



Chatham-Kent Health Alliance
Environmental Stewardship Program

*“Protecting our Earth
Ensuring our Future”*

CHES  SCISS

Wayne McLellan Award of Excellence



Project Name: Sustainable Environmental Stewardship Program *“Protecting our Earth, Ensuring our Future”*

Chatham-Kent Health Alliance (CKHA) is a proud partnership of 3 hospital corporations: Public General (PGH), St. Joseph’s Hospital (SJH) and Sydenham District Hospital (SDH). Established in 1998, the Alliance’s 1,300 staff, 100 physicians and 600 Volunteers provide quality, compassionate healthcare services for 107,000 residents of Chatham-Kent, South Lambton and Walpole Island First nations.

Chatham-Kent Health Alliance is committed to the promotion of a healthy environment by implementing effective environmental management practices. It is intrinsic to our mission, vision and values, as a responsible community partner, to ensure the future environmental health of our global family.

Project Description

The Environmental Stewardship Program at CKHA is a comprehensive, holistic program to reduce our environmental impact on human health and the natural environment. The program started with a small group of passionate, dedicated volunteer staff and has evolved into a top performing program being recognized across the province for best practice initiatives.

The overall program demonstrates a significant organizational commitment to environmental sustainability and to reducing environmental impact including evidence of progress in energy efficiency, pollution prevention and involvement with the community.

To achieve this, multiple strategies were put in place which included:

- Staff Education and Awareness
- Waste Reduction and Recycling
- Energy Conservation
- Best Practice Programs
- Environmental Stewardship

Each one of these key areas has their own targets and achievable goals established. A comprehensive detailed summary of all the initiatives, including environment and cost saving impacts is included in **Appendix A**.

Staff Education and Awareness

CKHA uses numerous methods to keep the staff engaged and motivated. Some examples include:

- Environmental Expo
- ERA Program
- Energy Awareness Website

The annual Environmental Expo for all staff, physician, students and volunteers attracts 600 people to the event. Key partners set up interactive booths so staff can learn and ask question about current environmental projects and future plans. The Expo uses a variety of tools to motivate and educate the staff including:

- Interact games for waste separation
- Attendance gifts of grass and flower seeds
- Environmental trivia and hospital program facts and projects
- Energy Saving Programs to implement at both home and work
- Union Gas gave away free Energy Saving Kits (including energy efficient: massage showerhead, kitchen swivel aerator, bathroom aerator, one roll of Teflon tape and two meters of foam pipe insulation)
- Draws for a bicycle, trees, recycling bins, cloths lines and flowers

“GREEN TEAM”



In addition to the Expo we continue to educate the staff all year round. The Energy Resource and Awareness Program for staff focuses on minimizing off hours lighting and computer power and water consumption. This education also helps the employees be more energy conscious and implement those ideas into their home life. Since the program implementation CKHA has saved \$150,000 in energy costs.

In partnership with Honeywell, CKHA launched the Energy Matters Web site. Every month it is updated with new energy savings tips, links to new energy savings videos, cool tools, tips and general interest features, all to help promote energy savings throughout the Chatham-Kent Health facilities. Staff can visit often to see what is happening across the Chatham Campus and Wallaceburg Campus to reduce our carbon footprint and save money.

To visit this website please click on: <http://www.chatham-kent.myenergymatters.net/>



Waste Reduction and Recycling Program

Lead by the Housekeeping and supported by the Green Team, we have managed to implement significant changes in our waste production. Multiple strategies and programs have been implemented to increase our recycling and divert waste from landfill. A complete list is summarized on Appendix A.

To establish our targets and measure our performance, CKHA has completed numerous waste audits to measure our program impact and improve our results. During a recent Ministry of Environment inspection, CKHA was commended for our comprehensive audit and plan. The Ministry is now using CKHA's Waste Audit and Waste Reduction Plan as a template for other healthcare facilities.

In 2011 CKHA was recognized as a Best Practice spot light for two new initiatives.

CKHA has been highlight in a best practice Case Study for being the first healthcare facility in Canada to implement the Reusable Pharmaceutical Containers. (**Appendix B**).

CKHA was also recognized for our successful implementation of an instrument tray wrap recycling program. A detailed breakdown of this program is attached. (**Appendix C**).

Energy Conservation

CKHA partnered with Honeywell to implement a Facility Renewal and Energy Management Project. Nearing completion of installation of all the initiatives this \$5.7 Million project will save the organization close to \$500,000 annually in energy costs. Phase 1 of the project included upgrades to lighting, electrical panels, optimizing of the HVAC systems, building envelope improvements, and upgrades to the Building Automation System. These initiatives along with newly implemented technology will use less electricity, fuel and water and will produce fewer greenhouse gases. Also included in this is a roof top 100,000 KW solar array project providing electricity from a renewable source.

Savings Targets

	Electricity	Natural Gas	Operational	FIT Revenue	Total	Total GHG Emission (tonnes CO2E)
ESCO	\$149,502	\$247,953	\$11,912	\$84,633	\$494,400	1429.48

Environmental Stewardship

Recognized locally (Chamber of Commerce Environmental Award for Business Excellence), provincially (OHA Pollution and Prevention Award), and Nationally (Best Practice Spot Lights), CKHA continues to demonstrate leadership in the Environmental Stewardship. Utilizing our internal resources and partnering with our external partners on key initiatives we have been able to make some significant improvements to our environmental footprint. (Included in **Appendix A**)

Wood Wyant
SterilMed
City of Chatham
Daniel Sharp Smart
London Hospital Linen



Benefits

CKHA is committed to Green Health Care and will continue its quest to be a leader in the industry. Organizationally CKHA has saved significant amounts of money through utility costs savings that can be used to support more front line patient care. This program has helped meet the balance budget targets while reducing our environmental foot print on the world. The program has built a sense of community and awareness amongst the employee groups and the staff education can only assist in enhancing home energy usage improvements.

Chatham-Kent Health Alliance has proven that even without formal resources, a small dedicated team can have a huge impact. During these times of limited resources and continual cutbacks, CKHA has proven that small steps can lead to big change.

Demonstrated through CKHA leadership we are providing a better environment for our patients and staff. By reducing our carbon footprint we have created a healthier community for all of Chatham-Kent.





Environmental Stewardship Program
“Protecting Our Earth, Ensuring our Future”

Recycle and Waste Management

Initiative	Description	Environmental Impact	Economic Impact
<p>Implementation of a Waste Management Program</p>	<ul style="list-style-type: none"> • Purchased interior and exterior recycling/collection centres • Development of non-confidential paper recycling program (also reused non-recyclable chemical plastic pails for paper collection centres) • Implemented 100% metal recycling • 100% recycling and resale of surplus/used furniture, equipment and furnishings • Collection and recycling of printer cartridges (Think Green Program) • Contracted with boiler chemical supplier to recycle bulk drums and containers • Developed recycling program for NiCad batteries • Implemented collection program for alkaline batteries to ensure environmentally compliant disposal • Partnership developed with Digital Friends Inc. for recycling program for electronics (also open to the public) • Devised a travel mug program at Café Grand (cafeteria) and Tim Horton’s to reduce hot beverage cup waste • Implemented a fluorescent lamp recycling program • Installation of Vert-2-Go cleaning chemical line, packaging is 100% recyclable • Recycle all wood pallets partnership 	<ul style="list-style-type: none"> • Landfill diversion for all initiatives • Controlled and appropriate disposal of potential environmentally harmful substances • 660kg annual landfill diversion via printer cartridges • Reduction in risk of exposure to harmful agents to staff and patients • Travel cups are CKHA design with “Les is Best” logo to promote programs. • New chemical cleaning line packaging prevents landfill use 100% recyclable • 100% landfill diversion for wood pallets • Sharpsmart reduces landfill by re-using product. Spill safe product that is leak proof 100% reduction of sharps collection container spills. Automatic washing is chemical free. 	<ul style="list-style-type: none"> • Reduction in costs associated with Shred-it as previously 100% paper shredding • Savings associated fewer BFI lifts needed. Recycled chemical packaging and wood pallet recycle. • Sharpsmart is cost effective; containers are purchased and re-used versus one time use. Paying for actual weight of bio waste, compared to container weight included in cost, which also saves money. Studies indicate a 28% reduction in sharps waste. (Plastic containers). Reduction in Biomedical waste costs


Source Separation	<ul style="list-style-type: none"> • General Refuse • Cardboard (OCC) and, • Mixed Recyclables (including glass, metal cans, newspaper, fine paper, boxboard and plastic categories 1, 2 and 5) • Plastic 6 – PST Recycling • Scrap Metal – including large scale equipment and appliances • Confidential Paper • Medical Waste • Electronics • Toner Cartridges 	<ul style="list-style-type: none"> • Recycled 42.47 tons of cardboard • Recycled 27.00 tons of Mixed Recycled (Glass, Cans, and Plastic) • Recycled 10.89 tons of “other” Plastics • Recycled 55.43 tons of Confidential Documents • Recycled 4 tons of Scrap metal • Recycled .114 tons of toner cartridges • Recycled 2.57 tons of Medical Waste Containers 	The 2010 audit results for CKHA indicate that recycling programs were effective at achieving 28.4% diversion. These results will be used for future site comparisons
Forms Standardization Project	<ul style="list-style-type: none"> • Standardization of clinical forms across the Alliance 	<ul style="list-style-type: none"> • Reduction of Clinical forms by over 40% 	Paper and printing cost savings of \$10, 500
Re-Usable Sharps container program	<ul style="list-style-type: none"> • Introduced Sharpsmart a re-useable sharps program that replaced existing sharps containers. They are proven safer and environmentally friendly. Containers are processed and returned to the facility for re-use. 	<ul style="list-style-type: none"> • Sharpsmart reduces landfill by re-using product. Spill safe product that is leak proof 100% reduction of sharps collection container spills. Automatic washing is chemical free. 	Lower needle stick injuries will translate to lower Occupational Health and Safety claims and illness. 28% reduction in sharps waste – as a result of diverting the plastic from the Biomedical Waste stream.
Re-usable Pharmaceutical Containers	<ul style="list-style-type: none"> • 1st in Canada to implement the re-usable pharmaceutical containers 	<ul style="list-style-type: none"> • Diversion of tons of plastic waste 	
Instrument Tray Wrap Recycling Program	<ul style="list-style-type: none"> • Blue wrap recycling program for instrument trays 	<ul style="list-style-type: none"> • Reduction of 18 tons of wrap each year • 	
Project Implementation	Regional wide implementation of print strategy at each hospital in LHIN (Chatham-Kent Health Alliance, Windsor Regional, Hotel Dieu Grace, Leamington District, Bluewater Health) This program will consist of a facility wide audit of print and fax usage and make recommendations for reductions of equipment while maintaining high functionality.	Decrease paper usage through staff education, and more strategic placement of equipment. Decrease in energy usage. Decrease in toners, and other associated commodities.	Savings of 15% across the LHIM
Lab Alcohol Recycling Unit	In-house recycling program for Formalin and Xylenein	<ul style="list-style-type: none"> • 2.5 plu 5 gallon recycler • Eliminates waste disposal and decreased need for purchased product 	Unit has 2 year payback savings of \$17,000 per year, in purchase and waste disposal

Energy Conservation

Item	Description	Environmental Impact	Economic Impact
ESCO	Implementation of ESCO program, \$5.7 million in January 2010. This will involve several upgrades to more energy efficient equipment such as HVAC systems, lighting, Solar PV system and many other infrastructure initiatives at all campuses of the Chatham-Kent Health Alliance.	Significant reduction in Energy usage. Generation of renewal energy through Solar PV system. Raises staff awareness of the facility's environmental footprint and encourages staff participation in energy conservation initiatives	Operational savings of approx \$500,000 annually in addition to revenue generation from Solar PV system
Low-flow shower and faucet fixtures	Replacement of standard shower fixtures and faucet aerators (66 units) with reduced flow components	Energy and water savings of approximately 50% of original consumption	Reduction in natural gas and water costs (variable due to patient days and usage)
Natural irrigation system	Utilization of river water for irrigation of grounds	Maintenance of beneficial grass surface to help offset heat sink areas	
Steam boilers, Sydenham	Replacement of 2 steam boilers (+40 years old) at the Sydenham Campus with high efficiency packaged boilers	Reduction of 57,900 kg carbon dioxide	Reduction in 30,000 m ³ of natural gas
Hot water boilers, Sydenham	Replacement of burners (+40 years old) with high efficiency units	Reduction of 88,500 kg carbon dioxide	Reduction in 46,041 m ³ /year of natural gas
Roof insulation upgrade	Upgraded replaced roofing at Sydenham and Chatham campuses with additional insulation to R20	Reduction in electrical and natural gas consumptions resulting in emission reductions	Reduction in cooling and heating costs
Central chiller plant	Replacement of 2 centrifugal and 1 reciprocating chillers, at time of site consolidation, with 2 centrifugal units (1 variable speed and 1 fixed speed)	Elimination of CFC based refrigerants (R134A chillers installed)	
Re-lamping, Sydenham	Replacement of all incandescent fixtures and upgrade of all T12 to T8 fixtures	Reduced source emissions: 91,363 kg carbon dioxide 756,818 kg methane 1,309,091 kg nitrous oxides	Reduction in electrical consumption of 150,000 kwh /year
Re-lamping, Chatham	Currently undergoing replacement program of all incandescent fixtures and upgrade of all T12 to T8 fixtures	Reduced source emissions: 54,818 kg carbon dioxide 454,090 kg methane 785,455 kg nitrous oxides	Reduction in electrical consumption of 90,000 kwh /year

Lighting motion sensors	Installation of lighting control motion sensors in meeting, service and utility areas. (50 sensors installed and estimated reduction of 10,400 kwh / year)	Reduced source emissions: 6,335 kg carbon dioxide 52,472 kg methane 90,764 kg nitrous oxides	Reduction in electrical consumption of 10,400 kwh/year
Lighting photocell sensors	Installation of lighting control photocell sensors in heliport and other exterior lighting (5 sensors installed and estimated reduction of 6,500 kwh/year)	Reduced source emissions: 3,960 kg carbon dioxide 32,795 kg methane 56,727 kg nitrous oxides	Reduction in electrical consumption of 6,500 kwh/year or
Energy Monitoring Rounds	Developed program for Security and Housekeeping staff to perform energy patrols	Staff awareness through communication by "patrol" members of energy wastage	Reduction in electrical consumption
Energy Resource and Awareness Program (ERA)	The program focuses on raising staff awareness and promoting energy saving activities both in the work and home environment.	Provides staff with resources and actionable ideas to reduce their environmental footprint both in the home and work environment	\$150,000 in savings through the program.
Ontario Greenhouse Gas and Air Emissions Challenge Canadian Centre for Pollution Prevention (C2P2)	2 year collaborative effort assist facilities to set appropriate goals, provide timely education materials and guest speakers, suggests activities and simple track tools, and facilitates peer-to-peer interaction through monthly teleconferences.	Over 20 Ontario Hospitals participated to complete Environment Canada Eco Action Program	Savings through reduction of Gas, Hydro and Water.

Environmental Stewardship

Initiative	Description	Environmental Impact	Economic Impact
Environmental Management Team (Green Team)	<ul style="list-style-type: none"> Establishment of the Green Team including management and front-line staff participation. Involved local primary school in “Green Art” competition for use in environmental promotion Staff competition for the development of a Green Team mascot resulted in the creation of “Les is Best” Annual Fall Environmental Expo and Staff Education Fair and Partnership with vendors Earth Day Celebrations, involving local students in tree planting and refuse collection Monthly communication to staff regarding team developments, programs and educational resources (Hospitalk Newsletter and monthly environmental contest) 	<ul style="list-style-type: none"> Reduce landfill waste by maximizing recycling programs. Increase awareness of staff to environmentally friendly programs and resources for both work and home use. Direct involvement of line staff in development of programs 	
Introduction of BioDiesel Fuel	Converted to BioDiesel fuel as alternative fuel source for diesel generators and boilers (mixture of diesel with 2% soya bean oil)	Greenhouse Gas Reduction	
Implementation of the Integrated Pest Management Program	Resulted in the reduction in use of pesticides and chemical treatments	Environmental Protection	
Ozone Depletion Agents Reduction	Replacement of R12 and R22 (ozone depleting refrigerants) with environmentally friendly R134A	Reduction of use of ozone depleting agents	
Implementation of Low Mercury Fluorescent Tubes	Switched to low mercury fluorescent tubes and implemented recycling program	Landfill diversion and reduction in mercury use	
Outfitted Cuban Kitchen	Assisted the Dubois Charitable Foundation in establishing a Cuban kitchen by providing surplus equipment and furniture	Landfill Diversion	
Internet Web Design	Development of both internet and Intranet web page for staff to access events calendar and links to environmental resources Updated monthly with new initiatives/programs, tips, etc. http://www.chatham-kent.myenergymatters.net/	Staff awareness and program promotion	

Green Cleaning Chemical conversion	Introduction of Vert-2-Go chemical line for housekeeping. Products are approved by Green Seal a not for profit environmental group whose focus is on environmental safety and workload. Also supported by Environmental Choice a global ecolabelling network. The main feature of this chemical line is the enzyme and microbial technology. These micro organisms produce the enzyme to break apart the waste while the micro organisms convert the waste into two basic compounds: carbon dioxide and water.	Increase awareness of environmental friendly products keeping in mind do no harm first will reduce the amount of harmful chemicals going into the environment.	Increase health and Safety of staff will lower sick time.
Green Purchasing	<ul style="list-style-type: none"> • Green Procurement Program into all CKHA purchasing contracts and decision • Implemented in 2011 in conjunction with Cardinal Health, Just In Time (JIT) supplies deliveries, all corrugated cardboard packaging as well as plastic wraps and bags are taken back by the supplier 	<ul style="list-style-type: none"> • All packaged material is recycled and diverted from landfill • Ensures that all packaging is recycled, which current waste company cannot ensure 	Anticipation is 30% reduction, waste disposal CKHA