



## Case Study

### Fryers & Griddles: The Heart of the Quick-Service Chain Restaurant

Quick Service Restaurants (QSR) make up the backbone of the American restaurant industry. While the establishment names may be different and the ingredients of the secret sauces kept under lock and key, the primary cooking appliances that make these operations possible are almost always the same. Eat at a national chain where the primary menu items are burgers and fries, and it is practically a given that a fryer and griddle were used to cook the meal.


These two commercial appliances have long been attractive cooking platforms given their straightforward design and ease of operation. Couple this with the relatively high profit margins associated

with the sale of hamburgers and French fries, and it's easy to understand why burger concepts are ubiquitous across the country. But what many operators, especially franchisees given multiple model options within an equipment category, may fail to consider is the operating cost over the lifespan of the equipment and how lower cost models can eat into profit margins and fail to meet menu production demands.

This case study reflects the three decades' worth of research knowledge the Frontier Energy Food Service Technology Center has conducted for National Chain account QSRs on the energy use and production performance of their respective


fryers and griddles. In partnership with the California investor owned utilities, the goal of this research has been to promote energy-efficient equipment to the industry and help operators make informed equipment purchasing decisions. The tables below compare the operating performance and cost of baseline option fryers and griddles to that of high-efficiency and production fryers and griddles. Ultimately, this information demonstrates to operators with multiple equipment options that the premium first cost expense of energy-efficient equipment can be paid back in a reasonable period, along with the added benefit of superior cooking performance.

#### Standard vs. Energy-Efficient Fryer<sup>1</sup>

	Cost	Rebate <sup>2</sup>	Idle Energy Rate (Btu/h)	Cooking Energy Efficiency (%)	Production Capacity (lb/h)	Annual Energy Savings (therms)	Annual Savings	Simple Payback (yrs)
 Standard Model	\$1,700	-	17,000	35	60			
High-Efficiency Model	\$4,500	\$900	8,140	55	72	825	\$990	1.9

<sup>1</sup> Assuming 150 lb/food cooked per day, 18 hours of operation per day, 363 operating days per year, and \$1.20/therm.  
<sup>2</sup> Rebate amounts subject to change. Visit [caenergywise.com/rebates/](http://caenergywise.com/rebates/) for the latest rebate information.

#### Standard vs. Energy-Efficient Griddle<sup>3</sup>

	Cost	Rebate <sup>4</sup>	Idle Energy Rate (Btu/h)	Cooking Energy Efficiency (%)	Production Capacity (lb/h)	Annual Energy Savings (therms)	Annual Savings	Simple Payback (yrs)
 Standard Model	\$3,000	-	21,000	30	25			
High-Efficiency Model	\$6,700	\$600	12,180	38	47	390	\$470	6.6

<sup>3</sup> Assuming 150 lb/food cooked per day, 18 hours of operation per day, 363 operating days per year, and \$1.20/therm.  
<sup>4</sup> Rebate amounts subject to change. Visit [caenergywise.com/rebates/](http://caenergywise.com/rebates/) for the latest rebate information.