using 2100 sq. ft. prototype house, and published PG&E utility rate schedules available July 1, 2028.

from the max propane scenario to the hydronic one is significant enough that compliance is reasonably achievable under the 2025 code. This is what the compliance performance and cost tables look like:

Original All Electric Scores 2025 Code	CZ1	CZ2	CZ11	CZ12	CZ13	CZ16
LSC - Efficiency	18.25	13.61	14.12	11.98	13.42	17.08
LSC - Total	27.26	22.67	21.78	21.01	20.61	25.64
Source Energy - Total	8.6	7.33	6.96	8.02	6.31	8.32
Peak Cooling	0	0	485	69	592	12

98% Efficient Gas Hydronic	CZ1	CZ2	CZ11	CZ12	CZ13	CZ16
LSC - Efficiency	17.8	13.15	14.46	12.43	14.07	16.47
LSC - Total	27.9	23.16	22.97	22.19	22.08	25.94
Source Energy - Total	19.06	14.43	12.76	14.71	11.38	17.48
Peak Cooling	0	0	488	72	595	13

Max Propane System	CZ1	CZ2	CZ11	CZ12	CZ13	CZ16
LSC - Efficiency	25.15	18.04	18.25	16.4	17.13	22.32
LSC - Total	34.93	27.82	26.75	26.09	25.15	31.74
Source Energy - Total	26.9	20.09	17.48	18.2	15.49	23.97
Peak Cooling	0	0	493	72	600	13

The table below shows that, similarly to a home with a propane furnace, a dual-fuel gas hydronic system is also the more affordable option for homeowners, as opposed to an all-electric home in climate zones 1, 2, 11, 12, 13, and 16.

All Electric with Gas Hydronic

CZ	Propane Cost	Electric Cost	Total Dual-Fuel Cost	All-Electric Cost
1	$982	$842	$1,824	$2,879
2	$982	$591	$1,573	$2,321
11	$1,153	$487	$1,641	$2,081
12	$769	$635	$1,404	$1,741
13	$1,191	$408	$1,600	$1,897
16	$945	$758	$1,702	$2,615

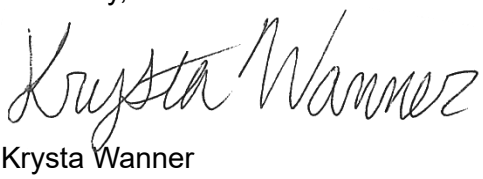
Utilizing dual-fuel technology can be beneficial to both the utility and the consumer. Such products can switch from electric to gas during times of crisis like Public Safety Power Shutoffs (PSPS) and other emergencies to reduce burden on the grid. Dual-fuel appliances can be a

solution to protecting consumer cost and energy reliability, while balancing electric demand for utilities.

The Western Propane Gas Association continues to work closely with appliance manufacturers in pursuit of well-rounded performance data for comparative means and various options for consumers that utilize clean fuels and are of the highest efficiency and quality.

WPGA appreciates the opportunity to submit these comments and supports the state in meeting its energy, housing, and climate change goals sustainably. We hope that these comments and concerns will be fruitfully addressed as the CEC considers the proposed 2025 Building Code Standards.

Sincerely,



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