



Central Vermont Medical Center - Energy Action Plan (2014)

Purpose: To reduce operational cost savings, improve building comfort & performance, improve the patient care experience, and reduce our environmental impact through becoming **the first** Vermont hospital to achieve Energy Star designation.

Current: Annual energy costs (baseline): \$ 1,800,000

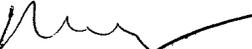
Annual energy use per square-foot: 231 kBtu

Goals: Reduce energy costs by 15%: \$ 270,000

Reduce energy use per sq-ft by 13%: 200 kBtu

Team: Leo Martineau, Richard Morley, Nicole Duncan, Greg Liebert (LEI), Chris Vintinner (CTI), Maribella Ibarra (EVT), Tim Perrin (EVT)



Signed: 
Richard Morley, VP Support Services

Signed: 
Timothy Perrin, Senior Account Manager

Action Plan			Completed Efforts - 2012-13						
	Lead	Impact	Project Description	Date	Proj. Costs	Incentives	Annual Savings	kWh Reduce	Oil (gallons)
1. Optimize end-use HVAC system, components, and controls	G.Liebert	\$ 23,725 200000 kWh 500 gal oil	Central Sterilizer - Air-handling Unit	Jun12	\$ 44,195	\$ 2,200	\$ 3,421	29,003	87
✓ Apr14 New sequence of operations for AHU#1			LED Parking Lot Lighting	Aug12	\$ 37,030	\$ 11,000	\$ 5,978	45,242	
✓ May14 Ensure proper operation of recent controls changes/upgrades			Heat Recovery Heat Pump	Aug12	\$ 470,000	\$ 50,000	\$ 175,395		71,246
Jun14 Apply controls to behavior health isolation rooms			Boiler Controls - Variable-speed	Nov12	\$ 33,976	\$ 3,600	\$ 16,031	35,531	3,667
Jun14 Retro-commissioning MOB A HVAC systems			Backup Server Room - Efficient HVAC	Sep13	\$ 13,492	\$ 2,500	\$ 1,944	20,468	
Jul14 Optimize demand-controlled ventilation in cafeteria, conference rooms, lobby			Air-handling Unit #8	Oct13	\$ 4,205	\$ 2,000	\$ 1,094	12,151	
Jul14 AHU-6 offload of Pharmacy & overnight/weekend shutdown			Grundfos Variable-speed Pump	Oct13	\$ 2,400	\$ 2,400	\$ 982	8,465	
Aug14 AHU-20 reduced volume during unoccupied times			HVAC Controls - Air-side Systems	Nov13	\$ 118,680	\$ 28,340	\$ 91,456	521,731	12,804
			Totals: \$ 723,978 \$ 102,040 \$ 296,301 672,591 87,804						
2. Optimize chilled water plant operations	G.Liebert	\$ 18,175 150000 kWh 500 gal oil							
✓ Apr14 Program sequence of operations for optimized chiller sequencing									
Jun14 Deployment of energy valves at large AHUs to optimize chiller temp differentials									
Oct14 Address chilled water distribution serving as run-around loop in winter									
3. Pursue targeted upgrades of interior lighting to LEDs with aggressive controls	L.Martineau	\$ 16,650 150000 kWh							
✓ May14 Upgrade lighting & controls in conference room spaces									
✓ May14 Conduct lighting audit of targeted spaces for potential upgrades/controls									
4. Explore fuel switching and thermal shell improvements	R.Morley	\$ 200,000							
Sep14 Conversion of oil-fired boilers to compressed natural gas, explore summer boiler									
Oct14 Insulation of thermally-exposed wall surfaces in Cancer Center									
5. Employee engagement through energy workshops & campaigns	N.Duncan	\$ 26,775 200000 kWh 1500 gal oil							
✓ Mar14 Engagement of all hospital departments in ESI Champs initiative									
✓ Apr14 Host an informational table to communicate ESI results and educate staff									
✓ May14 Host a Kaizen event to focus on energy waste in targeted hospital areas									
Jun14 Feature Energy Savings Initiative as part of CVMC Annual Plan									
6. Build efficiency into operations & maintenance practices and new designs	L.Martineau	\$ 8,600 50000 kWh 1000 gal oil							
✓ Apr14 Development of Energy Policy and purchasing specifications									
Jun14 Kitchen operational changes & scheduling									
Jul14 Large medical equipment - reduce idle operation & cooling									
Sep14 Institute use of SkySpark as a facilities management tool									
Totals:			\$ 293,925						

