



Hôpital général de Nipissing Ouest
West Nipissing General Hospital

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THE WEST NIPISSING GENERAL HOSPITAL STRATEGIC ENERGY MANAGEMENT PLAN 2014



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EXECUTIVE SUMMARY

The West Nipissing General Hospital (WNGH) has been extremely focused on striving for an optimal balance to provide quality healthcare services while meeting the needs of the communities we serve in today's tough fiscal climate.

Our small rural community hospital, whose catchment area covers a relatively large geographic area, operates as a 98 bed facility and provides outpatient and community Mental Health and Substance Abuse services to a predominantly Francophone and First Nation population.

With a determination to minimize any adverse impact from fiscal challenges on the hospital services, the organization has engaged the Board of Directors, management team and staff to developing strategies to improve operating efficiencies. This Strategic Energy Management Plan (SEMP) supports the West Nipissing General Hospital commitment to energy efficiency and conservation by providing a framework for reducing energy consumption and its associated environmental impact. Our SEMP outlines a specific energy reduction target and an action plan, established for a successful outcome.

The timing of this plan is strategic in nature as the West Nipissing General Hospital was the pilot for small rural hospitals with the Ministry of Health and Long Term Care Facility Assessment Program (VFA) in 2011. A follow up site visit is schedule for July 2014. This report directly feeds our capital planning projects.

With the implementation of the SEMP, the WNGH is clearly demonstrating leadership through innovation and accountability for resources utilized and tax payers' dollars. It is our goal to implement energy efficient savings to reduce expected energy cost escalations while being environmentally responsible in our community.



Cynthia Désormiers RN BScN MHA
President & CEO

INTRODUCTION

The West Nipissing General Hospital (WNGH) is a 98 bed facility located in Sturgeon Falls, Ontario, with a total population of 14,149 people within the municipality of West Nipissing. Our Hospital was built in 1977 and has a total of 80,000 sq feet. The WNGH incorporated in 1977, is a fully accredited hospital providing the following services and programs:

- 27 Medical / Surgical
- 2 Pediatric
- 2 Enhanced Care Unit
- 19 Complex Continuing Care Unit
- 48 Interim Long-term Care Unit
- 24/7 Emergency Department
- Laboratory (inpatient & outpatient)
- Diagnostic and Therapeutic services (inpatient & outpatient)
- Visiting Specialists
- Diagnostic Sleep Lab
- Community Mental Health & Substance Abuse Program
- Medical Clinic

The WNGH is supported by:

- 258 employees
- 6.5 full-time Family Physicians
- 10 regular ER physicians
- 1 full time GP Anesthetist
- 1 full time Internist
- Numerous visiting specialists
- 69 credentialed physicians

In addition to the hospital proper, the WNGH is also responsible for the Medical Clinic co –located on the hospital property and physically linked to the WNGH. This Medical Clinic houses Family Physicians, a Family Health Team, Mental Health and Substance Abuse Clinic, Methadone Clinic and provides an enclosed hallway for the adjacent Nursing Home. The Strategic Energy Management Plan (SEMP) will not include the Medical Clinic at this time.

The purpose of West Nipissing General Hospital's Strategic Energy Management Plan and policies is to promote good stewardship of our environment and community resources. In accordance with our 2013-2018 Strategic Plan the WNGH is "investing in the organization and its people" as well as continued development of a solid "capital plan". The SEMP is in keeping with our organizational values of accountability and ensuring a safe environment. It is our ultimate goal to be fiscally responsible while ensuring a healthy financial position to ensure the provision of the best patient care possible. The WNGH SEMP will reduce operating costs and enable us to provide safe quality patient care to our patients and community residents while abiding by the regulations and standards set forth in the Green Energy Act and Ontario Regulation (397/11)

To further strengthen and obtain full value from energy management activities, a strategic approach will be taken: the organization 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.

- Recent energy retrofit projects include:
 - Replace redundant water cooled AC Units in IT (2013-ongoing)
 - 'saveONenergy" application for new Emergency exit lighting
 - 'saveONenergy" application for new air reading report
 - Performed air and vibrations readings on all air moving units
 - Performed all repairs and upgraded motors as recommended
 - Roof repairs with membrane to minimize heat and cooling losses (2013-ongoing)
 - Domestic water pipe replacements and heating valve replacements (2013-ongoing)
 - New energy efficient generator (2013)

- Smardt Chiller with regular PM on Smardt Chiller
- New Hobart energy efficient dishwasher (2013)
- Regular changing of air filters
- Install variable speed drives to decrease energy costs after hours
- PM schedule of all equipment to maintain efficiency
- Reduce, reuse and recycle program (2012)
- Paperless board and committee meetings (2012)
- Implementation of Electronic Health Record (April 2013)

ENERGY MANAGEMENT VISION

Our **vision** is “the commitment to improve the health and wellness of our culturally diverse community”.

Our **mission** is “the delivery of quality primary health care to the population of West Nipissing and surrounding areas”.

Our **values** include:

- respect,
- dignity,
- patients first,
- communication,
- compassion, team work,
- accountability and
- safe environment.

Cognizant of the above, we recognize it is our responsibility to ensure that we practice good stewardship of our natural resources and do our part in the quest to reduce, reuse and recycle. We at WNGH plan to eliminate energy waste, wherever possible, through infrastructure improvements, policy and process changes, and through embracing and implementing best practices and technology across the organization.

GUIDING PRINCIPLES FOR STRATEGIC ENERGY MANAGEMENT PLAN

The West Nipissing General Hospital SEMP will be guided by the following principles:

Taking A Strategic Approach: The WNGH actively manages energy costs with the implementation of all opportunities identified and the WNGH can still significantly improve its energy related performance. Internalizing energy 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 Nipissing General Hospital.

Supporting Mission-Critical Goals: A Strategic Energy Management Plan will directly support West Nipissing General Hospital mission-critical goals of caring for the environment and the community; optimize the healing and working environment; improve the hospital's financial bottom line by reducing unnecessary energy costs; optimize the capacity of existing energy systems to meet current and expanding operational needs. The impacts of West Nipissing General Hospital energy management efforts on those goals will be tracked and reported quarterly to Finance and Audit Committee, Board of Directors, senior team and management team as well as shared with all staff. As per regulations WNGH energy consumption will be publicly posted on our website annually

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 management at West Nipissing General Hospital will work with the Plant Maintenance manager and other key staff to ensure that adequate organizational support and resources are provided to maximize the benefits of energy management. Energy management will be integrated into strategic planning and capital budgeting processes.

Obtaining Solid Economic Returns: WNGH energy management investments will yield solid economic returns that meet West Nipissing General Hospital's standard Investment policy requirements. The 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: WNGH will use national, regional, and local sources of strategic, as well as technical, and financial assistance to help achieve our energy management goals. These include programs through local distribution companies, the Ontario Power Authority, ENERGYSTAR, saveONenergy, the Canadian Coalition for Green Health Care, The Canadian Healthcare Engineering Society, Health Pro and EnerCan.

THE BUSINESS CASE FOR STRATEGIC ENERGY MANAGEMENT

Enclosed are the central business points of view for the West Nipissing General Hospital pursuit of a Strategic Energy Management Plan. Additionally the results of our analysis of the energy efficiency opportunities and their associated savings are also presented.

Strengthened Community Leadership and Environmental Stewardship

Energy management is a visible and 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. During these tough economical times, this is an excellent opportunity to provide leadership and reduce operating costs at the same time, leaving more dollars for direct patient care activities

Enhanced Healing and Working Environment

Efficient operating practices improve patient and employee comfort through a stable air temperature, better indoor air quality and improved lighting. Control of comfort contributes to healing in a patient-focused environment, and an improved working environment for staff. Research clearly notes that daylight eases surgical pain and contributes to substantial savings in pharmaceutical costs.

Improved Financial Health and Operating Cost Reduction

Strategic energy management presents opportunity to reduce operating costs and positively impact West Nipissing General Hospital's bottom line. Dollars of operating cost savings directly improve the operating margin. With West Nipissing General Hospital current operating margin of 0.4% 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.

- Utility and energy related costs are a significant part of overall operating costs
 - Utility costs for the calendar year 2012 were \$645,216 which represents 2.67% of our global budget
 - Capital project costs are projected at \$5,000,000 over the next 5 years with more than fifty percent (50%) of capital dollars dedicated to energy management.

- With energy management an integral part of business decisions, West Nipissing General Hospital can expect the following:
 - 2 % reduction in energy use
 - \$ 12,904.32 annually to the bottom line (\$ 129,043 over 10 years)

Optimization of Capacity to Meet Current and Expanding Operational Needs

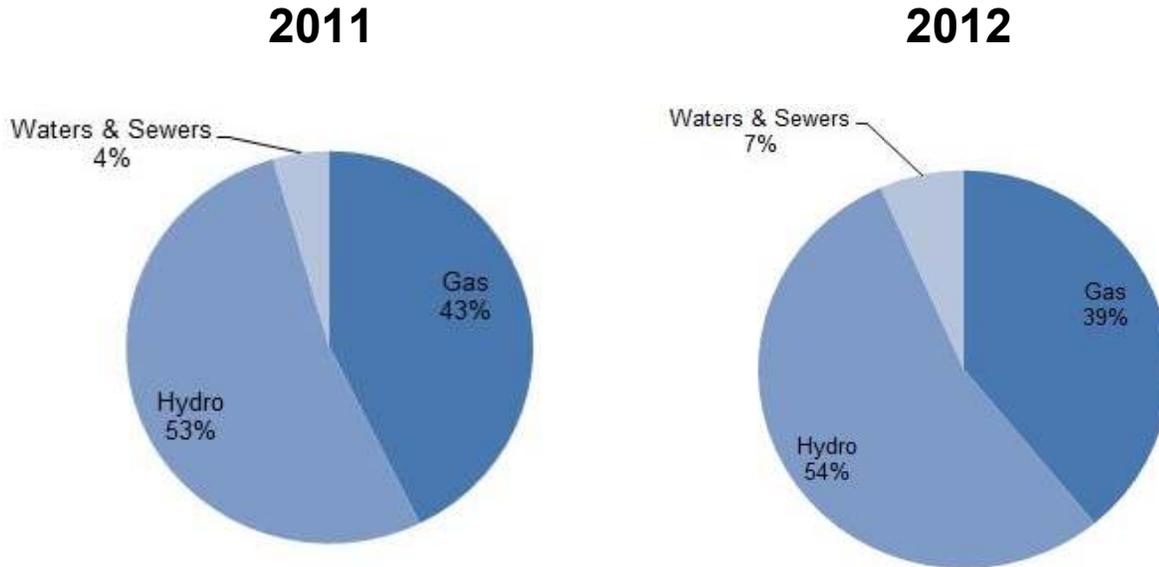
Energy efficiency optimizes inefficient or poorly designed and operated equipment/systems so wasted energy system capacity can be reclaimed for current and expanding operational needs. This "free capacity" can eliminate the need to add major new energy capacity and is far less expensive.

BUSINESS PROPOSITION

A good SEMP will reduce energy consumption that will positively impact the West Nipissing General Hospital's budget and promote fiscal responsibility. These energy savings will improve our operating costs, decrease our energy consumption and allow the WNGH to lead by example. As we re-invest our savings in new energy saving projects, we will continue to reap the benefits of reduced energy consumption, and improved operating budget as it relates to utility costs. Year after year, as these changes unfold our goal to reduce energy consumption will become a reality and the new norm. This will be a welcomed change at all levels within the organization.

- If energy management considerations are integral to relevant business practices, policies, procedures, and decision-making processes, the West Nipissing General Hospital energy-related costs can be reduced by an *additional* 1% over a 5-year period.
- Based on 2012 utility rates, this will result in a \$12,857.66 annual savings for a total of \$64,288.30 over a 5-year period. Integration of energy management into organizational decision making and business practices will continue to produce savings and value annually and for years to come.

WEST NIPISSING GENERAL HOSPITAL UTILITIES COSTS



	2011	2012
Gas	258,397.32\$	231,314.40\$
Hydro	319,666.48\$	321,671.86\$
Water	27,150.35\$	39,262.99\$

- To support the achievement of these financial benefits, The WNGH will invest up to \$5,000,000 in energy-related capital and operating improvements, over the 10-year period (2014-2024).

The WNGH Executive team will directly support these initiatives with the key players remaining in situation for the prescribed 10 year period to ensure sustainability of the SEMP. On a go forward basis all vendors of choice and RFP's will note that products and equipment must be energy efficient, must present an improvement over the current equipment being replaced and must prescribe the annualized energy savings with the new equipment. All RFP and vendor selections processes will now include a member of senior management and all RFP's will be signed by the President and CEO or delegate. Both the Purchasing Agent and plant manager will also be involved in the vendor selection process. Policies and processes have been revised to reflect this new business practice.

ENERGY MANAGEMENT GOALS

The West Nipissing General Hospital has always recognized the importance of energy conservation and most recently at the forefront of decision making for capital projects were energy saving projects considered feasible was implemented. The following overarching goals are basis for the WNGH Energy Management Policy.

WNGH Energy Management Goals are to:

1. attempt to reduce energy (natural gas, electricity, water) consumption by 2% over the next 10 years
2. Attempt to reduce greenhouse gas emissions
3. Demonstrate leadership in efficient energy management.

These goals are targets are to be achieved by implementing cost efficient energy management initiatives. Some of the strategies include but are not limited to:

- Develop and implement policy on Energy Efficiency
- Complete Energy Efficiency Study
- Implement recommendations & update SEMP from Energy Efficiency Study results
- Implement tracking of utilities through Meditech software
- Document and trend financial value of energy efficiency
- Ensure staff education, participation and commitment

- Incorporate energy efficiency initiative in renovations and all new projects
- Identify new energy initiative and implement them accordingly
- Incorporate greenhouse gas reduction in concurrence with energy management targets

Energy Management objectives include:

- To improve the efficiency of energy use by performing economically feasible upgrades, purchasing energy efficient products and implementing wise operating and maintenance practices.
- To reduce Energy costs
- To maintain staff commitment to energy management by promoting awareness of climate change, identify greenhouse gas emissions and their participation is reducing utility usage

Energy Management Approach

- Plant & Facility Manager in collaboration with the Executive Team keeps energy efficiency at the forefront of all decision making
- Capital Planning is done in collaboration with Facility Plant Manager throughout planning phases relative to energy efficient design
- In-house projects partnered with external agencies as feasible and when required to further promote energy efficiency

Energy Management Action Plan

- Energy study by 3rd party to maximize savings and identify areas of improvement
- Install variable speed drives on all fans with savings opportunities
- Replace all electric space heaters with hot water space heaters
- Insulate roof in all entrances
- Replace all light switches to sensors
- Install lock boxes on thermostats to control temperature fluctuations

Policy and Procedure

SUBJECT:	ENERGY MANAGEMENT	POLICY NO.	<NEW>
		DATE APPROVED:	<2014/06/27>
DEPARTMENT:	HOSPITAL WIDE	SIGNATURE:	<«ORIGINAL SIGNED»>
ISSUED BY:	FACILITY AND PLANT MAINTENANCE SERVICES	REVISED:	<YYYY-MM>
		REVIEWED:	<YYYY-MM>

PURPOSE

The West Nipissing General Hospital is committed to cost-effective management within the facility.

POLICY STATEMENT

The WNGH is committed to an energy efficient plan that will promote energy management throughout the facility, encourage wise use of resources while protecting natural resources and minimizing environmental impact.

PROCEDURE

1. The WNGH has established as Energy Management Plan and Policy to promote energy efficiencies throughout the organization.
2. All WNGH employees, physicians, students and volunteers are responsible for efficient use of energy within the facilities such as turning off lights, copiers, fans, electrical equipment when not in use or when facilities not occupied.
3. The Facility and Plant Maintenance Department conducts environmental audits regularly to promote awareness among department managers to demonstrate self monitoring practices.
4. Where economically feasible, the WNGH upgrades and installs new equipment which meets or exceeds current energy-efficient standards, specifications and guidelines.
5. The Facility Plant Manager will participate in planning with in the organization to provide recommendations on energy efficient management.
6. The WNGH is open to partnership with other organizations and consultants to implement or promote energy efficient projects.
7. Energy management initiatives are supported by a business plan including details of the initiative technical feasibility, costs savings and payback.

REFERENCES

Service Ontario. (2012). Energy Conservation and Demand Management Plans *Green Energy Act, 2009*. Retrieved from <http://www.e-laws.gov.on.ca>

CONCLUSION

Over the past several years the WNGH has increased their awareness and knowledge with respect to energy management and energy efficiency. In 2011 we began retrofit projects with a strong stand that energy management is required to be accountable to the public while demonstrating leadership in the community. As a leader, the WNGH will challenge itself and others to reduce energy consumption.

Data on energy usage is being captured, shared and trended to monitor increases and decreases with action plans being implemented to ensure an overall decrease in energy use and associated costs. As we move forward with our Energy Management Plan, Energy Efficient Study and Energy Management policy, we will be identifying energy champions in each department, which will not only engage staff but will also educate them. We will publically share our success stories and our savings which will hopefully inspire other business in the community. We will certainly lead energy management by example and we look forward to the exciting opportunities that lie ahead for our organization with respect to the SEMP.