



**GEMINI ENERGY  
SOLUTIONS**

## **Energy Audit Report**

**CLIENT NAME**

**July 2019**

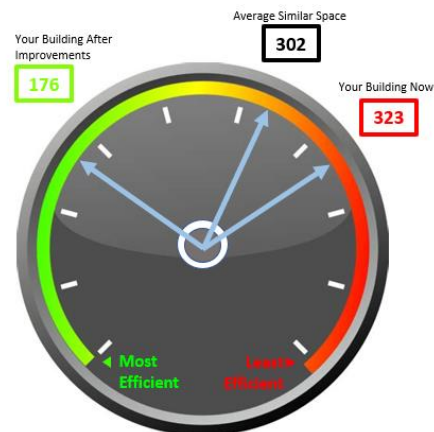
This report presents the results of an energy assessment conducted May 30<sup>th</sup> through June 6<sup>th</sup> and the evaluation of potential improvements to reduce energy consumption and related operating costs at

CLIENT NAME  
CLIENT ADDRESS



## Energy Saving Potential Summary

Implementation of all recommended measures will provide minimum savings of **\$6,506** and a payback period of 2 years.



The analysis shows a high potential for energy savings which will:

- reduce your energy costs,
- increase the thermal comfort in your building, and
- give you more control of how energy is consumed.

The implementation costs of all the measures qualify you for a low-financing loan. By implementing these energy efficiency measures, you will join the courageous few energy heroes who are making the effort to make your community cleaner. Implementing these changes prior to or at the same time as switching to an electric oven will mitigate the electric costs associated with the electric ovens. Our further involvement will save you time, energy, and upfront capital. Depending on available rebates, our involvement can reduce the payback period by 6 months or increase it 6 months.

Financial Components	Financial Overview	
<b>Cost Savings (\$/yr)</b>	\$7,206	
<b>Electric Cost Savings (\$/yr)</b>	\$6,506	
<b>Gas Cost Savings (\$/yr)</b>	\$700	
<b>Implementation Cost (\$)</b>	\$32,820	
<b>Lighting (\$)</b>	\$70	
<b>HVAC (\$)</b>	\$30,000	
<b>Refrigeration (\$)</b>	\$250	
<b>Kitchen Equipment (\$)</b>	\$2,500	
<b>Equipment (\$)</b>	\$0	
	<b>Years</b>	<b>Months</b>
<b>Payback Period</b>	4.6	55
<b>Lighting Payback Period</b>	0.5	6
<b>HVAC Payback Period</b>	6.4	77
<b>Refrigeration Payback Period</b>	1.8	22

## Lighting Savings



Implementation of recommended lighting measures will result in annual savings of

**\$170**

Benefits of LED bulbs include:

- Lower maintenance costs
- Less air-conditioning required
- Happier customers

Replacing all of your non-LED bulbs and adding controls will cost roughly \$230 but will result in a minimum of \$170 in annual savings. This equates to a payback period of roughly 16 months. The cost can be reduced to \$130 if you self-install the occupancy sensors. Alternatively, replacing all non-LED bulbs will result in a minimum of \$170 in annual savings and cost roughly \$70. This equates to a payback period of less than 5 months. Enlisting the support of Gemini to identify the LED replacement options will increase your payback period to 6 months but save you time and energy. We recommend you replace all non-LED bulbs and ensure the bathroom lights are off at the end of the day.



This cost assumes self-installation of LED lamps. **These calculations do not consider PG&E incentives that would be received for implementing these changes.** Rebates from a utility company can only be obtained once for lighting, so we strongly recommend implementing all measures at once. Implementing these changes will result in at least 3 years without changing another lightbulb. Please see the next page for specifics of each measure. Energy calculations and financial assumptions of replacing LEDs in each room are available upon request.

Financial Components		Financial Overview
Minimum Electrical Cost Savings (\$/yr)		\$170
Implementation Cost (\$)		\$70
Payback		
	Years	0.5
	Months	6

The savings represented in the table below do not include:

- Demand savings
- Maintenance Savings
- Air-Conditioning Savings
- Rebate Savings

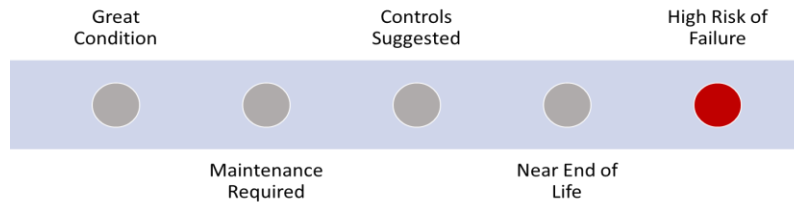
Measure	Location	Measure Description	Quantity	Current Power (kW)	Usage (hours)	Post Power (kW)	Post Usage (hours)	Energy Savings (kWh)	Cost Savings	Implementation Cost	Payback Period (months)	Payback Period (years)
1	Dining Area	Replace Decorative Fluorescents with Decorative LED	12	0.06	1381	0.007	1381	878	\$136	\$48	4	0.4
2	Bathrooms	Occupancy Controls	1	0.08	4600	0.08	2154	199	\$31	\$140	54	4.5
3	Bathrooms	Occupancy Controls (Self-install)	1	0.08	4600	0.08	2154	199	\$31	\$40	16	1.3
4	Bathrooms	Behavior Change	1	0.08	4600	0.08	3866	60	\$9	\$0	0	0.0
5	Bathrooms	Replace Fluorescents with LED	8	0.007	4600	0.001	4600	221	\$34	\$24	8	0.7
2 and 5	Bathrooms	Occ. Controls and LED	1	0.08	4600	0.048	2154	265	\$41	\$164	48	4.0
3 and 5	Bathrooms	Self-installed Occupancy Controls and LED	1	0.08	4600	0.048	2154	265	\$41	\$64	19	1.6
4 and 5	Bathrooms	Behavior Change and LED	1	0.08	4600	0.048	3866	182	\$28	\$24	10	0.8



## *Heating, Ventilation, and Air-Conditioning Savings*

Implementation of recommended HVAC measures will result in minimum annual savings of **\$4,700**

### *Package Unit*



Your four 3-ton HVAC package units are from 1988 with a SEER value of 7. They are 10 years past their expected end of life use and are at risk of failure. We strongly recommend replacing those package units as soon as possible.

Benefits of new HVAC units include:

- Lower operating costs
- Less risk of failure and disruption of business
- More control over temperature settings
- More consistent temperature throughout the space
- Better for the environment

Replacing your HVAC package unit can be cost intensive; however, Gemini support can help minimize that cost. Gemini support includes:

- Obtaining quotes from certified contractors on your behalf
- Identifying rebates which can result in savings over \$1,000
- Identifying 0% interest loans available to you
- Ensuring the contractor is not oversizing your unit

Financial Components		Financial Overview
Minimum Electrical Cost Savings (\$/yr)		\$4,000
Estimated Gas Cost Savings (\$/yr)		\$700
Estimated Implementation Cost (\$)		\$30,000
<b>Payback</b>		
	Years	6.4
	Months	77



## ***Kitchen Exhaust Fans***

Currently your exhaust fans run at full power when on. This results in a lot of wasted energy from your exhaust fans as well as more work for your HVAC package units to replace the conditioned air that is drawn away by the exhaust fans. We recommend installing Demand Control Ventilation (DCV) on both of your exhaust fans.

Benefits to DCV:

- Less noise
- Lower operation costs
- Less use of your HVAC equipment

Financial Components		Financial Overview
Minimal Electrical Cost Savings (\$/yr)		\$1,500
Estimated Implementation Cost (\$)		\$2,500
Payback		
	Years	1.7
	Months	20

**These calculations do not consider PG&E incentives that would be received for implementing these changes.** Rebates from a utility company can only be obtained once for HVAC equipment, so we strongly recommend implementing all measures at once. Energy calculations and financial assumptions are available upon request.



## *Refrigeration Savings*

Your two walk-in coolers are tightly sealed, and the mechanisms are working correctly. The motors in the coolers are EC, the most efficient. The Smart Defrost Kit (SDK) can be added to each of your coolers to save energy.

Benefits of the SDK:

- Reduces the number of defrosts, thereby reducing the energy usage
- More stable temperatures, increase protection of perishable inventory

Financial Components		Financial Overview
Total Electrical Cost Savings (\$/yr)		\$136
Estimated Implementation Cost (\$)		\$250
Payback		
	Years	1.8
	Months	22



## *Kitchen Equipment Savings*

Currently there are 3 double deck Baker Pride ovens. During the pre-audit, you informed me that electric ovens are where you are looking to go and emailed me a product list of Pizza Master PM 80\* Series. The transfer from gas to electricity is considerably better for the environment, as your electricity is being produced primarily from renewable energy. However, there will be an increase in electricity cost of approximately \$122/month or \$1,500 annually. This is approximately what you currently pay for all of the TVs and arcade games. The reduction in gas will be approximately \$8,000 annually.

The following is a list of energy efficiency pizza ovens.

<b>Company Name</b>	<b>Model Number</b>
<b>Cuppone</b>	<b>Donatello</b>
<b>Cuppone</b>	<b>Evolution</b>
<b>Cuppone</b>	<b>MAX635L/*DG</b>
<b>Cuppone</b>	<b>MAX935/*DG</b>
<b>Cuppone</b>	<b>Tiziano TZ430</b>
<b>Doyon</b>	<b>2T</b>
<b>Pizza Master</b>	<b>PM 73*</b>
<b>Pizza Master</b>	<b>PM 91*</b>
<b>Pizza Master</b>	<b>PM 93*</b>
<b>Revent</b>	<b>US * deck 1 pan</b>
<b>Revent</b>	<b>US * deck 2 pan</b>
<b>Revent</b>	<b>US * deck 3 pan</b>





## *Equipment Savings*

A review of the equipment showed no energy efficiency measures under a 5-year payback period.





## *Facility Information*

The restaurant facility is 3,850 square feet and includes a dining area, front kitchen, back kitchen, bar area, arcade area, two walk-in coolers, storage area, three single occupancy bathrooms, and an office. CLIENT NAME is open daily from 11:30AM to 10PM.

CLIENT NAME energy consumption is provided by PG&E and generated from Silicon Valley Clean Energy (SCVE). In the one-year period from 5/16/18 through 5/16/19, CLIENT NAME consumed 139,018.2 kWh, resulting in an electrical cost of \$21,585. SCVE has an option for you to purchase 100% renewable energy. It would cost \$1,112/year at your current usage. However, after implementing the Gemini suggested measures the cost would be approximately \$880 annually.

CLIENT NAME is on the GNR1 PG&E gas rate schedule and for above stated time period, CLIENT NAME used 7,705.112 therms at a cost of \$16,652.

