



City of Bethlehem

Bethlehem, Pennsylvania
Energy Performance Contract



Project Size: 22 buildings, 346,563 sq ft
Project Value: \$1,352,890
Source of Funds: Tax-exempt lease loan
Contract Terms: 10-Years
Project Schedule: Completed on time

Project Phase	Project Dates	
	Started	Completed
Comprehensive Energy Analysis	February 1998	October 1998
Design/Implementation	October 1999	March 2000
Monitoring	June 2000	May 2010

Guaranteed Annual Energy Savings: \$155,250

Annual Non-Energy Savings: \$35,554

Achieved Summarized Savings:

Baselines	kWh	kW	CCF	Water (gal)	Steam (lbs)	Energy \$	Non-Energy \$	Total Dollars*
		3,522,568		94,715				\$35,554
ANNUAL SAVINGS								
Year	kWh	kW	CCF	Water (gal)	Steam (lbs)	Energy \$	Non-Energy \$	Total Dollars*
Construction	343,668		3,760					\$23,758
1	1,078,970		7,975			\$72,678	\$26,227	\$98,905
2	1,154,289		19,722			\$85,022	\$91,127	\$176,149
3	1,154,254		7,942			\$80,579	\$93,220	\$173,799
4	1,033,736		5,410			\$72,708	\$95,363	\$168,071
5	1,180,432		21,201			\$92,841	\$97,557	\$190,398
6	1,094,574		14,030			\$84,684	\$99,803	\$184,487
7	783,282		11,083			\$62,405	\$102,103	\$164,508

* Energy Savings + Non-Energy Savings = Total Annual Dollars Saved

Measurement and Verification: IPMVP, 1997, Option C (entire facility-level comparison before and after retrofit, typically with utility bills).

Comments: Engineering analysis and design, construction management, commissioning, operator training, monitoring and verification of savings guarantee, savings guarantee, and warranty guarantees.

For more information, contact: Steve Spurgeon, 800 475 3500 x3609
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List of Improvements:

- Installed energy management system
- Retrofit lighting to T-8 lamps, electronic ballasts, LED exit signs, etc.
- Upgraded lighting and controls
- Converted constant volume systems to VAV systems
- Installed program logic controller (PLC) at wastewater treatment plant
- Installed VFDs on wetwell pumps and sludge pumps
- Improved control strategy for sludge recycling pump

Reference:

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