

Combined Heat and Power @ Pepsi Bottling Company of NY

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Presented By:

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Agenda

- Customer Profile
- Key Drivers
- Energy Costs
- Energy Usage
- Investigated Items (financial/technical)
- Final Configuration (location/installation)
- Financial Impact
- Status
- Q/A

Customer Profile

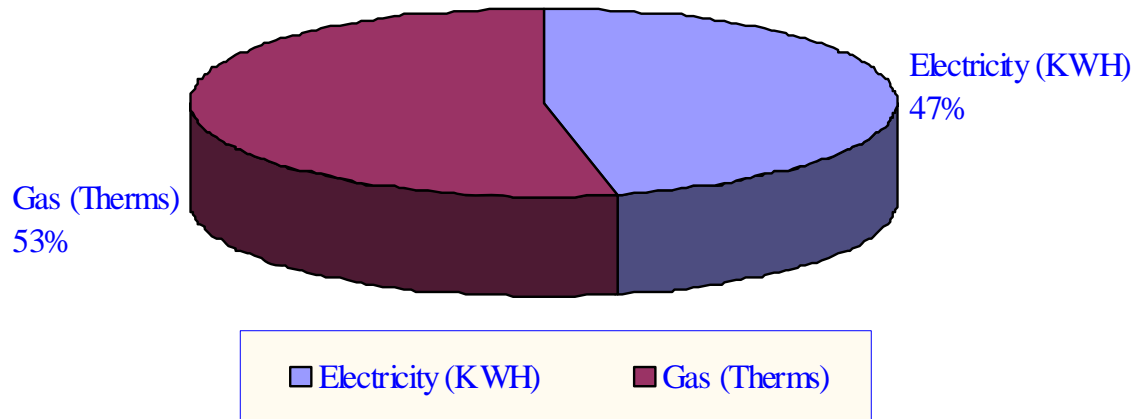
- Pepsi Bottling Company of NY
 - Bottle Processing facility located in College Point, Queens
 - Energy Usage
 - Electricity Usage - 6,700,000 kWh @ \$0.13/kWh
 - Fuel Usage - 254,000 Therms @ \$0.68/Therm
 - Currently receiving Industrial Cost Incentive Program (ICIP) and Energy Cost Savings Program (ECSP) benefits

Key Customer Drivers

- Operating Savings
- Reliability
 - Must not negatively impact operations
- Space
 - Metro Location with limited space
- Noise
 - Adjacent residential neighbors

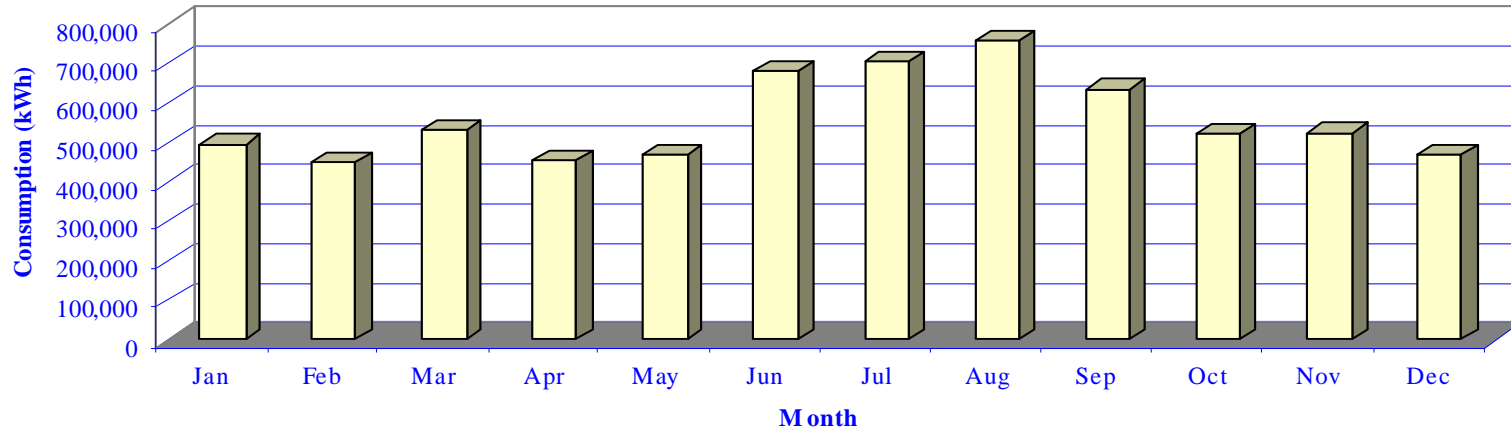
Energy Usage Summary

Energy Type	Annual Energy Consumption	Equivalent MMBTU
Electricity (KWH)	6,700,000	22,867
Gas (Therms)	250,000	25,750
Total	N.A.	48,617

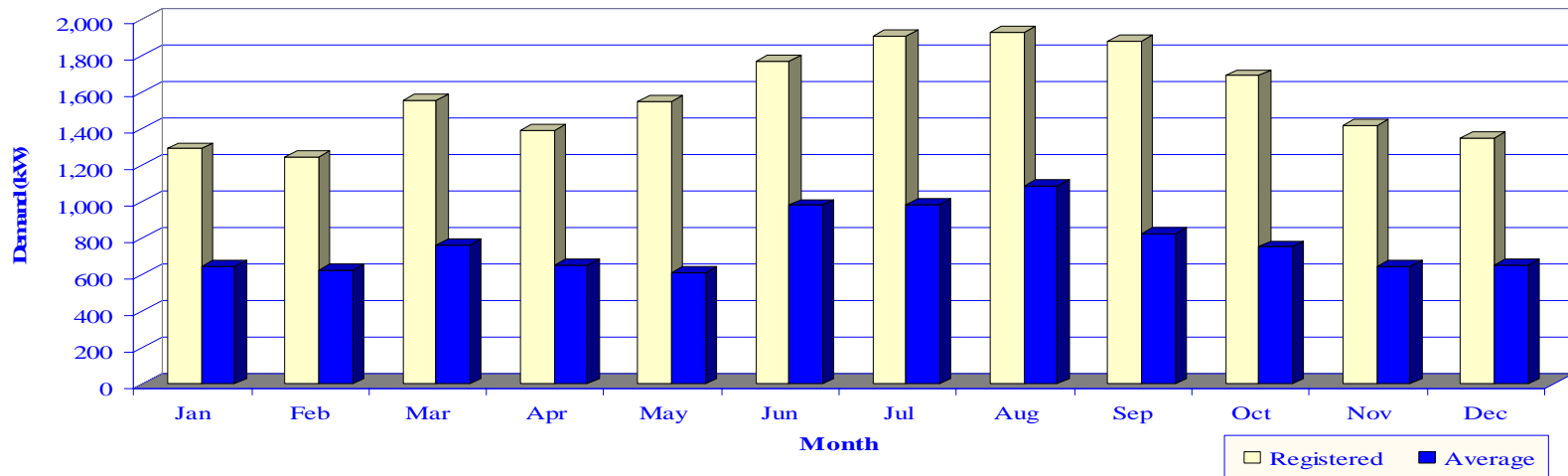


Electricity Usage

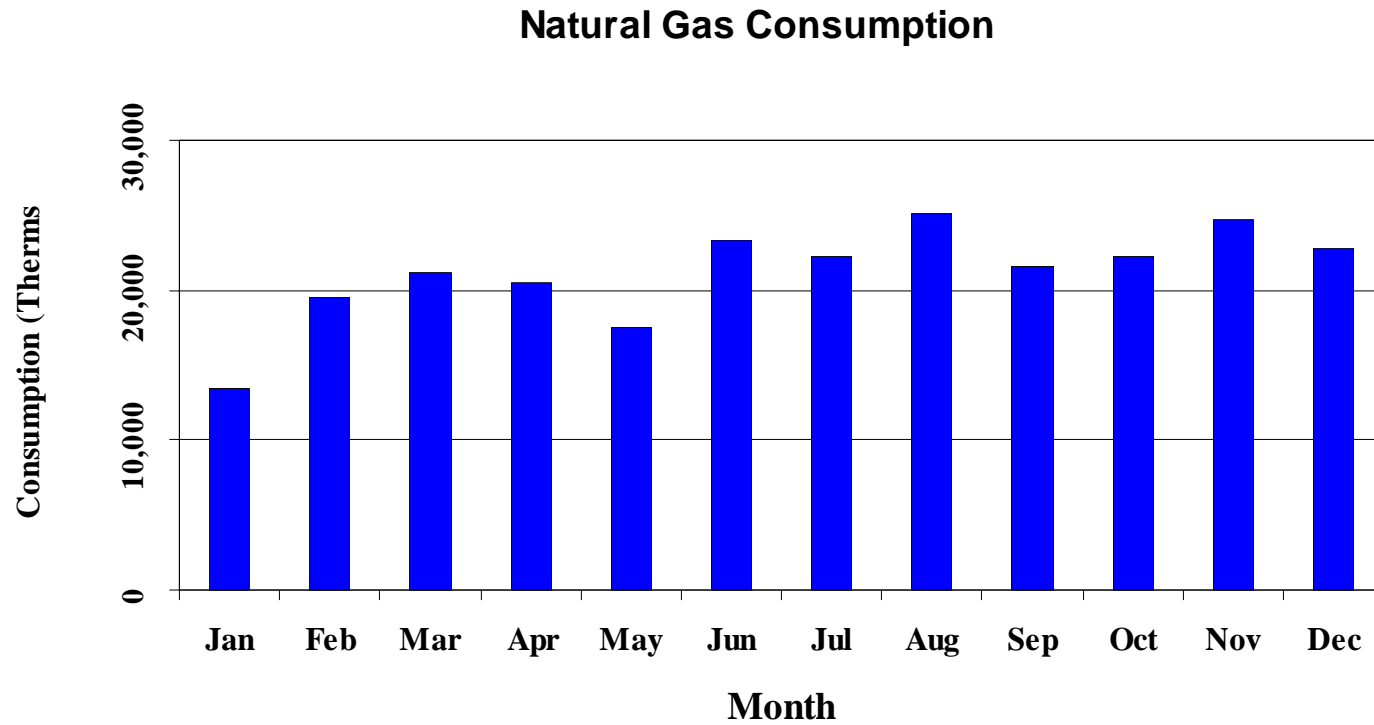
Monthly Electrical Consumption



Monthly Electric Demand

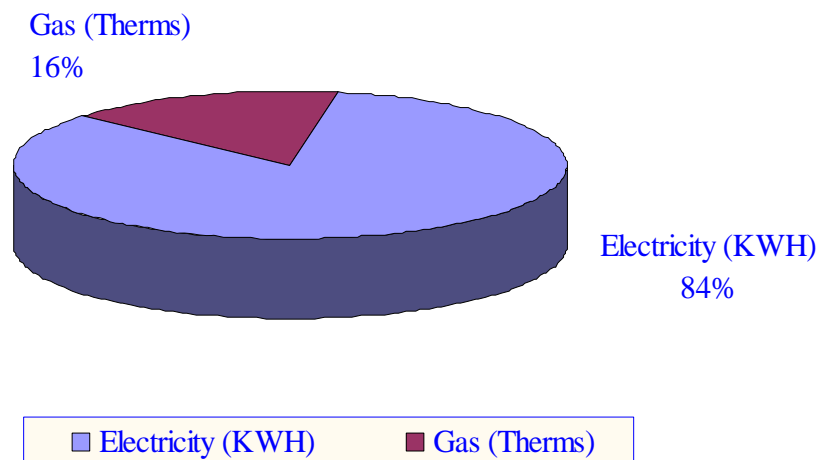


Gas Usage



Energy Cost Summary

Energy Type	Annual Energy Costs
Electricity	\$880,000
Natural Gas	\$170,000
Total	\$1,050,000



Note: Annual Energy Costs w/o ECSP adjustments

Investigated Items - Financial

- Transaction Structure
 - Energy Outsourcing
 - Traditional Design/Build
- Grants and Rebates
 - NYSERDA CHP PON
- Impact of current and future incentives
 - ICIP/ECSP
- CECONY Tariff Impact
- Market Risk (electricity vs. fuel price)

Investigated Items - Technical

- Utility Interface
 - Electric/Gas Interconnect
- Equipment Selection
 - Induction vs. Synchronous Generators
 - Technology & size configurations
 - Manufactures
- Environmental Impact
 - Lean Burn vs. Rich Burn
 - Emission impact and NYSERDA criteria
- Heat Recovery
 - Steam recovery to supplement onsite boilers
 - Additional usage of jacket water

Final Plant Configuration

- Selected Configuration
 - Four 365 kW (1465 kW total)
 - Modular packaged/Skid Mounted
 - Induction Generators (Interconnect req)
 - Rich Burn with NSCR (NYSERDA req)
 - Exhaust gas recovery for low pressure steam recovery
 - Balance of Plant systems integrated into existing facility

Proposed Site Location



Similar CHP Installation

- Mission Plastics, California



Photo Courtesy Coast Intelligen

Similar CHP Installation

- Typical Engine Configuration



Photo Courtesy Kraft Power Corp

Financial Impact - Savings

	Current	After Cogen	Savings
Purchased Electric Cost	880,000	140,000	740,000
ECSP adjustment	(230,000)	(90,000)	(140,000)
Net Power Cost	650,000	50,000	600,000
Boiler Fuel Cost	170,000	60,000	110,000
Cogen Fuel Cost	0	480,000	(480,000)
ECSP Cogen credit	0	(270,000)	270,000
ECSP Process Heat Credit	0	(5,000)	5,000
O&M	0	105,000	(105,000)
Total	820,000	420,000	400,000

Financial Impact – Return

- Investment = \$2,350,000
- NYSERDA Award
 - \$500,000 Grant
 - \$500,000 interest free loan
- Simple Payback = 4.5 years
- Net Cash Flow (10 year) = \$1,600,000

Status

- Final Equipment Selection and subcontractor negotiation
- Startup/Commissioning - 2Q 2005

Questions

- Q/A