

ST. JOSEPH'S GENERAL HOSPITAL 2010 CARBON NEUTRAL ACTION REPORT

Executive Summary:

Environmental best practices derive from Stewardship as a key value of St. Joseph's General Hospital and the Catholic Health Care Ethics Framework. St Joseph's (SJGH) by adopting green best practices, contributes to a healthier sustainable future for staff, patients, residents, the community and the global environment.

Our health system is a major consumer of renewable and non-renewable resources (including energy) and is a major producer of solid wastes. We recognize the need to develop the best possible practices and policies for environmental health recycling initiatives; Green Building solutions; green transit/commuting initiatives; reduced waste, and energy efficient practices to reduce GHG emissions and our carbon footprint.

SJGH green initiatives are found in the hospital's strategic plan under the strategic goal of "Sustainable Quality Services" and in Departmental Action Plans.

Overview:

Actions Taken to Reduce Greenhouse Gas Emissions since 2008:

In concert with the VIHA, BC Hydro and PSECA, SJGH has initiated a series of steps that will reduce our carbon footprint and overall environmental impact. SJGH has targeted energy use, transit/commuting, and recycling and awareness in initiatives such as:

1. Energy Management:

- In 2008 SJGH partnered with BC Hydro to conduct a full site audit targeting the opportunities to reduce overall energy consumption while maintaining client and staff comfort levels. The audit identified sufficient upgrade possibilities and strategies for PSECA and BC Hydro to offer incentives and fund a major energy upgrade project. The final project design allowed SJGH to upgrade lighting in all 5 buildings, direct digital control systems for the operation of HVAC and other mechanical systems and upgrade and replacement of the heating plant main boilers. This project is in the final stages of completion and will see SJGH save 555,939 Kwh (316.75 tonnes of CO₂) of electricity and 2,328 GJ (115 tonnes of CO₂) of natural gas/year.
- The SJGH Domestic Hot Water Heating Upgrade saw the replacement of aged infrastructure to an instantaneous natural gas domestic hot water

- Server Management Plan. SJGH IM/IT has greatly reduced the total server run time at the hospital through the reduction in number of servers. The upgrade program saw servers for older operating systems consolidated as newer systems were brought online and the cohort of common platforms with the VIHA. This upgrade has reduced not only server run time but the A/C capacity requirements thus reducing our GHG emissions and carbon footprint.
- SJGH in collaboration with the health authority commissioned an energy audit of the regional laundry. The audit identified a number of strategies leading to improved energy use while maintaining capacity and quality of service and product. In addition the regional laundry saw the installation of a new tunnel washer. Tunnel washer technology is the most efficient for large scale laundry facilities. The electrical savings with the new equipment is estimated at 20,000 kwh per year (8%) and the gas savings were 4,200 Gj per year (26%)

Initiatives for 2010/11:

- An upgrade of all 450 PC stations in the hospital will take place early in 2011. The upgrade will lower the overall electrical consumption rate per station, see the installation of energy offset software (green mode software) and allow for improved video conferencing capabilities. In addition, the lower heat signature of the new PC stations will see a reduction for cooling demand for the site. These improvements will reduce our GHG emissions and carbon footprint for the site.
- The installation of automatic sanitizing washers for blue ware on the Medical/Surgical and ICU units will help us to further reduce our domestic water use.
- SJGH has begun negotiations for a pilot project to assist in the funding of the Chiller Upgrade Project. BC Hydro has expressed interest to partner with SJGH in the introduction of a new chiller compressor technology that would see a significant reduction in energy required for present A/C capacity at the hospital site.
- SJGH in collaboration with the health authority will be installing a new gas fired steam generation boiler at the regional laundry. The new boiler will save the laundry 4263 Gj of natural gas and translate into 215.5 tonnes CO2.
- SJGH will develop a GO Green Program which will include:
 - staff and volunteers engagement and communications strategies
 - orientation
 - signage
 - outcomes measures



Eric Macdonald
Vice President, Finance,
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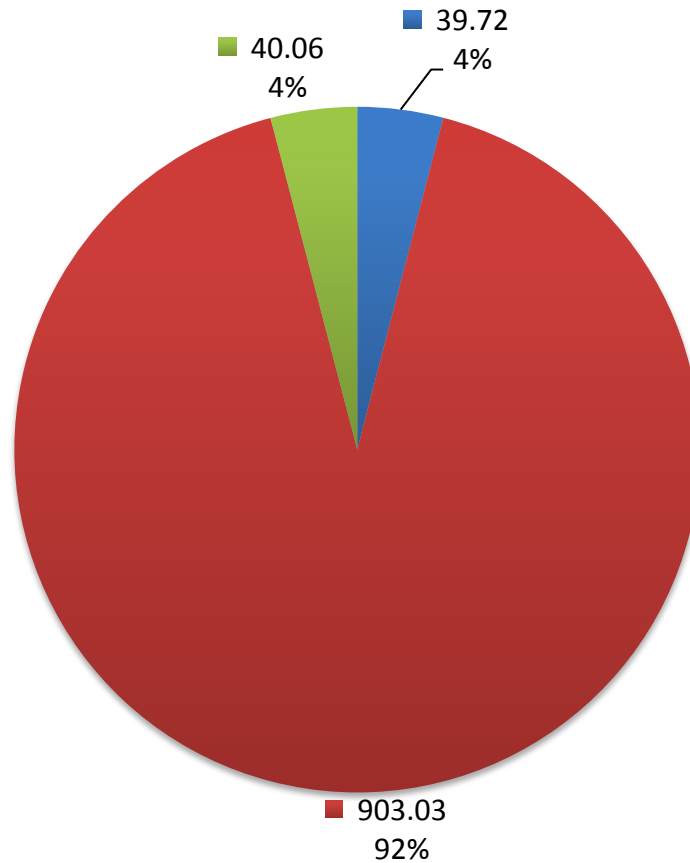


Lorne Antonsen
Manager, Capital Projects

St. Joseph's General Hospital

Greenhouse Gas Emissions by Source

for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 982.81

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **981.72**. Total offset investment: **\$24,543.00**. Emissions which do not require offsets: **1.09** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

St. Joseph's General Hospital - 2010 Carbon Neutral Action Report

Actions Towards Carbon Neutrality							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Perform regular fleet maintenance to improve fuel-efficiency	Completed in 2010	100	% of vehicles are subject to regular maintenance for fuel efficiency	Scheduled maintenance is being performed on the one fleet vehicle owned by the hospital. This consists of regular scheduled oil changes, tire inspection and engine tune ups.			
Behaviour change program							
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			SJGH increased the capacity for bike storage on the site 100% in 2010.	SJGH will monitor to ensure the capacity meets the demand for bike storage.	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Owned buildings							
Establish energy performance baseline for owned buildings	Completed in 2010	100	% of owned buildings have an established energy performance baseline	SJGH has just completed the Energy Upgrade Project that began in 2007 with a complete site audit. The DDC system upgrade includes the monitoring of all utilities. With the monitoring of utilities SJGH is able to maximize environmental control for all areas of the facilites thus reducing the generation of greenhouse gasses.		2007	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Completed in 2010	100	% of owned buildings have undergone energy retrofits since start year indicated	SJGH has just completed the Energy Upgrade Project that began in 2007 with a complete site audit of all mechanical, electrical and A/C systems. The DDC system upgrade includes the monitoring of all utilities.		2007	2010
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	SJGH has just completed the Energy Upgrade Project that began in 2007 with a complete site audit of all mechanical, electrical and A/C systems. The DDC system upgrade includes the monitoring of all utilities.	SJGH will re-apply for PSECA funding and BC Hydro incentive funding to move forward with our Chiller Consolodation Upgrade Project. SJGH is moving forward on our funded Boiler Upgrade Project that will see an aging redundant supply hot water boiler replaced with a high efficiency condensing boiler.	2007	No End Date (Continuous)
Upgrade lighting systems during retrofits	Completed in 2010	100	% of retrofits since start year indicated had lighting systems upgrades	SJGH completed the Energy Upgrade Project in 2010. The project saw all building lighting upgraded to current T8 technology. Results for the utility avooidances are recorded in the SmarTool results for 2010.		2007	2010
Upgrade/adjust control systems during retrofits	Completed in 2010	100	% of retrofits since start year indicated had control system upgrades or adjustments	SJGH has just completed the Energy Upgrade Project that began in 2007 with a complete site audit of all mechanical, electrical and A/C systems. The DDC system upgrade includes the monitoring of all utilities.		2007	2010
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	50	% of fridges are ENERGY STAR rated	Purchasing deaprtment uses Energy Star as a minimum tsandard for all appliance replacement purchases.			
Supplies (Paper)							

St. Joseph's General Hospital - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Paper Type							
Purchase 30% post-consumer recycled paper	Completed in 2010	90	% of total paper purchased contains 30% recycled content	SJGH has as a minimum purchase standard of 30% recycled content. We endeavor to purchase hwrerevr possible a higher recycle content.		2005	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Completed in 2010	3	% of total paper purchased contains 100% recycled content	SJGH has as a minimum purchase standard of 30% recycled content. We endeavor to purchase hwrerevr possible a higher recycle content.		2006	No End Date (Continuous)

St. Joseph's General Hospital - 2010 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> . Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.							
Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Other Sustainability Actions							
Water conservation							
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress			SJGH replaces all fixtures atken out of service with the most appropriate and efficient fixture available		2006	No End Date (Continuous)
Waste reduction/diversion							
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Completed in 2010			SJGH has a comprehensive recycling program in place. SJGH continues to work with the waste vendor(s) for our site to increase our effectiveness in diverting landfill waste.		2005	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Completed in 2010			SJGH has a comprehensive Haz Mat waste program in place. SJGH monitors and follows all applicable laws, regualtions and standards around the safe handling and disposal of Haz Mat materials.		2005	No End Date (Continuous)
Procurement (non-paper supplies)							
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	In Development						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	In Development						
Building construction, renovation, and leasing							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	In Development						
Commuting to and from home							
Provide secure bicycle storage	In Development				SJGH has increased the availablity of bike racks on site by 100% in 2010. We continue to explore oportunities to provide secure bike storage on site.	2010	No End Date (Continuous)