

Energy Management Plan



2014



INTRODUCTION:

Hanover and District Hospital's Energy Management Plan is intended to promote stewardship of our environment and community resources. The HDH organization is committed to planning for future initiatives that utilize environmentally responsible planning and decision making to increase energy efficiency and reduce energy waste and costs.

Energy is an integral part of Hanover and District Hospital's operations, financial sustainability, and environmental stewardship. As a leader in moving our community forward toward greater overall health, it is critical to our mission that our facilities model an efficient, effective environment of care. To this end, HDH resolves to pursue the guiding principles of strategic energy management.

In our Energy Management Plan, we define our direction towards Energy management and sustainability. This plan will directly support Hanover and District Hospital's mission and play a key role in ensuring that our operations are a model of efficiency and progressive improvement.

HDH ENERGY MANAGEMENT VISION:

Hanover and District Hospital's mission is "To collaborate with our partners to ensure that the residents of our region receive the highest quality of care possible". Therefore, we consider our facilities both as a primary source of care and as a leader in moving our community forward to greater overall health. It is critical to our mission that our facilities model an efficient, effective environment of care for our community. Enhancing efficiency in our use of facility resources will enable Hanover and District Hospital to direct more resources toward patient care and the relief of illness and suffering. As well, by reducing our ecological footprint, we are doing our part to create a healthier environment. This is essential to our community's health and in inspiring progress toward a healthier future.

Thus, Hanover and District Hospital's energy management vision is to improve energy efficiency and reduce waste by improving infrastructure, by developing forward-thinking policies and processes, and by incorporating new best practices and technologies.

Our Guiding Principles for Strategic Energy Management:

Hanover and District Hospital's energy management plan will be guided by these principles:

A Strategic Approach:

While HDH actively manages energy and utility 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 HDH facilities.

Supporting Mission-Critical Goals:

Strategic energy management will directly support Hanover and District 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 and utility costs; and optimize the capacity of existing energy systems to meet current and expanding operational needs. The impacts of HDH's energy management efforts on those goals will be tracked and reported wherever possible.

Fostering Organizational Commitment and Involvement:

Executive and organizational commitment and involvement is critical to successful strategic energy management. Senior management at HDH 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. The Board of Governors, President & CEO and Senior Team are committed to and emphasize the importance of energy management to the Hospital as stated and practiced in its Mission, Vision and Values. Energy and utility management will be integrated into the strategic planning and capital budgeting processes.

Obtaining Sustainable Financial Returns:

Energy management investments will yield solid economic returns that meet Hanover and District Hospital's expectations on Internal Rate of Return and Return on Investment. HDH will apply consistent financial analysis methods that reduce total cost of facility ownership and operation.

Using Available Resources and Assistance:

HDH 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, save ON energy, ENERGY STAR, the Canadian Coalition for Green Health Care, The Canadian Healthcare Engineering Society and Natural Resources Canada. The organization will also work within existing relationships, such as ECNG, to explore and exploit further opportunities for improving energy efficiency.

THE BUSINESS CASE FOR STRATEGIC ENERGY MANAGEMENT:

Below are the central business arguments for HDH's pursuit of strategic energy management. The next section 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, HDH 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, 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 pharmaceutical costs. Improved Financial Health and Operating Cost Reduction Strategic energy management presents a highly leveraged opportunity to reduce operating costs and positively impact HDH'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 types of investment. Optimization of Capacity to meet operational needs energy efficiency optimizes overall equipment/system operation so that system capacity can be reclaimed for current and expanding operational needs. This "free capacity" can eliminate the need to add major new infrastructure is far less expensive.

ENERGY MANAGEMENT GOALS:

The following outlines some of the energy management goals that will be adopted by Hanover and District Hospital they include, but are not limited to, the following:

1. Energy Management Plan approval, identification of resources for implementation
2. Implement financial practices and decision-making processes
3. Establish purchasing specifications for energy efficient equipment and services
4. Improve building operating performance
5. Implement energy efficient facility upgrades

Goal 1: EMP Approval, Resources for Implementation

- Executive approval process adjustments 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 2: Implement Financial Practices and Decision-Making Processes

- Money spent to achieve energy efficiency is viewed as an investment, not a cost;
- Internal rate of return (IRR) as approved by the Hospital Board and Administration; and
- Decisions about energy management investments will be part of Hanover and District Hospital's high-level, long range process of budgeting for capital and operations.

Goal 3: 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 for custom equipment purchases (e.g. chillers); and
- Adoption of ENERGY STAR requirements as a consideration for all purchasing of electrical devices.

Goal 4: 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; and
- Achieve sustainability in utility related operating costs for existing facilities by balancing the addition of new equipment with a reduction of wasted energy or installation of energy efficient systems for neutral increase in use.

Goal 5: Implement Energy Efficient Facility Upgrades

- Specific equipment upgrades will improve energy efficiency over the next seven years. These upgrades will proceed strategically on a specific timeline and be supported by improved O&M practices.
 - Steam trap audit/repairs – 2015-16
 - Parking lot lighting and exterior building lighting to LED – 2014-15
 - Heating, Ventilation, and Air Conditioning Upgrades – 2015-18
 - System effect improvements
 - Fan speed adjustments to restore building balance and net pressure relationships
 - Ensuring that all air handling units are maintained and fans inspected and sheaved properly as regular maintenance practices
 - Ensuring that all outside dampers are opened and closed properly by the automation system through visual inspections
 - Air Handling Unit Replacements
 - Building Automation System Upgrades – 2016
 - Add free-cooling strategies, requiring reduced system effects
 - Maintaining Building Automation Strategies and Shutdowns

BASELINE ENERGY USE

The baseline energy profile has been obtained using available utility data from 2010.

KEY OBSERVATIONS

A review of the baseline energy cost profile reveals that:

The total annual utility costs for the Hanover and District Hospital site in 2010 was 1747429 KWh \$248,698.13 as billed by Westario Power Authority.

Natural gas use represents the largest proportion of this cost. ECNG.