Energy and Environmental Stewardship Award

The Award
This award recognizes a progressive healthcare organization that has implemented organizational wide initiatives demonstrating environmental responsibility through the reduction of energy usage, the preservation of natural resources and effective waste diversion solutions. Possible initiatives include the implementation of energy efficient building systems and solutions, comprehensive energy and environmental awareness programs, waste management initiatives, and green procurement practices.

The recipient will receive an etched glass trophy, a framed certificate of recognition, paid travel and accommodations to the College’s Honouring Health Leadership event and a complimentary registration to attend the National Health Leadership Conference. In addition, the winner will receive a $2,000 cash prize to be directed to the organization’s foundation or charity of choice.

Eligibility
All Canadian healthcare organizations are eligible for this award, regardless of size. However, the following criteria must be satisfied:

- demonstrate steps taken to ensure sustainability of environmental initiatives (i.e. energy conservation; water savings; waste disposal and/or diversion initiatives);
- show evidence of results achieved through the implementation of environmental initiatives;
- illustrate initiatives taken to engage staff and the community;
- explain how these initiatives have resulted in an improvement in the overall indoor environment for patients and staff; and
- provide evidence that a culture of sustainability and environmental leadership are in line with the corporate business plan endorsed by the senior management team.

Nominations
Nominations must be made by a member of the College who is an employee of the nominated organization. Nominations must be submitted by February 1, 2019. Please use the attached nomination template and include the following in your nomination package:

- a completed nomination form;
- a letter of support from the chief executive officer or other C-level designate; and
- using the template, describe the energy and environmental stewardship program undertaken, including results. Describe any additional benefits achieved by the facility as a result of the program.
Nominations must be made by an individual member of the College.

**Nominee:**
Team/Department: Nova Scotia Health Authority  
Contact Name: Rakesh Minocha  
Title: Senior Director  
Organization: Nova Scotia Health Authority  
Address: 34 Prince Street, Amherst, Nova Scotia B4H 1V6  
Phone: 902-664-8648  
Fax: 902-667-1125  
Email: rakesh.minocha@nshealth.ca

**Nominator:** Allan Horsburgh  
Prefix:  
Name:  
Title: Vice President, Stewardship and Accountability & Chief Financial Officer  
Organization: Nova Scotia Health Authority  
Address: Nova Scotia Health Authority Provincial Office  
90 Lovett Lake Court, Suite 201 Halifax, Nova Scotia B3S 0H6  
Phone: (902) 491-5872  
Fax: 902-473-2141  
Email: allan.horsburgh@nshealth.ca

**Please submit nominations to:**  
Christian Coulombe, Director, Marketing & Communications  
Canadian College of Health Leaders  
292 Somerset Street West  
Ottawa, ON K2P 0J6  
Tel: (613) 235-7218 ext. 213  
Toll free: 1-800-363-9056  
Fax: (613) 235-5451  
ccoulombe@cchl-ccls.ca
Energy and Environmental Stewardship Award – Nomination Template

The following template has been provided to help nominators with the nomination process. Please be sure to complete all sections within the template to the best of your ability. We request that you use this template to submit your nomination.

Summary for Publication (Limit: 250 words)

Please include a synopsis of the nominated program, including highlights of the accomplishments. This information will be published in the College’s Leading Practices booklet.

NSHA is mindful of the importance of developing a social, environmental, health and financial balanced approach to sustainability and economic imperatives and recognizes the link between a healthy environment and a healthy population. As such, NSHA recognizes a duty to minimize its environmental impact.

The NSHA energy and environmental plan feeds the organizational strategic directions by contributing to the goals and values that will drive those directions. Included are the areas of performance, data and evaluation, innovation and behaviour change. One specific priority selected to reflect this is a continued focus on energy-environmental projects that provide for cost effective solutions as well as reducing greenhouse gases and improving the organization’s carbon footprint. It is through the successful completion of these projects that NSHA is able to show its commitment to facilitate changes in the organization’s operations to enhance sustainability.

This strategy has demonstrated huge reductions in the NSHA carbon footprint through implementation of energy projects and environmental initiatives. The benefits to patients, staff and the general public through improved comfort, enhanced lighting and the positive effects on operations in equipment renewal and effective use of utilities further illustrate the importance of this program.
Contact Information for Publication
Please include a contact name regarding this program. This will appear in the College’s Leading Practices booklet. If you do not wish to have contact information published, please indicate “n/a” in the applicable fields.

Please use the nominee contact information provided in the nomination form. (Mark an “X” if applicable.) X

Prefix: 
Name: 
Title: 
Organization: 
Address: 
Phone: 
Fax: 
Email: 

Report (Limit: 2,500 words. Please respect the word count limit. The College reserves the right to disqualify nominations that exceed the word count.)

Please use the sections below to describe the nominated program, including results. Describe any additional benefits achieved by the facility as a result of this program. You are welcome to insert graphs, etc. into the sections below.

1. Introduction

The Nova Scotia Health Authority provides health services to Nova Scotians and some specialized services to the wider region, operating hospitals, health centres, and community based programs across the province. NSHA space represents approximately 7.0 million square feet of building space. Services are delivered in 8 regional hospitals, 1 specialty (tertiary) hospital, 8 collaborative emergency centres, and approximately 135 community locations. The organization has a total budget of approximately $2 billion. NSHA is one of the largest employers in Nova Scotia with over 27,000 employees. Our team of health professionals includes employees, doctors, researchers, learners and volunteers that provide the health care or services needed.

2. Show evidence of results achieved through the implementation of the environmental initiatives. (TOTAL 40 POINTS)
   - Using the table below, identify total utility savings by square foot and greenhouse gas emission reductions. (15 POINTS)

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Annual Savings $</th>
<th>Annual Savings Units</th>
<th>Annual Sq. ft. Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>$620,000</td>
<td>5.7 GWh (3,640 tr)</td>
<td>.8 wh/sq. ft.</td>
</tr>
<tr>
<td>Natural Gas</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Water</td>
<td>$115,000</td>
<td>30,000 K litre</td>
<td>4.2 l/sq. ft.</td>
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<td>Steam</td>
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<tr>
<td>Oil</td>
<td>$580,000</td>
<td>9258 G joules (710 tr)</td>
<td>1.3 M joule/sq. ft.</td>
</tr>
<tr>
<td>GHG Emission Reduction</td>
<td>4350 Tons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total savings of $1,315,000 per year: Total incentives and rebates of $245,000.

Verified electrical savings of 3 GWh/yr have been achieved in fiscal 2016-17 and we are on track to verify an additional 2.7 GWh/yr for a total of 5.7GWh/yr, which will exceed our target of 4.3 GWh/yr by 32%. Over the past five years working with the former district health authorities and the Nova Scotia Health Authority (NSHA) have $3.8 million cumulatively invested in energy efficiency measures and achieved $3.2 million per year in savings in all utilities. We are moving ahead with a new portfolio of projects this year throughout the province and it is believed similar results will be achieved. Savings in oil and gas are mostly attributed to insulation and repair of steam traps at the QEII and Nova Scotia Hospital and recommissioning work at the Colchester East Hants Health Centre. In the past 3 years most facilities within NSHA have had some LED conversion and almost the entire South Shore Regional, Dartmouth General and Nova Scotia hospitals have been fully converted to LED lighting technologies.

Completed projects include:
- LED lighting retrofits
- HVAC controls (time of day scheduling)
- steam output reduction
- laundries water reduction
- building energy system control, recommissioning
- fuel switching
- kitchens fume hood control

The reduction in electricity use, just from activities this past fiscal year, represents 3,640 tons of CO₂ that will not be emitted into our atmosphere by Nova Scotia Power this year.

The 5.7 GWh per year reduction is roughly equivalent to removing:

846 from our roads

Or, it is equivalent to the annual electricity use of:

534 average Nova Scotian homes
Using the table below, identify waste disposal and/or diversion (10 POINTS)

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Quantity or Weight Diverted from Landfills</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Biomedical waste</td>
<td></td>
</tr>
<tr>
<td>**Blue drapes</td>
<td></td>
</tr>
</tbody>
</table>

*Staff education across NSHA in 2017 will result in a large diversion from the biomedical waste stream to landfill, with a significant reductions in waste costs.

**Recyclers in Nova Scotia will not accept the blue drape waste products generated in healthcare facilities. In conjunction with the product manufacturer, Halyard Health, 3 hospitals are participating in a pilot project of diverting blue drapes waste from the operating theaters. The waste is being compacted and stored at a local waste/recycling facility. When a sufficient amount of blue drape waste is collected it will be shipped to a recycling centre in Maine, Ontario or Quebec. Based on the success of the pilot program, this initiative will be expanded across the province.

Other programs such as green cleaning products, environmentally responsible grounds keeping initiatives, community gardens, ride sharing/commuting initiatives, etc. (15 POINTS)

Back to Our Roots (BTOR) Urban Farm is located on the grounds of The Nova Scotia Hospital in Dartmouth, which serves mental health and addictions patients. BTOR uses gardening as a way to promote physical, mental and environmental health. We do this by offering skills training and educational workshops on growing vegetables sustainably; making healthy food more accessible to hospital patients, staff and the community; and creating a space for gardening that’s supportive and welcoming.

BTOR has four main components:
- A community garden where members of the public, hospital staff and patients can have a plot to plant food, flowers and herbs.
- A market garden that grows produce to be sold at a weekly market and donated to community and hospital food programs.
- Common gardens, dedicated to educational and experimental gardens, and nibbling patches for hungry passersby.
- Flower gardens, where flowers are grown for beauty and joy, and also to create bouquets to be sold at the market stand and brought into the hospital. The market normally runs from June until October on Thursday afternoons.

Environmentally friendly cleaning products are used in many areas of Environmental Services across NSHA facilities. Many of these cleaners carry the EcoLogo, the only environmental certification officially recognized in Canada. Also, Vert 2 Go Bio products are commonly used. These products:
- Improve user comfort and have no hazard warnings
3. Demonstrate the steps taken to ensure sustainability of the environmental initiatives, and identify the organizational resources that are in place to help achieve the project’s goals. (25 POINTS)

The NSHA has demonstrated their commitment to environmental stewardship through the creation of the position of Manager of Environmental Stewardship and through the support of projects that reduce the organization’s use of gas, oil, electricity, and water. The manager leads this initiative and is supported by an energy manager from EfficiencyOne.

Various NSHA employees act as resources for the projects and contribute to their success. Staff and contractors throughout the organization consistently contribute to energy efficiency measures by providing the initial ideas for projects and through employee engagement efforts. For example, the security staff at large hospitals now routinely check to make sure lights are turned off at night during their rounds. HVAC technicians are empowered to consider energy efficiency in their work and make sure that scheduling of equipment like air handling units is in place and saving energy every day. Surgical staff are currently leading a recycling project that could see waste volumes from operating rooms cut by thousands of tons every year, reducing greenhouse gas emissions and saving hundreds of thousands of dollars from waste disposal budgets. Laundry staff came up with the idea and currently operate water recycling equipment that has cut water and gas usage at their facility by half, saving in excess of one hundred thousand dollars every year.

4. Provide evidence that the environmental initiatives are in line with the corporate business plan, are endorsed by the senior management team and have positively impacted the corporate culture. Moreover, describe the aspirational goals that your organization will continue to strive for in the future, as they relate to energy and environmental stewardship initiatives. (10 POINTS)

Commitment to energy efficiency from senior leadership through one of the largest organizational changes in provincial government history has remained steady and allowed the program to build on its success. NSHA is committed to the strategic goal of sustainable health services and will act as a leader with respect to environmental stewardship while engaging the healthcare community in a collaborative approach towards sustainability. Some of the strategies that will be utilized include:

- We work to develop and adopt sustainable best practices and processes in all operations and departments.
- NSHA Building Infrastructure & Asset Management (BIAM) will incorporate environmentally-sound techniques (energy and water conservation, space utilization management) in its decision-making processes.
- Financial investments will balance quality, cost and sustainability. In addition, the long-term life cycle costs of capital will be assessed.
• Progressive partnerships will be sought with health organizations, governmental agencies, non-governmental organizations and business to expand capacity and integrate sustainability into healthcare operations, initiatives and programs.
• Partnerships will be strengthened through a commitment to open and transparent decision-making processes that balance economic, social, health and ecological imperatives.

5. What impact have the environmental initiatives had on quality patient care? (15 POINTS)
• Describe how savings have been reinvested in new patient care initiatives.
• Describe how savings have been reinvested equipment, or other resources.
• Describe how savings have been reinvested in to improve the patient experience and/or comfort.
• Describe how patients and families were engaged in the above improvement processes.

NSHA is in the process of installing more than 20,000 LED lights all over the province, each of which saves us approximately $10 per year. We are improving the comfort of staff and patients at facilities across the province through adjustments to the heating, cooling, and ventilation systems. We are making our heating plants smarter and more efficient through the installation of modern controls.

Lighting retrofit projects offer the opportunity to improve occupant comfort while saving substantial amounts of money through interactive effects. The heat load produced by 24/7 lighting in many facilities must be removed through mechanical cooling, and many of the cooling systems are often undersized due to the addition of modern medical equipment to the space. Lighting retrofits are an inexpensive way to remove a heat load from an area like a laboratory, where environmental conditions may be critical to ensuring accuracy of results, or an area like an inpatient wing, where the other option to provide cooling might be an inefficient air conditioning unit that may require upgrades to the electrical infrastructure to operate safely. We also see this effect in areas like small offices that may have inadequate ventilation. Replacement of the incandescent or halogen lighting with LEDs makes a big difference to the comfort of staff especially in the summer, while saving 60-70% of the electricity used to light the space.

6. Beyond the financial savings, describe how being more environmentally focused has positively impacted your organization. Illustrate initiatives taken to engage staff and the community. Share your organization’s philosophy regarding environmental sustainability. (10 POINTS)

Facility management staff regularly inquire whether energy efficiency measures would work at their facility, and often direct and manage the projects that result. For example, staff at Bayview Memorial Hospital in Advocate Harbour suggested last year that it would be possible to substantially reduce electrical usage through installation of heat pumps and LED lighting, a project which is now moving through the program and was completed in the fall of 2017.

The partnership between Efficiency Nova Scotia and the Nova Scotia Health Authority would not work without strong staff engagement that did not exist five years ago. The success we have enjoyed in this initiative is entirely due to the positive response of staff and people throughout the organization who have made energy efficiency a priority in their work.
The primary consideration in selection process for projects and during the period where we scope out individual projects is patient and staff safety and comfort. This was a major factor in the decision to recommission the Rehabilitation Hospital in downtown Halifax, where heating and cooling systems had become unreliable for inpatients and staff. It wasn't possible to fix every problem that was uncovered, but the process greatly improved comfort, especially for patients residing on the upper floors of the facility, which is invaluable for recovery and rehabilitation.

7. **Conclusion**

Environmental Stewardship will contribute to NSHA’s strategic directions by contributing to the goals and values that will drive those directions. These would surround the areas of performance, data and evaluation, innovation and behaviour change. Priorities selected to reflect this are proposed as:

1. **Energy-environmental projects**
   - Continued focus on projects that will provide for cost effective solutions, reducing greenhouse gases and improving the organizations carbon footprint
   - Preliminary survey work to define these opportunities and the engineering to implement them
   - Long term capital plan
   - Continue with previously identified and new projects, in areas such as heat recovery, mix air conversions, lighting, re-commissioning

2. **Partnerships/funding opportunities**
   Investigate the opportunities which guarantee energy savings and provide financing where there is little or no access to capital funding.

3. **Development of Environmental Stewardship Policies and procedures**
   It is through the creation of these policies and procedures that will position NSHA’s Environmental Stewardship program for long-term viability. Successful sustainability initiatives hinge on the solid structure of guiding principles for NSHA to follow. Staff engagement and creation of Sustainability teams that would drive local programs.

4. **Data collection and analysis**
   Collection of utility data through Portfolio Manager to provide the benchmark for comparison of HFCs across Canada. Analysis of the data to understand and determine areas of focus.

5. **Education/Innovation/equipment analysis**
   Education in new technologies and practices. Evaluating the equipment purchased by NSHA to set a standard of efficiency. Work with designers to provide input on major tender specs.
   Building operator program (taught by Dave)

6. **Awareness/presentations/communication**
   Getting the word out about successes of the program
NSHA is mindful of the importance of developing a social, environmental, health and financial balanced approach to sustainability and economic imperatives and recognizes the link between a healthy environment and a healthy population. As such, NSHA recognizes a duty to minimize its environmental impact and will strive to achieve these initiatives through actions of today and of the future.

2019 Update

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Annual Savings $</th>
<th>Annual Savings Units</th>
<th>Annual Sq. ft. Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>$675,000</td>
<td>7.3 GWh</td>
<td>1.0 wh/sq. ft.</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>$24,000</td>
<td>1,730 GJ</td>
<td>247.1 J/sq. ft.</td>
</tr>
<tr>
<td>Water</td>
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<tr>
<td>Steam</td>
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</tr>
<tr>
<td>Oil</td>
<td>$140,000</td>
<td>8,576 GJ</td>
<td>1225.1 J/sq. ft.</td>
</tr>
<tr>
<td>GHG Emission Reduction</td>
<td>5177 Tonnes per year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total savings of $930,000 per year: Total incentives and rebates of $112,000.

Verified electrical savings of 7.3 GWh/yr have been achieved in fiscal 2018-19 which exceeds our target of 2.8 GWh/yr by 160%. Over the past seven years, the former district health authorities and the Nova Scotia Health Authority (NSHA) have $4.3 million cumulatively invested in energy efficiency measures and achieved $4.1 million per year in savings in all utilities. We are moving ahead with a new portfolio of projects this year throughout the province and it is believed similar results will be achieved. Savings in oil and gas are mostly attributed to recommissioning work at Hants Community Health Centre and the Cape Breton Regional Hospital. In the past year more than 30,000 LED retrofit tubes have been installed in facilities around the province, and at this point most Nova Scotian hospitals have been fully converted to LED lighting technologies.

Completed projects include:
- LED lighting retrofits
- HVAC controls (time of day scheduling)
- Heat recovery systems repair
- Variable frequency drive installations
- building energy system control, recommissioning

The reduction in energy use, just from activities this past fiscal year, represents 5177 tons of CO₂ that will not be emitted into our atmosphere by Nova Scotia Power or hospital stationary combustion facilities this year.

The 7.3 GWh per year reduction is roughly equivalent to removing:
1096 from our roads

Or, it is equivalent to the annual electricity use of:

618 average Nova Scotian homes

- Using the table below, identify waste disposal and/or diversion (10 POINTS)

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Quantity or Weight Diverted from Landfills</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Biomedical waste</td>
<td></td>
</tr>
<tr>
<td>**Non-returnable plastics</td>
<td></td>
</tr>
<tr>
<td>***Polystyrene</td>
<td></td>
</tr>
</tbody>
</table>

*On going staff education across NSHA in 2018 will result in a large diversion from the biomedical waste stream to landfill, with a significant reductions in waste costs.
**There are many non-returnable plastics in use at NSHA. We are working with a local recycler to divert these products to be recycled as extruded building products. Although, not yet in place a pilot is hoped to be started later this year. Based on the success of the pilot program, this initiative will be expanded across the province.
***Use of some polystyrene products have been discontinued in some facilities

Other new initiatives

A new mopping system has been put in place where mops do not require the use of a dryer, saving energy, and their design requires less water and chemicals than traditional mops.

Cleaning cloths do not require the use of a dryer.

Recent purchases of some appliance Energy Star rated

Efficiency 1 from Nova Scotia has begun an energy awareness program, lunch and learn, at regional sites.

New construction within NSHA is built to a minimum LEED Silver standard.
How to submit your nomination:

The nomination should include all of the items listed below. The nomination is to be submitted to ccoulombe@cchl-ccls.ca as one PDF file. The letter of support should be included in the PDF file as well. Electronic signatures are acceptable.

Please include the following in your nomination package:

- the completed nomination form;
- the completed nomination template; and
- a letter of support from the chief executive officer or designate, who is a member of the College.

Should you have any questions, please contact:
Christian Coulombe, Director, Marketing & Communications
Canadian College of Health Leaders
292 Somerset Street West
Ottawa, ON K2P 0J6
Tel: (613) 235-7218 ext. 213
Toll free: 1-800-363-9056
Fax: (613) 235-5451
ccoulombe@cchl-ccls.ca

Nomination deadline: February 1, 2019
January 29, 2018

Ms. Julie Bruyère  
Coordinator, Corporate Partnerships and Events  
Canadian College of Health Leaders  
292 Somerset Street West  
Ottawa, ON  K2P 0J6

Dear Ms. Bruyère:

Subject: Canadian College of Health Leaders Energy and Environmental Stewardship Award

I am writing to you in support of the Nova Scotia Health Authority (NSHA) nomination for the Energy and Environmental Stewardship Award, part of the Canadian College of Health Leaders National Awards Program.

Our NSHA team is comprised of knowledgeable and innovative leaders possessing the motivation to create and maintain world-class health infrastructure grounded in the principles of sustainable best practices. This nomination is being submitted for your consideration based on the creative solutions for energy and waste reduction, education practices, and savings achieved in utility cost and waste diversion; demonstrated activities that enhance environmental sustainability within NSHA. Committed to serving Nova Scotians and accountable for the work we do, our decisions and actions are evidence based and focused on positive outcomes. Maximizing the use of our finite resources, our programs are managed to ensure a safe and sustainable health and wellness system in Nova Scotia.

The NSHA understands that successful sustainability programs require an organization-wide commitment, policies to drive change, and dedicated resources to make programs happen. Senior leadership supports and is engaged in the implementation of sustainable practices and we believe our example will shape the performance of all staff. We recognize the duty to minimize our environmental impact and believe the actions taken thus far exemplify that.
The NSHA continues to strive to be a leader in environmental stewardship and engages the healthcare community in a collaborative approach towards sustainability. We fully support furtherance of work to develop and adopt sustainable best practices and processes in all operations. This award would be reflective of the NSHA’s unwavering and demonstrated commitment to environmental sustainability.

Sincerely,

Janet Knox,
President and CEO