

WEST HALDIMAND GENERAL HOSPITAL STRATEGIC ENERGY MANAGEMENT PLAN

STRATEGIC ENERGY MANAGEMENT PLAN (SEMP) FOR 2014

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Introduction

The purpose of the West Haldimand General Hospital's Energy Management Plan and Policies is to promote good stewardship of our environment and community resources. In keeping with our core values of Efficiency and Financial Responsibility, West Haldimand General Hospital's energy management program will ultimately result in reduced operating costs and enable the hospital to provide compassionate service to a greater number of persons in the community.

- Utility and energy related costs are a significant part of overall operating costs
 - Utility costs in 2012 were \$ 262,716.00 annually.
 - The Hospital's Energy Use Index (EUI) was 61.7ekWh/ft²
 - Facility related O&M costs are \$ 520,000.00 annually
 - Facility capital project costs are projected at \$3.0 Million over 5 years
- With energy management an integral part of business decisions, West Haldimand General Hospital can expect the following:
 - Min. 15% reduction in energy use
 - \$ 39,400.00 to the bottom line (\$197,000.00 over 5 years)
- Recent activity associated with managing these costs include the following:
 1. Advanced monitoring of energy consumption levels and patterns.
 2. Recently completed Opportunity Assessment through Healthcare Energy Leaders Ontario program.
 3. Replacement of water cooled refrigeration systems resulting in reduction of water consumption.
 4. Replacement of inefficient air handling units and air-conditioning systems.
 5. Upgrade of DDC controls.

- To further strengthen and obtain full value from energy management activities, a strategic approach will be taken: WHGH will fully integrate energy management into its business decision-making, policies, and operating procedures.
- Active management of energy related costs and risks in this manner will provide a significant economic return to the organization and will support other key organizational objectives.

Energy Management Vision

West Haldimand General Hospital's Mission Statement is "An exemplary rural hospital providing quality healthcare and providing good health to our diverse population in collaboration with our community partners".

Therefore, we consider our facilities a primary source of giving care and an integral part of the healing environment. Operating our facilities efficiently and effectively will allow much needed resources to be redirected toward direct patient care as well as contribute to a health environment for all.

West Haldimand General hospital's energy management vision is to eliminate energy waste through infrastructure improvement, policy and process change as well as engagement of all hospital staff and volunteers to be energy wise and responsible.

Guiding Principles for Strategic Energy Management

The West Haldimand General Hospital's energy management will be guided by these principles:

Taking A Strategic Approach: While WHGH actively manages energy costs by implementing opportunities as they are identified, by acting strategically, the hospital can significantly improve its energy-related performance. Internalizing energy and utility management into our organization's every-day decision-making, policies, and operating procedures will help assure substantial and long-lasting reductions in energy use throughout West Haldimand General Hospital.

Supporting Mission-Critical Goals: Strategic energy management will directly support West Haldimand General Hospital's mission-critical goals of caring for the environment and the community. It will also help the hospital to optimize the healing and working environment; improve the hospital's financial bottom line by reducing unnecessary energy costs; optimizing the capacity of existing energy systems to meet current and expanding operational needs. The impacts of West Haldimand General's energy management efforts on those goals will be tracked and reported wherever possible.

Pursuing Long-Term Change to Core Business Practices: The core of a strategic approach is the consistent incorporation of energy management into our organization's core practices and decision making such as the strategic planning and budgeting processes. Change in energy-related business practice will cover all applications of energy management – new construction and major renovations, existing facility operations and upgrades, and the economic analysis and procurement practices underlying these practices.

Fostering Organizational Commitment and Involvement: Executive and organizational commitment and involvement is critical to successful strategic energy management. Senior Leadership at West Haldimand General Hospital will work with facility managers and other key staff to ensure that adequate organizational support and resources are provided to maximize the benefits of energy and utility management. Energy and utility management will be integrated into the strategic planning and capital budgeting processes.

Obtaining Solid Economic Returns: Energy management investments will yield solid economic returns that meet West Haldimand General Hospital's expectations on Internal Rate of Return and Return on Investment. West Haldimand General Hospital will apply consistent financial analysis methods that consider life-cycle to reduce total cost of facility ownership and operation.

Using Available Resources and Assistance: West Haldimand General Hospital will use national, regional, and local sources of strategic, technical, and financial assistance to help achieve our energy management goals. These include programs through local distribution companies, the Ontario Power Authority, ENERGYSTAR and saveONenergy, the Canadian Coalition for Green Health Care, The Canadian Healthcare Engineering Society and EnerCan.

The Business Case for Strategic Energy Management

Below are the central business arguments for West Haldimand General Hospital's pursuit of strategic energy management. Section VI then presents the business proposition – the results of analysis of the energy efficiency opportunities and their associated costs and internal rate of return.

Strengthened Community Leadership and Environmental Stewardship

Energy management is a visible, public commitment to the community and environment. Through aggressive energy management, the hospital can provide leadership in promoting sustainable communities, efficient business practices, and environmental stewardship. This is an excellent opportunity to provide leadership and reduce costs at the same time.

Enhanced Healing and Working Environment

In existing facilities, efficient operating practices improve patient as well as employee comfort with more stable air temperature, and better indoor air quality and lighting. By way of an example, recent research has found that daylight eases surgical pain and contributes to substantial savings in pharmacy costs.

Improved Financial Health and Operating Cost Reduction

Strategic energy management presents a highly leveraged opportunity to reduce operating costs and positively impact West Haldimand General Hospital's bottom line. Dollars of operating cost savings directly improve the operating margin. Further, investments in energy projects typically have a lower risk of performance over time relative to other investments and savings from energy projects are easier to forecast reliably than savings or revenue increases expected from more variable investments.

Optimization of Capacity to Meet Current and Expanding Operational Needs

Energy efficiency optimizes inefficient or poorly designed and operated equipment/systems so wasted energy system capacity can be reclaimed for current and expanding operational needs. This "free capacity" can eliminate the need to add major new energy capacity and be much less expensive.

Business Proposition

- If energy management considerations are integral to relevant business practices, policies, procedures, and decision-making processes, West Haldimand General Hospital's energy-related costs can be reduced by an *additional* 15% over a 5-year period.
- Based on 2013 utility rates, this will result in \$ 39,400 in annual value to the bottom line based, or a total of \$197,000 over a 5 year period. Integration of energy management into organizational decision making and business practices will continue to produce value annually for a much longer period of time.
- To support the achievement of these financial benefits, West Haldimand General Hospital will invest in energy-related capital and operating improvements, meeting an Internal Rate of Return (IRR) that is acceptable to it's Board of Directors and Executive Officers.

Energy Management Goals

The following outlines some of the energy management goals that will be adopted by West Haldimand General Hospital. They include, but not limited to, the following:

- SEMP Approval, Resources to Implement
- Implement Financial Practices and Decision Making Processes; Establish Funding Resources
- Implement Strategic Energy Management Practices
 - Purchasing/Procurement Procedures and Specifications
 - Enhanced Design & Construction Practices
 - Enhanced Facility Operating Practices
 - Cost-Effective Facility Upgrades
 - Active Commodity Management
- Monitoring, Track, & Improve Performance

Goal: SEMP Approval, Resources to Implement

- Executive approval process and resource allocations to support initiatives.
- Support from key staff (financial management, purchasing/procurement, construction, building operations, etc.).
- Creation of mechanisms/processes to make resources available.
- Clarification and communication of staff roles and responsibilities, performance goals, and energy management reporting.

Goal: Implement Financial Practices and Decision Making Processes

- Money spent to achieve energy efficiency is viewed as an investment, not a cost.
- Financial decision makers consistently use life cycle cost analysis (LCCA) on all new construction, major renovations, and equipment replacements over lower cost.
- Internal rate of return (IRR) as “pre-approved” by the Hospital Board and Executive Team.
- Train staff on Life Cycle Cost Analysis (LCCA) and financial requirements and decision making process.
- Decisions about energy management investments will be part of West Haldimand General Hospital’s high-level, long range process of budgeting for capital and operations.

Goal: Establish Purchasing Specifications for Energy Efficient Equipment and Services

- Establish and consistently use purchasing specifications that minimize life-cycle costs for energy efficient equipment and services.
- Establish efficiency specifications for standard equipment routinely replaced (e.g. lights, motors, and unitary HVAC equipment).
- Establish efficiency guidelines that apply LCCA for custom equipment purchases (e.g. chillers).
- Establish efficiency standards for design and construction, and for building operations and maintenance services.

Goal: Implement Enhanced Design & Construction (D&C) Practices

- Implement improved new construction practices in all capital projects that specify early team collaboration and “integrated design” (ID).
 - Integrated design required for funding.
 - RFPs, contract terms & conditions, & fee structures will support ID.
 - Apply LCCA and financial hurdle rates described above to design decisions.
 - Apply established purchasing procedures and specifications.
 - Include incentives and tax credits wherever available.
 - Educate all owner’s project managers or construction managers and contractors on integrated design and their respective roles in master planning pre-design, design, construction, testing, commissioning, and monitoring.
- Set and meet clear energy performance targets for new buildings; measure and improve over time.
 - Establish baseline for measuring performance goals (e.g. code, or national reference standards like ASHRAE 90.1).
 - Set targets
 - Measure performance and improve over time.
- Specify commissioning as a standard procedure.
 - Retain the services of an independent third-party commissioning agent.
 - 100 percent of fundamental building systems and elements will be designed, installed, and calibrated to operate as designed.
 - Design team, commissioning agent, and building operators will work closely throughout the design process and occupancy to ensure good transition.

Goal: Improve Building Operating Performance

- Equipment tune-up and improved operations and maintenance (O&M) will achieve the following results while supporting patient care, and facility comfort and safety.
 - Achieve reductions in operating costs for existing facilities by an average of 15% over 5 years and continue to improve by 1% per year for 5 years thereafter.
 - Reduce the system-wide EUI from 61.7 kWh/ft² to 56.0 kWh/ft² by 2019. The EUI will be adjusted for variances in patient days and IT intensity.
 - Reduce energy consumption by 15%.
 - Improve ENERGYSTAR rating.

Goal: Implement Cost-Effective Facility Upgrades

- Implement equipment and system upgrades where justified by life-cycle cost analysis.
- Expand use of qualified service providers as needed. Develop standard RFP documents, contract terms, and reporting standards.

Goal: Actively Manage Energy Commodity

- Minimize utility costs and exposure to market risks. Utility costs include natural gas, electricity, water, and sewer.
- Participate in the energy/utility regulatory process.

Goal: Monitor, Track, and Reward Progress

- Track progress on SEMP
- Track energy reductions [quarterly][annually].
- Reward staff for successes.