

# R.W. Large Memorial Hospital - 2009 Carbon Neutral Action Report

## Executive Summary



RW Large Memorial Hospital is a 3,008 square meter 15 bed Acute care hospital owned and operated by the United Church of Canada and located on the Heiltsuk First Nation reserve at Bella Bella , also called by the traditional name of 'Waglisla'. Affiliated with VCH, the Hospital provides basic acute care, long term care and medical services. Bella Bella is home to the Heiltsuk First Nation (population 1,500) and the Hospital serves the Heiltsuk , who have lived in the area for over 10,00 years, as well as residents of Denny island, Klemtu and Ocean Falls, transient mariners, loggers and tourists. The community of Bella Bella , or called by the traditional name of 'Waglisla" is located in an area of the central coast of British Columbia coastline called the 'Great Bear Rainforest' and offers some of the world's best fishing, whale watching, kayaking, hiking, and other outdoor pursuits and has a population of 2,000 (Aboriginal and non Aboriginal).

R.W. Large memorial hospital was constructed in 1975 and a number of renovations and upgrades that support and enhance building and energy efficiency were implemented in 1993, 1995, 1996-1997, 2003, and 2010 and these include:

- Boilers and mechanical updated in 1995. (A.2)
- Roof replaced and insulated in 1993. (A.2)
- Exit lights replaced to energy efficient LED lighting in 1996-97. (A.2)
- DDC (Direct Digital Controls) building automation systems installed in 1996-97. (A.2)
- Building envelope replaced and insulated in 2003. (A.2)
- Metal windows replaced with vinyl double glazed windows in 2003. (A.2)
- Total building lighting retrofitted from old and inefficient T12 34-watt fluorescent lighting and magnetic ballasts to energy efficient T8 25-watt fluorescent lighting and programmed-start electronic ballasts. (A.2)
- While recycling of paper and cardboard is currently in place, recycling of other recyclable materials such as metals and plastic products are not in place as the community does not currently have a recycling initiative in

place. The Heiltsuk First Nation band is currently in the process of planning for a community-wide recycling program. (B.6)

We are committed to develop and maintain the best possible practices and policies for the health and safety of our residents, our staff, our community and our environmental health. While we are also committed to implement sustainability and energy efficiency measures and develop collaborative partnerships with external agencies and service providers to reduce our Green House Gas (GHG) emissions and our Carbon Footprint in preparation for carbon neutrality in 2010, our remote and isolated community and lack of financial and staff resources and reduction of positions make it extremely difficult to meet our environmental obligations.

## **Overview:**

### **Actions Taken to Reduce Greenhouse Gas Emissions - 2009**

- Planned for a total building lighting retrofit of old and inefficient T12 34-watt fluorescent lighting and magnetic ballasts to energy efficient T8 25-watt fluorescent lighting and programmed-start electronic ballasts in the fall and winter of 2009 for implementation in 2010. (A.2)

**No other key environmental initiatives were implemented in 2009 due to lack of financial and staff resources.**

### **Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012**

- A total building lighting retrofit of old and inefficient T12 34-watt fluorescent lighting and magnetic ballasts to energy efficient T8 25-watt fluorescent lighting and programmed-start electronic ballasts was completed in March 2010. Estimated savings of 30,000 kWh per year, 7.1% reduction from the total electrical consumption of the facility for calendar 2009, and 0.66 tCO<sub>2</sub>e of Green House Gases. Funding for the retrofit was through VCH and incentive support from BC Hydro. (A.2)
- Staff at R.W. Large Memorial Hospital were informed about energy reducing opportunities during a staff meeting in early 2010 that could be implemented on site. For example, turning off computer monitors when leaving for the day or the weekend in anticipation of reducing electricity costs for 2010. Staff were also asked to turn down the thermostats in the Housing units when not in the apartments to reduce heating costs. This will be addressed again in future staff meetings.(A.2)

**While no other key environmental initiatives are planned for 2010-2012, due to lack of financial and staff resources, we will continue to investigate and introduce other actions that will contribute to our goal of implementing sustainability initiatives and reducing Greenhouse Gas Emissions (GHG) and reduce our Carbon Footprint where possible and within our financial and staff resources.**

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### 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 *Greenhouse Gas Reduction Targets Act*.

Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>						
<b>Vehicle fuel efficiency</b>						
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100 % of vehicles are subject to regular maintenance for fuel efficiency	Maintenance Van (1991 Ford Van) is regularly serviced twice a year by a certified mechanic shop in Port Hardy. Van is in good mechanical condition and has only 44,000 km use to-date	Practice to continue	1991	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>						
Complete energy retrofits on existing, owned buildings	Complete	100 % of owned buildings have undergone energy retrofits since start year indicated	1) New building controls for energy efficiency were installed in 1996-97. 2) The roof was replaced and insulated in 1993. 3) The building envelope was replaced and insulated in 2003 4) Metal windows replaced with sliding vinyl double glazed windows in 2003	1) Total building lighting retrofit completed in March, 2010 2) Other energy efficient measures to be implemented should funding and resources become available for planning and implementation.	1995	2010
<b>Retrofitting owned buildings</b>						
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Complete	100 % of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Boiler and mechanical upgrades done in 1995	None planned for 2010-2012	1995	No End Date (Continuous)
Upgrade lighting systems during retrofits	Complete	100 % of retrofits (captured above) had lighting systems upgrades	1) Total Lighting Retrofit initiated in 2009 to replace old fluorescent and less efficient T12 fluorescent lighting and magnetic ballasts to more efficient T8 lighting and programmable electronic ballasts. 2) All building exit lights were replaced with energy efficient LED lighting in 1996-97	Total building lighting retrofit completed in March, 2010. Estimated electrical consumption reduction of 30,000 kwh (7%) per annum	2009	2010
Upgrade/adjust control systems during retrofits	Complete	100 % of retrofits (captured above) had control system upgrades or adjustments	A DDC building automation system was installed in 1996-97	Non planned for 2010-2012	1996	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Complete	100 % of retrofits (captured above) had insulation improvements	The building envelope was replaced and insulated in 2003 and the metal windows were replaced with sliding vinyl double glazed windows	Non planned for 2010-2012	2003	No End Date (Continuous)
<b>IT power management</b>						
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	100 % of computers have auto-sleep settings applied	Auto-sleep settings on computer monitors and CPUs are applied to all units at R.W. Large Memorial Hospital	Practice to continue	2005	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Complete		Multi-function devices are currently in place and centrally located and shared by most staff except for some restricted units for confidentiality and privacy.	Practice to continue		No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Complete	100 % of devices have auto-sleep settings applied	Auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices are in place	Practice to continue		No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			In progress and implemented when replacing systems	Practice to continue		No End Date (Continuous)
<b>Appliances and electronic devices</b>							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	100	% of fridges are ENERGY STAR rated	Purchase energy efficient models when replacement needed	Practice to continue		No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Purchase energy efficient models when replacement needed	Practice to continue		No End Date (Continuous)
<b>Behaviour change program</b>							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Except for 24/7 Resident care areas, staff turn off all electric and electronic equipment after hours.	Maintain practice		No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Completed but not audited as to success of program	Continue to encourage staff to shut off power bars and other electrical equipment after hours		No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Complete			Staff are requested to minimize their use of electric and electronic equipment in their work offices to the essential need equipment while working outside of regular business hours. Unnecessary energy using equipment are requested to be turned off.	Maintain practice	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			All staff are encouraged to use stairs instead of elevators where practical and when they are not assisting elderly residents or delivering supplies	Maintain practice		No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Staff are requested to minimize their use of electric and electronic equipment in their work offices to the essential need equipment while working outside of regular business hours. Unnecessary energy using equipment are requested to be turned off.	Staff reminded during staff meeting in April 2010. Practice to continue	2010	No End Date (Continuous)
<b>Supplies (Paper)</b>							
<b>Electronic media in place of paper</b>							
Use electronic document library for filing common documents	In Development			Electronic document library for filing common documents is currently in place for authorized staff	Maintain and enhance practice	2007	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Various manuals and policies and procedures are currently available on-line	Maintain and enhance practice		No End Date (Continuous)
<b>Behaviour change program</b>							
Encourage re-use of scrap paper	Ongoing/In Progress			The re-use of scrap paper by staff has always been encouraged	Maintain Practice		No End Date (Continuous)

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### 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 *Greenhouse Gas Reduction Targets Act*. 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 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
<b>Other Sustainability Actions</b>						
<b>Waste reduction/diversion</b>						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	In Development		Only paper and cardboard recycling initiative in place at this time. Aboriginal band is in the planning stage to implement a multi-product recycling initiative to be implemented in 2010	Paper and Cardboard recycling practice to continue. When Aboriginal band implements multi-product recycling, othe recycling initiatives will be implemented at the hospital	2005	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Compliance for the safe disposal of all hazardous waste in place	Maintain current practice and compliance for the safe disposal of all hazardous waste		No End Date (Continuous)
<b>Indoor air quality</b>						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Complete		Maintain policy	Maintain policy	2008	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress		Maintenance services has standardized on water based paint and low volatile organic compounds (VOCs) Standards for their products	Maintain use	2005	No End Date (Continuous)
<b>Commuting to and from home</b>						
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Encourage staff to use alternative modes of transportation where practicable. Public Transit not available due to size of community and only 1-2 people bicycle to work while most actually walk	Four bicycles purchased in 2010 as part of Nurse Retention program for after hour leisure use	2010	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Complete		Shower facilities, change rooms, and locker facilities have been available to staff since the construction of the facility in 1975 and subsequent renovations in 1995. No Bicycle racks are available at this time and bicycles (1-2 only at this time) are brought inside loading dock area.	Maintain Practice	1992	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
Preventative maintenance of building systems in place	Ongoing/In Progress		Practice is maintained	Practice to be maintained	1995	No End Date (Continuous)
Paper and Cardboard recycling in place	Complete		Only paper and cardboard recycling initiative in place at this time. Aboriginal band is in the planning stage to implement a multi-product recycling initiative to be implemented in 2010	Paper and Cardboard recycling practice to continue. When Aboriginal band implements multi-product recycling, othe recycling initiatives will be implemented at the hospital	2005	No End Date (Continuous)