



ALEXANDRA MARINE AND GENERAL HOSPITAL
ENERGY CONSERVATION AND DEMAND MANAGEMENT PLAN



2019-2024

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Approved by:  _____

Introduction

The purpose of Alexandra Marine and General Hospital's (AMGH) energy conservation and demand management (CDM) plan is to promote good stewardship of our environment and community resources. The goals within the plan align with our Strategic pillars of People, Quality, Partnerships and Sustainability. The AMGH energy conservation and demand management program will reduce overall energy consumption, operating costs, and greenhouse gas emissions. Although this document is a 5-year plan, it will be a living document and will be updated annually.

Through past conservation and demand initiatives, AMGH has achieved the following results between June 2014 and June 2019:

- 4% reduction in energy use
- 83,644 kWh decrease in electricity consumption
- 4,962 m³ decrease in gas consumption
- 12,349 tonne reduction in carbon dioxide equivalent (tCO₂e) emissions

Today, utility and energy related costs are a significant part of overall operating costs. AMGH annual energy consumption and related costs/emissions for 2018 were:

- Utility costs were \$296,706.00.
- The Hospital's Energy Use Index (EUI) was 67.91 kWh/ft²
- Energy related emissions for 2018 equaled 66,494 kg tCO₂e.

With energy management an integral part of business decisions, AMGH can expect to achieve the following targets by 2024:

- 3% reduction in energy use
- 10,000 tonne reduction in carbon equivalent emissions
- With LED lighting project being fully completed by August 2019 we expect to reduce electricity consumption by 145,000 kWh annually
 - We are projecting a \$10,540 in cost savings by the end of fiscal year 2019/2020 (at today's electricity rates) and a cost savings by end of fiscal year 2020/2021 of \$21,000 (at today's electricity rates)
 - Total annual reduction of kWh of 147,429

Results of Previous Measures from CDM Plan Posted July/2014

In July 2014, AMGH developed goals and devised green initiatives in an effort to decrease the facilities annual energy consumption and resulting greenhouse gas emissions. The following activities, completed between 2014 and 2019, are associated with managing overall energy consumption, lowering annual operating costs, and reducing greenhouse gas emissions.

- Installed Variable Speed Drives in Ambulatory Care Wing and Mental Health wing- to control fan speed on “off hours”
- Installed new windows on west side of the hospital on 1st floor - windows were aged – broken seals
- Completed lighting audit and converted interior and exterior lighting to LED 95% complete as of July 1st – full competition Aug 30 2019
- Completed lighting retrofit in all Community Psychiatric sites from T 12 to T 8
- Completed occupancy sensor install in all public washrooms and janitors closets
- Installed dimmers in administrative and office areas and nursing stations
- Completed a Steam trap audit- defective and inefficient traps replaced
- Replaced a mini boiler in North Penthouse for summer heat- with more efficient style – to further reduce energy consumption
- Building automaton control values were adjusted for heating and cooling to further reduce energy consumption – based on occupancy times of areas and comfort of occupants – on going

Energy Management Vision

“Our energy management vision is to integrate energy management into Alexandra Marine and General Hospital’s organizational policies, business practices and our culture to ensure the most efficient use of energy. We will become community leaders in Environmental Stewardship.”

Guiding Principles for Strategic Energy Management

AMGH energy management will be guided by our Strategic Pillars:

People

Employee Engagement

Engaging employees and providing Energy Conservation awareness will create employees who are conscious of energy use at work and at home, contributing to reduction in energy use at the hospital and the community.

Fostering Organizational Commitment and Involvement:

Executive and organizational commitment and involvement is critical to successful strategic energy management. Engagement of the Senior Leadership Team along with facility management and facility staff will ensure organizational support and ensure resources are provided to maximize the benefits of energy management to AMGH.

Quality

Enhanced Healing and Working Environment

Efficient operating practices improve patient as well as employee comfort with more stable air temperature, and better indoor air quality and lighting, thus enhancing patient and employee satisfaction.

Partnerships

Using Available Resources and Assistance

AMGH will use national, regional, and local sources of strategic, technical, and financial assistance to help us to achieve the organization's energy management goals. These include utility, municipal, provincial and national government programs. It also includes established best practices through a community of practice approach.

Strengthened Community Leadership and Environmental Stewardship

Energy management is a visible, public commitment to the community and environment. Through energy management, the hospital can provide leadership in promoting sustainable communities, efficient business practices, and environmental stewardship.

Sustainability

Improved Financial Health and Operating Cost Reduction

While AMGH actively manages energy costs by implementing opportunities as they are identified. AMGH can 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, operating costs, and environmental impact. Energy management will also be integrated into the strategic planning and capital budgeting processes

Strategic energy management presents a highly leveraged opportunity to reduce operating costs and positively impact AMGH bottom line. Dollars of operating cost savings directly improve the operating margin.

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.

Energy Management Goals 2019- 2024

Goal: Energy Conservation and Demand Management Plan Approval

- Senior Leadership approval
- Support from key staff (finance, purchasing/procurement, facility, etc.).
- 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.
- Decisions about energy management investments will be part of AMGH high-level, long range process of budgeting for capital and operations.

Goal: Implement Strategic Energy Management Practices

Establish Purchasing Specifications for Energy Efficient Equipment & 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 standards for design and construction, and for building operations and maintenance services.

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 by an average of 5% over 5 years and continue to improve by .05% per year for 5 years thereafter.
 - Reduce the system-wide EUI from 67.91 ekWh/ft² to 63 ekWh/ft² by 2024. The EUI will be adjusted for variances in patient days and IT intensity.

Proposed Projects to Improve Operating Performance- the implementation of these CDM measures are contingent on the availability of funding that Alexandra Marine receives over the next five years

- Complete "building envelope assessment" to identify inefficiencies, develop a plan and implement to address the inefficiencies, using operational or capital funds
- Install photo cell in 2 main entrances
- Complete steam trap survey (last completed in 2014) to identify inefficiencies with system and replace /repair as needed
- Install "mini boiler" for ICU area for summer heat, this would allow the main hospital boiler to be shut down for the summer earlier and go back on line for winter month latter- reducing natural gas consumption
- Replacement window on west side of basement, 2nd and 3rd floors

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 the CDM plan
- Track energy reductions quarterly with facilities staff
- Reward staff for successes.