



Central Vermont Medical Center

Central Vermont Medical Center - Energy Action Plan (FY 2015)



Purpose: To reduce operational cost savings, improve building comfort & performance, improve the patient care experience, and reduce our environmental impact through achieving Energy Star designation.

Current: Annual energy costs (baseline): \$ 1,600,000 Annual energy use per square-foot: 216 kBtu

Goals: Reduce energy costs by 7.5%: \$ 120,000 Reduce energy use per sq-ft by 5%: 205 kBtu

Team: Leo Martineau, Richard Morley, Liebert Engineering, Control Technologies, Efficiency Vermont

Action Plan			Completed Efforts - FY 2015							
	Lead	Impact	Project Description	Date	Proj. Costs	Incentives	Annual Savings	kWh Reduce	Oil (eqv. gal)	
1. Optimize end-use HVAC system, components, and controls ✓ Oct14 New sequence of operations for AHU#1 ✓ Dec14 Ensure proper operation of recent controls changes/upgrades Jan15 Apply controls to behavior health isolation rooms ✓ Jun15 Retro-commissioning MOB A HVAC systems ✓ Mar15 Optimize demand-controlled ventilation in cafeteria, conference rooms, lobby Jul15 AHU-6 offload of Pharmacy & overnight/weekend shutdown Aug15 AHU-20 reduced volume during unoccupied times	G.Liebert	\$ 23,430 200000 kWh 500 gal oil	AHU-1 Controls	Oct14	\$ 15,300	\$ 3,500	\$ 3,390	43,600		
			Conference Room LEDs	Nov14	\$ 6,680	\$ 2,935	\$ 1,010	8,200		
			Thin Clients	Nov14	\$ 12,400	\$ 4,190	\$ 4,140	35,500		
			Chiller optimization 2014	Dec14	\$ 61,600	\$ 22,420	\$ 20,630	189,600		
			Stairwell LEDs & controls	Jan15	\$ 20,990	\$ 3,260	\$ 1,730	18,000		
			Cafeteria lighting controls	Mar15	\$ 700	\$ 406	\$ 470	3,800		
			Cancer Center, Cafeteria HVAC controls	Mar15	\$ 70,240	\$ 20,000	\$ 16,600	76,900	2,920	
			Convection oven	May15	\$ 13,100	\$ 1,500	\$ 1,200		380	
			Lobby LEDs & controls	Sep15	\$ 4,300	\$ 3,805	\$ 2,600	21,300		
			2. Optimize chilled water plant operations ✓ Sep14 Program sequence of operations for optimized chiller sequencing ✓ Sep14 Deployment of energy valves at large AHUs to optimize chiller temp differentials Oct14 Address chilled water distribution serving as run-around loop in winter	G.Liebert	\$ 17,930 150000 kWh 500 gal oil	Hospital-wide lighting & design (reLIGHT)	Sep15	\$ 118,830	\$ 37,450	\$ 17,000
Chiller & HVAC optimization 2015	Sep15	\$ 31,700				\$ 10,000	\$ 21,000	210,000		
MOB A - HVAC	Sep15	\$ 12,200				\$ 3,850	\$ 6,300	48,000	390	
					Totals:	\$ 368,040	\$ 113,316	\$ 96,070	818,500	3,690
3. Pursue targeted upgrades of interior lighting to LEDs with aggressive controls ✓ Oct14 Upgrade lighting & controls in conference room spaces ✓ Feb15 Conduct lighting audit of targeted spaces for potential upgrades/controls	L.Martineau	\$ 16,500 150000 kWh	Results & Energy Star Impacts							
4. Explore fuel switching and thermal shell improvements ✓ Nov14 Conversion of oil-fired boilers to compressed natural gas, explore summer boiler ✓ Nov14 Insulation of thermally-exposed wall surfaces in Cancer Center	R.Morley	\$ 200,000								
5. Employee engagement through energy workshops & campaigns ✓ Mar15 Engagement of all hospital departments in ESI Champs initiative ✓ Apr15 Host an informational table to communicate ESI results and educate staff ✓ May15 Host a Kaizen event to focus on energy waste in targeted hospital areas Jun15 Feature Energy Savings Initiative as part of CVMC Annual Plan	N.Duncan	\$ 26,290 200000 kWh 1500 gal oil								
6. Build efficiency into operations & maintenance practices and new designs ✓ Nov14 Development of Energy Policy and purchasing specifications ✓ Jun14 Kitchen operational changes & scheduling Jun15 Large medical equipment - reduce idle operation & cooling Jan15 Institute use of SkySpark as a facilities management tool	L.Martineau	\$ 8,360 50000 kWh 1000 gal oil								
		Totals:	\$ 292,510							