

Gas and Electric Convection Oven Budget Proposal

I. Purpose

Noticing the recent growth of our company and the complaints from our staffs about the potential danger of the old, malfunction oven, which delays our production, replacing a new convection oven is necessary to ease the worries of the staffs and sustain the growth of our company. After conducting a research, I have selected six ovens, three electric and three gas ovens that are suitable for our company. This proposal provides detail information about these six ovens such as performance and lifetime cost.

II. Information

Types	Electric Oven			Gas Oven		
Brand and Model	Duke 613-E1V	Base Efficiency Oven	Energy Efficiency Oven	Alto Shaam ASC-4G	Base Efficiency Oven	Energy Efficiency Oven
Initial Cost	\$3049.0	\$2160.0	\$5121.0	\$4770.0	\$3042.0	\$6069.0
Efficiency	71.4%	65.0%	73.0%	42.0%	30.0%	45.0%
Production Capacity	84.1lbs/h	70.0 lbs/h	82.0 lbs/h	82.7lbs/h	70.0lbs/h	83.0lbs/h
Lifetime Energy Cost	\$18228.0	\$19020.0	\$14676.0	\$12684.0	\$12624.0	\$8340.0
Lifetime Maintenance Cost	\$1260.0	\$1440.0	\$1056.0	\$1440.0	\$1800.0	\$1164.0
Lifetime Total Cost	\$22537.0	\$22620.0	\$20853.0	\$18894.0	\$17466.0	\$15573.0

III. Comparison

i. Initial Cost of purchase

The initial costs of purchase of three electric ovens are different. It ranges from \$2160.0 to \$5121.0. The Base Efficiency Oven is the cheapest; it costs \$2160.0. Energy Efficiency Oven is the most expensive one among three; it costs \$5121.0. Duke 613-E1V is in the medium, which costs \$3049.0.

The initial costs of purchase of three gas ovens are different. It ranges from \$3042.0 to \$6069.0. The Base Efficiency Oven is the cheapest; it costs \$3042.0. Energy Efficiency Oven is the most expensive one among there; it costs \$6069.0. Alto Shaam ASC-4G is in the medium, which costs \$4770.0.

Compare the cost of two types of oven. The electric oven, ranging from \$2160.0 to \$5121.0, is cheaper than the gas oven, ranging from \$3042.0 to \$6069.0.

ii. Efficiency

The efficiency of three electric ovens is different, but no huge discrepancy among three electric ovens. Base Efficiency Oven has the lowest efficiency, which is 65%. Energy Efficiency Oven has the highest efficiency, which is 73%. Duke 613-E1V has the medium efficiency; it has 71.4% efficiency.

There is an efficiency discrepancy among three gas ovens. Base Efficiency Oven has the lowest efficiency, which is 30%. Energy Efficiency Oven has the highest efficiency, which is 45%. Alto Shaam ASC-4G has the medium efficiency; it has 42% efficiency.

There is a significant discrepancy on efficiency between two types of ovens. The electric ovens, ranging from 65%-73%, are more efficient than the gas ovens, ranging from 30%-45%.

iii. Production Capacity

There is no significant discrepancy in production capacity between electric ovens and gas ovens. However, the electric Base Efficiency Oven and the gas Base Efficiency Oven have the lowest production capacity, 70lbs/h, while other models have higher production capacity, ranging from 82.0lbs/h to 84.1lbs/h.

iv. Lifetime Energy Cost

The lifetime energy costs of three electric ovens ranges from \$14676.0 to \$19020.0. The Energy Efficiency Oven has the cheapest lifetime energy cost of \$14676.0. Base Efficiency Oven has the most expensive lifetime energy cost of \$19020.0. Duke 613-E1V has the medium lifetime energy cost which is \$18228.0.

The lifetime energy costs of three gas ovens range from \$8340.0 to \$12684.0. The Energy Efficiency Oven has the cheapest lifetime energy cost of \$8340.0. Alto Shaam ASC-4G has the most expensive lifetime energy cost of \$12684.0. Base Efficiency Oven has the medium lifetime energy cost which is \$12624.0.

The Energy Efficiency Oven in each type of ovens has the lowest estimated lifetime energy cost. Compared other models in each type of oven, there is a significant discrepancy of lifetime energy cost between electric and gas ovens, which is approximately \$6000.

v. Lifetime Maintenance Cost

There is no significant discrepancy in lifetime maintenance cost between electric ovens and gas ovens. However, the electric Energy Efficiency Oven and the gas Energy Efficiency Oven have the lowest maintenance cost of \$1056.0 and \$1164.0 respectively, while the other models have higher maintenance cost, ranging from \$1260.0 to \$1800.0.

vi. Lifetime Total Cost

There is no huge lifetime total cost discrepancy among each model in electric oven. The Energy Efficiency Oven costs \$20853.0, which is the cheapest. Base Efficiency Oven costs \$22620.0, which is the most expensive one. Duke 613-E1V has the medium cost of \$22537.0.

There is significant lifetime total cost discrepancy between each model in gas oven. The Energy Efficiency Oven costs \$15573.0, which is the cheapest. Alto Shaam ASC-4G is the most expensive one; it costs \$18894.0. Base Efficiency Oven costs \$17466.0, which is in the medium.

Overall, the lifetime total cost of gas oven is cheaper than electric oven.

vii. Gas Oven vs. Electric Oven

Compare the initial cost of two types of oven. The electric oven, ranging from \$2160.0 to \$5121.0, is cheaper than the gas oven, ranging from \$3042.0 to \$6069.0. There is a significant discrepancy on efficiency between two types of ovens. The electric ovens, ranging from 65%-73%, are more efficient than the gas ovens, ranging from 30%-45%. The production capacity between electric ovens and gas ovens are similar. However, the electric Base Efficiency Oven and the gas Base Efficiency Oven have the lowest production capacity, 70lbs/h, while other models have higher production capacity, ranging from 82.0lbs/h to 84.1lbs/h.

The Energy Efficiency Oven in both types of oven has the lowest estimated lifetime energy cost. Compared to other models in each type of oven, there is a significant discrepancy of lifetime energy cost between electric and gas ovens, which is approximately \$6000. The lifetime maintenance cost of electric ovens and gas ovens are around the same price. However, the electric Energy Efficiency Oven and the gas Energy Efficiency Oven have the lowest maintenance cost of \$1056.0 and \$1164.0 respectively, while the other models have higher maintenance cost, ranging from \$1260.0 to \$1800.0. Overall, the lifetime total cost of gas oven is cheaper than electric oven.

IV. Recommendation

The electric Energy Efficiency Oven is highly recommended for our company. Although the production capacity is one of the important factors to be consider, all of the models have similar capacity that are capable of handling our production demand during the peak period, which is about 100 serving of 4-8ounces foods (50lbs). Thus, cost and efficiency are the important factor that should be considered. Although the lifetime total cost of gas oven is significantly cheaper than electric oven, the efficiency of electric oven is tremendously higher than the gas oven. Thus, electric oven should be the top option. Among three selected models in electric oven, electric Energy Efficiency Oven has the highest efficiency under heavy load. Despite the high initial cost, the electric Energy Efficiency Oven has the lowest lifetime energy cost and lifetime maintenance cost. In a long run, the electric Energy

Efficiency Oven has the lowest total cost. Thus, the electric Energy Efficiency Oven is highly recommended. The detail summary of six selected ovens is attached with this proposal.