

Saint Francis Hospital and Medical Center

Energy Projects

- Fuel Cell Project
- New Projects

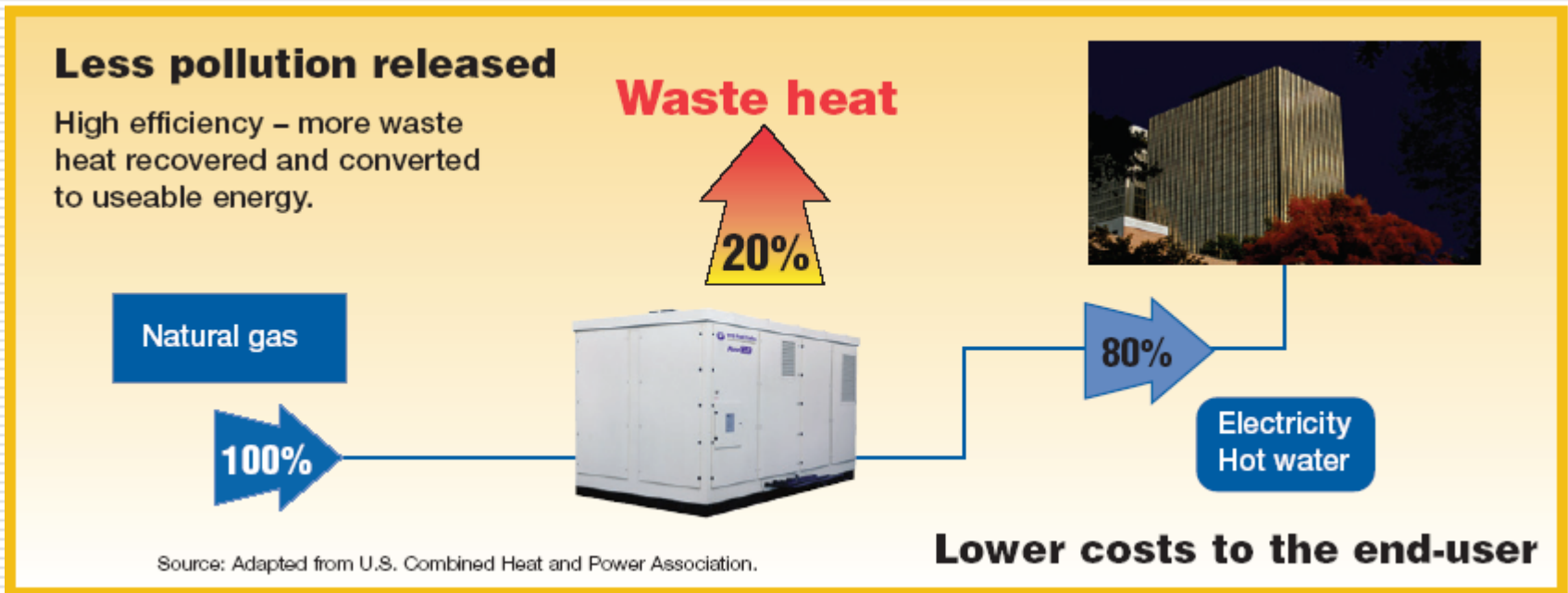
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□ Fuel Cell Project



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□ Fuel Cell Project



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- Fuel Cell Project – Five Stages
 - Meeting
 - Courtship
 - Pre-Wedding Jitters
 - Honeymoon
 - Peace & Tranquility
- The Partners
 - Select Energy
 - UTC Power
 - CCEF
 - Updike Kelly & Spellacy
 - SFHMC

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- In the Beginning - The Meeting
 - Select Approach
 - Grant Application
 - UTC Involvement
 - The Award - \$1.5M

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- The Planning Process - Courtship
 - Contracts – Lawyers Took Over
 - CCEF - SFH
 - SFH – Select Energy
 - CCEF - UTC



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- Time is \$\$\$ - Pre-Wedding Jitters
 - 1 Year of Negotiations
 - CCEF – SFH
 - Negotiations for Term
 - Report Timing
 - Maintenance Agreement
 - Education
 - SFH – Select Energy
 - Location/Construction Schedule
 - Meeting Frequency
 - CCEF – UTC
 - Production/Delivery of Unit
 - Performance
 - Operational Responsibilities
 - Legal Process
 - Construction 6 Months
 - Hartford City Council
 - Local Permits
 - EPA/DEP

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- The Wedding Day/Honeymoon
 - Operational - October 2003
 - 1st Quarter – Great Results

Calculated Values	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual
Availability	100.0%	75.6%	99.7%	100.0%	93.9%
Capacity Factor	97.6%	70.4%	98.3%	90.1%	89.1%
Weighted Average Cost of Fuel	\$6.12	\$5.74	\$6.14	\$6.14	\$6.02
Value of Generated Electricity	\$36,650.08	\$26,144.48	\$36,516.56	\$33,847.47	\$133,158.59
Recoverable Heat Savings	\$4,760.91	\$4,740.53	\$4,774.05	\$4,676.77	\$18,952.26
Natural Gas Cost (Fuel Cell)	\$24,720.98	\$18,033.61	\$25,112.88	\$23,258.74	\$91,126.21
Operations and Maintenance Cost (Input Value)	\$11,589.04	\$11,589.04	\$11,589.04	\$11,589.04	\$46,356.16
Quarterly Savings	\$5,100.97	\$1,262.35	\$4,588.69	\$3,676.46	\$14,628.47

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Peace and Tranquility

- 3 years later
- Steady operation
- Savings for 2 years
- Break even 3rd year
 - Great Electric Rate
 - High Natural Gas Rate

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- What's Next – Let's Have Kids!
- [Fuel Cell Operation](#)

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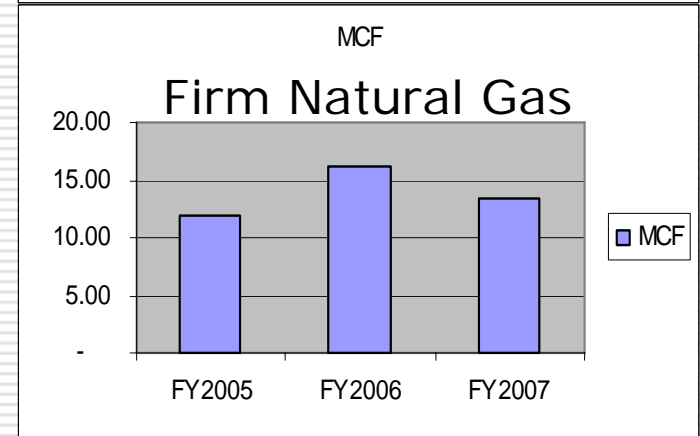
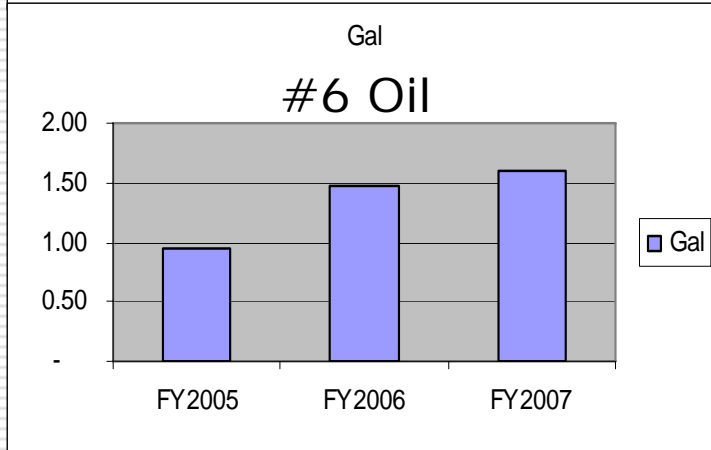
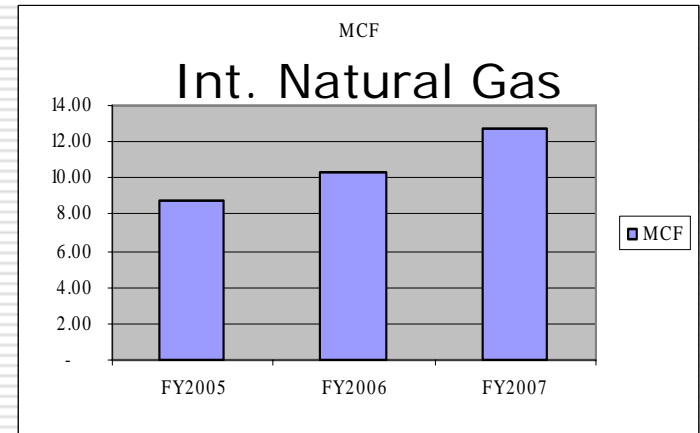
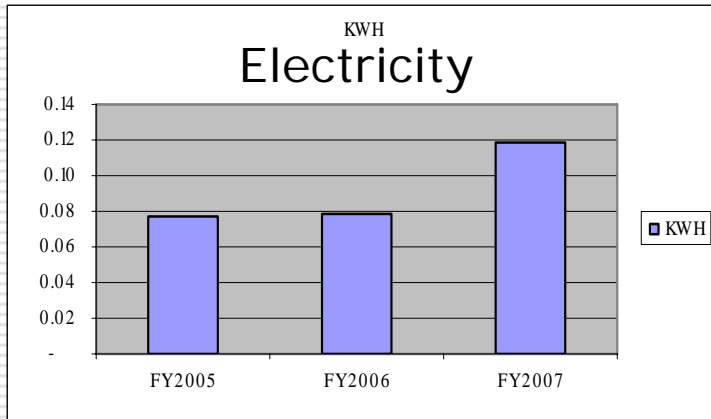
New Energy Projects

Energy Unit Costs

		Actual	Actual	Budget
Utility	Units	FY2005	FY2006	FY2007
Electricity	KWH	0.08	0.08	0.12
Natural Gas (Interruptible)	MCF	8.72	10.30	12.71
Natural Gas (Firm)	MCF	11.85	16.10	13.40
No. 6 Fuel Oil	Gal	0.94	1.47	1.59

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Energy Unit Costs



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□ Energy Partnership



Connecticut
Light & Power



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Planned Energy Projects							
Location		Energy Savings		ROI			
Campus	Square Feet	KWH	#6 Oil (Gallons)	Planned Savings (\$)	Expected Cost (\$)	Estimated Utility Incentive (\$)	Payback (Years)
South Campus - SFH	1,440,809	2,788,895	502,745	1,235,911	2,118,996	449,447	1.4
North Campus - MSH	514,399	2,036,870	247,076	726,230	962,318	300,589	0.9
	Total	4,825,765	749,821	1,962,141	3,081,314	750,036	1.2

Energy Projects

Planned Energy Projects (Examples)				
Campus	Project Name	Total Savings Estimated (\$)	Estimated Project Cost (\$)	Estimated Utility Incentive (\$)
South Campus - SFH - Total of 21 Projects	Boiler Burner Management System	373,607	161,900	38,569
	Controls Upgrade - Fitness Center	48,978	66,000	26,021
	Medical Air System Upgrade	15,684	71,890	24,780
	Modify Kitchen HVAC Systems	121,938	48,000	24,000
	Modify Cafeteria HVAC Systems	85,631	50,400	25,200
	Controls Upgrade - Building 1 O.R.	7,647	20,066	9,342
North Campus - SFH - Total of 23 Projects	Boiler Burner Management System	126,586	64,800	27,534
	Controls Upgrade - MOB	10,251	6,200	3,100
	Controls Upgrade - Former ER	120,268	20,000	10,000
	Controls Upgrade - Rehab Units	15,881	10,400	4,960
	Controls Upgrade - Suisman West	72,655	72,300	31,635

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Questions ?