

Carbon Neutral Action Report The Justice Institute of British Columbia

Executive Summary

The Justice Institute of British Columbia began implementing operational changes in the calendar year 2006 which has resulted in reductions in electricity and natural gas consumption at our New Westminster Campus. These operational changes included reviewing and adjusting operating temperature set points on air conditioning and space heating equipment in order to reduce the demand and run time of this equipment. In addition, we began re-setting room temperature sensor set points on a seasonal basis and equipment operating schedules for certain areas on a weekly basis to match occupied times.

In 2007 these initiatives were augmented by a Voltage Optimization Project at our New Westminster Campus. This project involved adjusting the voltage taps on the primary and secondary transformers by 2.5% which resulted in an estimated 5% reduction in electrical consumption. During the same year, we added additional building automation controls in order to provide the ability to schedule equipment in specific areas to match occupancy. We also began a program of replacing the Classroom lighting with a more energy efficient option while maintaining required lighting levels.

In 2008 we completed the Classroom re-lamping program and continued to make building automation control and program changes at our New Westminster campus in order to avoid unnecessary heating, cooling and lighting of unoccupied areas. Our efforts to date have resulted in a 38% reduction in 2008 natural gas consumption when compared to 2006 and a 6% per year decrease in the electricity usage when comparing 2008 with the previous 2 years.

In October 2008 the Justice Institute of BC in partnership with BC Hydro commissioned a comprehensive energy study of its New Westminster and Maple Ridge Campus' to review the facilities energy using systems and provide detailed recommendations for cost-effective options to improve the energy efficiency of both facilities. The study is also intended to provide the data required to build a business cases to justify capital investment in energy efficiency projects.

Part 1: Actions Taken to Reduce Greenhouse Gas Emissions in 2008

Overview

At our New Westminster Campus we completed a program of replacing Classroom lighting with a more energy efficient option while maintaining required lighting levels; approximately 800 light tubes were re-placed during this project. We also made building automation control and program changes in order to avoid unnecessary heating, cooling and lighting of unoccupied areas. Our efforts to date have resulted in a 38% reduction in 2008 natural gas consumption when compared to 2006 and a 6% per year decrease in the electricity usage when comparing 2008 with the previous two years.

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1.1 Stationary fuel combustion and electricity			
Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Encouraged staff to use stairs	In progress	Reduce electricity use	Wellness Committee encourages staff to use stairs with posters displayed at our New Westminster Campus
Turned off lights in unused rooms	In progress	Reduce electricity use	Turn off lights stickers posted in all Classrooms and Service Rooms of our New Westminster Campus; Maintenance, Security and Janitorial Staff regularly encouraged to ensure lights are turned off in unoccupied areas
Undertaken lighting retrofit	Complete	Reduce electricity use	Replaced approximately 800 - 32 watt lamps with 25 watt lamps in New Westminster Campus Classrooms
Undertaken building energy audit at LOCATION(s)	Complete	Establish baseline data	New Westminster and Maple Ridge Campus'
1.2 Supplies			
Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Encouraged re-use of furniture and equipment	In progress	Reduce money spent on new office equipment and furniture; reduce waste	Good condition used furniture is stored and redeployed whenever possible
1.3 Sustainability Actions (others)			
Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Took water conservation measures – low flow showers or toilets, fix leaks	Complete	Reduce water consumption	In 2007 we installed low flow touch-less faucets through out our New Westminster and Maple Ridge Campus' this has contributed to a 2008 reduction of 31% in water consumption at our New West Campus when compared with 2006
Improved recycling measures	In progress	Reduce amount of material sent to the landfill	We currently have a recycling program that includes paper, cardboard, printer & toner cartridges, fluorescent lamps, batteries, plastics, glass, metals, kitchen oils \ fats, and pallets.
Used re-usable dishes	In progress	Reduce amount of material sent to the landfill	We encourage the use of re-usable dishes and our contractor providing food services at our New Westminster Campus
Purchased green cleaning products	In progress	Prevent chemical residue from entering natural environment	Continued to mandate "green" cleaning products at our New Westminster Campus
Part 2: Plans to Continue Reducing Greenhouse Gas Emissions 2009 -- 2011			
Overview	Going forward we plan to implement selected energy conservation measures identified in the energy studies for our New Westminster and Maple Ridge Campus' and institute ongoing monitoring programs to ensure that energy reductions are maintained. We also intend to begin a corporate awareness program to promote energy conservation which will have input and support from every Department, Academy and Division.		

2.1 Mobile Fuel Combustion

The Justice Institute's current fleet consists of ten delivery \ transport vehicles and fifty-one student training vehicles. As these vehicles reach the end of their service life they will be replaced with more efficient models.

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Replace # of TYPE OF VEHICLE with MORE EFFICIENT VEHICLE/Hybrid	Planned	Reduced fuel consumption	Replace vehicles with more efficient models as they reach the end of their service life.	TBD

2.2 Stationary Fuel Combustion (including electricity)

Implement selected energy conservation measures identified in the recently completed energy studies for our New Westminster and Maple Ridge Campus'. Replace the current building management system (DDC), which controls the HVAC and Lighting systems at our New Westminster Campus. The current system is nearing the end of it's service life and replacing it with a new system will provide opportunity for improved control and monitoring thereby reducing energy usage.

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Encourage staff to use stairs	Planned	Reduce electricity use	Our Wellness Committee encourages staff to use stairs with posters displayed at our New Westminster Campus, we will periodically reinforce this message in our weekly electronic newsletter sent to all staff.	Quarterly
Turn off lights in unused rooms	Planned	Reduce electricity use	Turn off lights stickers are posted in all Classrooms and Service Rooms of our New Westminster Campus; Maintenance, Security and Janitorial Staff are regularly encouraged to ensure lights are turned off in unoccupied areas. We will periodically reinforce this message in our weekly electronic newsletter sent to all staff.	Quarterly
Replace DDC System at New Westminster Campus	Planned	Reduce electricity and natural gas consumption. System installed and commissioned in accordance with contract documents.	The current building management system controlling the HVAC and Lighting systems at our New Westminster Campus is nearing the end of it's service life and replacing it with a new system will provide opportunities for improved controls and monitoring.	2009 to 2010

2.3 Supplies

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Initiate automatic double sided printing	Planned	Reduced paper consumption	Set all applicable printers to automatically print double sided and post information \ instructions at all printer locations.	Summer 2009

2.4 Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Develop Green Teams	Planned	Increased employee awareness and engagement in GHG reduction efforts. Reduced energy consumption.		Fall 2009
Provide green tips	Planned	Increased employee awareness	Provide information in our weekly electronic newsletter sent to all staff.	Quarterly