DOCKETED	
Docket Number:	23-AAER-01
Project Title:	Commercial Food Service Equipment (i.e. Commercial Steam Cookers, Commercial Ovens, Commercial Dishwashers, and Commercial Fryer)
TN #:	259963
Document Title:	Earthjustice Comments on Commercial Fryer Efficiency Standards
Description:	N/A
Filer:	Matthew Vespa
Organization:	Earthjustice
Submitter Role:	Intervenor
Submission Date:	11/11/2024 1:08:39 PM
Docketed Date:	11/12/2024

EARTHJUSTICE

via electronic submission November 11, 2024

California Energy Commission
Docket Unit
Docket No. 23-AAER-01
715 P Street
Sacramento, CA 95814

RE: Earthjustice Comments on Efficiency Standards for Commercial Fryers, Docket 23-AAER-01

Energy Commission:

Earthjustice submits the following comments on Title 20 efficiency standards for commercial fryers and requests the California Energy Commission ("CEC") move forward with an efficiency standard for gas fryers that is more stringent than that proposed by the Codes and Standards Enhancement ("CASE") Team. The CASE Team has recommended a 50 percent cooking efficiency standard and idle energy rate limits of 9,000 Btu/hr for standard vat gas fryers and 12,000 Btu/hr for large vat gas fryers. These are based off efficiency requirements ENERGY STAR adopted for standard gas vat fryers in 2003 and for large gas vat fryers in 2011.[1] In the decades since adoption, gas fryer efficiency has improved through refinements in vat insulation, burner design, and flue gas routing, and the incorporation of advanced controls and automatic timers. **Reflecting these efficiency advancements, the CEC should adopt a 56 percent efficiency standard and idle energy rate limits of 8,000 Btu/hr for standard vat gas fryers and 10,000 Btu/hr for large vat gas fryers.**

Title 20 standards for commercial fryers should be as stringent as feasible while moving the market toward electric options to support California's climate, air quality, and public health goals. California has recognized that achieving its climate policies "must include transitioning away from fossil gas in residential and commercial buildings, and will rely primarily on advancing energy efficiency while replacing gas appliances with non-combustion alternatives."[2]

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[1] California Investor Owned Utilities, Commercial Fryers, CASE Initiative for PY 2024: Title 20 Standards Development, Docket 23-AAER-01, at 7 ("Title 20 Commercial Fryers Report") (July 16, 2024), https://efiling.energy.ca.gov/GetDocument.aspx?tn=257835&DocumentContentId=93738; ENERGY STAR, ENERGY STAR Program Requirements Product Specification for Commercial Fryers: Eligibility Criteria Version 2.0, at 2, https://www.energystar.gov/sites/default/files/specs//private/Co48mmercial_Fryers_Program_Requirements.pdf.

[2] CARB, *2022 Scoping Plan for Achieving Carbon Neutrality*, at 212 (Dec. 2022), https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.

The CEC has also acknowledged that "gas equipment efficiency investments have a growing likelihood over time of becoming stranded assets… causing the state to miss its goals."[3] By adopting more stringent standards, California will allow for continued consumer choice of high-performing gas models, achieve greater cost parity between gas and electric models, and redirect the bulk of efficiency incentives toward electric models. Finally, in evaluating the cost-effectiveness of the proposed standards, the CEC should account for increases in gas rates that will result from decreased gas throughput as California increasingly deploys zero-emission technologies.

Electric Fryers Have Superior Climate, Air Quality, Efficiency, and Public Health Benefits Compared with Gas Models but Upfront Cost is a Key Barrier to Widespread Adoption.

Electric fryers have significant climate, air quality, efficiency, and public health advantages over gas fryers and increasing their deployment should be a focus of state policy. Electric fryers are far more efficient and have faster recovery times than gas fryers because the resistance heating elements are directly submerged in the oil. Inherent to their design, gas fryers lose more heat through atmospheric tube burners and flues that vent out combustion byproducts. For ENERGY STAR compliant models, gas fryers have an average cooking efficiency of 56 percent, while electric fryers have an average of 87 percent.[4] With design improvements like vat insulation, advanced controls, and automatic timers, this efficiency continues to increase with some electric models having a 92 percent cooking efficiency.[5] Electric fryers last twice as long as gas fryers - 20 years compared to 10 years, because the direct submersion of the heating elements in oil reduces temperature variation and therefore stress on the metal.[6] Electric fryers also have lower installation and maintenance costs because they have less mechanical parts, require less cleaning, and have smaller kitchen footprints.[7]

Electric fryers are safer for workers. Electric fryers do not combust fuel and therefore do not contribute to indoor air pollution and end-use greenhouse gas emissions, nor do they risk gas leaks or explosions. Indoor air pollution is harmful to workers, especially when there is not sufficient ventilation with the gas fryer flue system causing the accumulation of carbon monoxide, particulate matter, and NOx.[8] In addition to air quality concerns, the high flue temperatures of gas fryers contribute to ambient heat, increasing risks of heat-related illness for

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[3] CEC, *2021 Integrated Energy Policy Report Vol. 1,* at 22 (Feb. 2022), https://efiling.energy.ca.gov/GetDocument.aspx?tn=241599.

[4] California Investor Owned Utilities, Commercial Fryers, CASE Initiative for PY 2024: Title 20 Standards Development, Docket 23-AAER-01, at 27 ("Title 20 Commercial Fryers Report") (July 16, 2024), https://efiling.energy.ca.gov/GetDocument.aspx?tn=257835&DocumentContentId=93738.

[5] *Id.*

[6] Rita Negrete-Rousseau, How to Spec an Electric Fryer, Foodservice Equipment Reports (March 2, 2020), https://www.fermag.com/articles/9823-how-to-spec-an-electric-fryer/.

[7] Ray Hunter, *Gas Or Electric Deep Fryers: A 9-Point Efficiency Comparison,* Chef's Deal Restaurant Equipment (April 17, 2023), https://www.chefsdeal.com/blog/gas-or-electric-deep-fryers-comparison.

[8] Nate Seltenrich, *Take Care in the Kitchen: Avoiding Cooking-Related Pollutants*, 122 Environ Health Perspect. 6 (2014), https://pmc.ncbi.nlm.nih.gov/articles/PMC4050506/.

workers.[9] In contrast, the heating elements of electric fryers do not contribute to ambient heat, reducing the overall temperature of the kitchen and lowering energy costs for space cooling.[10]

One of the main barriers for fryer electrification is the up-front equipment cost. Currently, gas fryers dominate the market, accounting for 85 percent of fryers in commercial kitchens.[11] Electric fryers are more expensive than their gas counterparts, especially for ENERGY STAR compliant models. The baseline cost for an electric standard vat fryer is $2,674, while the baseline cost for a gas standard vat fryer is $1,319.[12] This cost disparity has resulted in a significant market share going to gas fryer models. As noted by the CASE Team, most independent restaurant operators choose the least expensive option available, even when cooking efficiencies are much worse.[13]

Compounding the upfront cost barriers is a fundamental misalignment of California's efficiency program with building electrification objectives. The California Foodservice Instant Rebates Program distributes rebates for ENERGY STAR-certified commercial fryer models and is very influential for restaurant operator procurement choices in California. Demonstrating this influence over consumer choice, ENERGY STAR certified fryer models make up 49% of all fryer sales in California, compared to 26% of sales nationwide.[14] Currently, the California Foodservice Instant Rebates Program heavily favors conventional gas cooking equipment. For gas fryers, there is a $900 per vat rebate, while only a $200 per vat rebate is available for electric models.[15]

A 56 Percent Efficiency Standard and Idle Energy Rate Limits for Gas Fryers Will Move the Market Toward Electrification While Continuing to Allow for Numerous Gas Options.

The CEC should adopt an efficiency standard of 56 percent and idle energy rate limits of 8,000 Btu/hr for standard vat gas fryers and 10,000 Btu/hr for large vat gas fryers to facilitate building electrification and to achieve corresponding climate, air quality, and public health benefits. These standards will give consumers the option to either choose from a range of higher-performing gas models or an electric alternative and achieve this proceeding's goal of reducing "wasteful, uneconomic, inefficient, or unnecessary consumption of energy."[16] Notably, there are 38 gas fryer models available on the market that currently meet that standard. For a list of these models, see Table 1 in Annex A below.

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[9] Nicole Greenfield, *Indoor Workers Need Protection from Extreme Heat Too*, Natural Resources Defense Council (August 10, 2023), https://www.nrdc.org/stories/indoor-workers-need-protection-extreme-heat-too.

[10] Government of Canada, *How much do you know about your commercial fryer?* (May 6, 2021), https://natural-resources.canada.ca/energy-efficiency/spotlight-energy-efficiency/2021/05/06/how-much-do-you-know-about-your-commercial-fryer/23636.

[11] California Investor Owned Utilities, Commercial Fryers, CASE Initiative for PY 2024: Title 20 Standards Development, Docket 23-AAER-01, at 9 ("Title 20 Commercial Fryers Report") (July 16, 2024), https://efiling.energy.ca.gov/GetDocument.aspx?tn=257835&DocumentContentId=93738.

[12] *Id.* at 35.

[13] *Id.* at 11.

[14] *Id.* at 8 and 26.

[15] California Energy Wise, California Foodservice Instant Rebates ("Fryers"), https://caenergywise.com/instant-rebates/qpl/.

[16] CEC, Docket 23-AAER-01, Order Instituting Rulemaking at 1 (August 10, 2023).

The 56 percent efficiency standard and proposed idle rate limits of 8,000 Btu/hr for standard vat gas fryers and 10,000 Btu/hr for large vat gas fryers will facilitate electrification in the commercial fryer market by creating greater price parity between gas and electric models. As previously mentioned, a base case standard vat electric fryer costs $2,674 while a base case standard vat gas fryer costs $1,319.[17] ENERGY STAR-compliant standard vat gas fryers cost $2,320.[18] By continuing to raise the efficiency standards for gas fryers, the CEC can achieve greater price parity between electric and gas fryers. This price parity, when coupled with strengthened efficiency incentives for electric models, will promote the replacement of combustion technologies.

This standard will also properly focus the California Foodservice Instant Rebates Program on rebates for electric models to further encourage their deployment. With few gas models on the market with efficiency levels that greatly exceed a 56 percent baseline, setting this standard for gas fryers would also enable efficiency funding to be properly directed toward electric models.

Regarding an efficiency standard for electric fryers, Earthjustice agrees with the recommendation of the CASE Team that the CEC should not adopt standards for commercial electric fryers at this time. Even electric fryers that are not ENERGY STAR approved have an average cooking efficiency of 66 percent, greater still than the 56 percent standard for gas models proposed here.[19]

The Cost-Effectiveness Analysis Should Account for Fossil Fuel Phaseout within Energy Forecasts.

The CEC should account for gas demand declines and increased gas costs in its cost-effectiveness analysis for proposed standards. In both the *Title 20 Commercial Fryer Report* and the *Title 20 Commercial Steamer Report*, the CASE Team used California Public Utilities Commission's *Utility Costs and Affordability of the Grid of the Future Report* to forecast gas rates.[20] The report assumes annual growth of 6.5 percent per year for gas demand based on historic averages. This assumption is incongruent with California's climate goals.[21] As gas demand decreases, gas system costs will be spread between fewer consumers and gas rates will increase. By not accounting for these energy demand changes, the operational cost comparison between gas and electric commercial cooking equipment is inaccurate. Instead, the CEC should

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[17] California Investor Owned Utilities, Commercial Fryers, CASE Initiative for PY 2024: Title 20 Standards Development, Docket 23-AAER-01, at 35 ("Title 20 Commercial Fryers Report") (July 16, 2024), https://efiling.energy.ca.gov/GetDocument.aspx?tn=257835&DocumentContentId=93738.
[18] *Ibid*.
[19] ENERGY STAR, "Energy Efficient Products - Commercial Fryers," https://www.energystar.gov/products/commercial_fryers (last visited October 4, 2024).
[20] *Id*. at 60.
[21] California Public Utilities Commission, *Utility Costs and Affordability of the Grid of the Future Report* at 73 (May 2021), https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2021/senate-bill-695-report-2021-and-en-banc-whitepaper_final_04302021.pdf.

use the Gradual Transformation forecast adopted in May 2024, which was designed with this gas transition in mind.[22]

Thank you for your consideration and Earthjustice looks forward to continued engagement with the CEC throughout its rulemaking process.

Sincerely,

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[22] CEC, 2023 Gradual Transformation Additional Achievable Fuel Substitution Scenario (May 8, 2024), https://www.energy.ca.gov/filebrowser/download/6271?fid=6271.

ANNEX A.

Table 1. ENERGY STAR certified gas fryer models that comply with a 56 percent efficiency standard and idle energy rate limits of 8,000 Btu/hr for standard vat gas fryers and 10,000 Btu/hr for large vat gas fryer.[23]

	Brand Name	Model Name	Model Number	Type	Shortening Capacity (lbs)	Idle Energy Rate (Btu/hr)	Cooking Energy Efficiency (%)
1	Anets	AGP55	AGP55	Standard Vat	50	7,940	57
2	Anets	AGP60W	AGP60W	Large Vat	60	9,832	56
3	BKI	BLG-FC	BLG-FC	Large Vat	70	5,140	61
4	Frymaster	2FQG30U	2FQG30U	Split Vat	30	3,962	57
5	Frymaster	2FQG30U	2FQG30U	Standard Vat	30	3,962	56
6	Frymaster	FPGL#30	FPGL#30	Standard Vat	31	4,709	56
7	Frymaster	#1814G	#1814G	Large Vat	63	9,573	56
8	Henny Penny	EEG-24#	EEG-24#	Standard Vat	30	4,960	69
9	Henny Penny	EEG-16#	EEG-16#	Standard Vat	30	4,960	69
10	Henny Penny	EEG-25#	EEG-25#	Standard Vat	30	4,960	69
11	Henny Penny	LVG-20#	LVG-20#	Standard Vat	30	4,960	69
12	Pitco	SSH55	SSH55	Standard Vat	50	7,940	57
13	Pitco	SSH60W	SSH60W	Large Vat	60	9,832	56
14	Royal Range	RHEF-45	RHEF-45-(CM,DM(2),EM)-(1,2,3,4,5)-(BI,SC)	Standard Vat	45	4,569	63
15	Royal Range	RHEF-60	RHEF-60-(CM,DM(2),EM)-(1,2,3,4,5)-(BI,SC)	Large Vat	60	4,693	65
16	Royal Range	RHEF-75	RHEF-75-(CM,DM(2),EM)-(1,2,3,4,5)-(BI,SC)	Large Vat	75	5,017	72
17	Ultrafryer	P30-14	P30-14	Standard Vat	50	3,775	61
18	Ultrafryer	P20-20	P20-20	Large Vat	125	8,756	60
19	Ultrafryer	P30-18	P30-18	Large Vat	75	6,867	68
20	Ultrafryer	P20-18	P20-18	Large Vat	100	5,545	58

[23] EPA, ENERGY STAR Certified Commercial Fryer Models (August 23, 2024), https://catalog.data.gov/dataset/energy-star-certified-commercial-fryers.

21	Vulcan	VHG Series Fryer	1VHG50A	Standard Vat	50	7,885	56
22	Vulcan	VHG Series Fryer	1VHG50D	Standard Vat	50	7,885	56
23	Vulcan	1TR45A	1TR45A	Standard Vat	45	4,610	63
24	Vulcan	VHG Series Fryer	1VHG50C	Standard Vat	50	7,885	56
25	Vulcan	1VK45A	1VK45A	Standard Vat	45	3,918	65
26	Vulcan	VHG Series Fryer	4VHG50AF	Standard Vat	50	7,885	56
27	Vulcan	VHG Series Fryer	4VHG50DF	Standard Vat	50	7,885	56
28	Vulcan	VHG Series Fryer	3VHG50AF	Standard Vat	50	7,885	56
29	Vulcan	VHG Series Fryer	3VHG50DF	Standard Vat	50	7,885	56
30	Vulcan	VHG Series Fryer	4VHG50CF	Standard Vat	50	7,885	56
31	Vulcan	VHG Series Fryer	2VHG50AF	Standard Vat	50	7,885	56
32	Vulcan	VHG Series Fryer	3VHG50CF	Standard Vat	50	7,885	56
33	Vulcan	VHG Series Fryer	2VHG50DF	Standard Vat	50	7,885	56
34	Vulcan	VHG Series Fryer	2VHG50CF	Standard Vat	50	7,885	56
35	Vulcan	1TR65A	1TR65A	Large Vat	65	8,183	57
36	Vulcan	1TR85A	1TR85A	Large Vat	85	5,575	60
37	Vulcan	1VK65A	1VK65A	Large Vat	65	4,802	68
38	Vulcan	1VK85A	1VK85A	Large Vat	85	5,464	63