



## **CARBON NEUTRAL ACTION REPORT 2011**



## North Island College – 2011 Carbon Neutral Action Report

### Executive Summary

North Island College is a community college committed to high quality and excellence in our programs and services. One of our visions is to be a respectful steward of our unique natural setting.



Our actions in 2011 to reduce carbon emissions include education and awareness of our place in our communities. We have recently established an Environmental Sustainability Team to provide leadership in regards to the types of activities and steps that we can take to serve as a respectful steward of our unique natural setting and support implementation of environmentally sustainable practices. The Environmental Sustainability Team includes a cross-section of employees and students from our four campuses to provide local campus knowledge and a broad cross-section of perspectives when developing recommendations for operational changes and other green initiatives.

We have ongoing commitments to refit equipment and upgrade services to improve efficiency and reduce greenhouse gas emissions. North Island College endeavors to explore and test efficient technologies for building infrastructure.

Our achievements in 2011 include the addition of a 2,476.50 square metres LEED Gold target Trades Building to the Comox Valley Campus. As the Valley's first LEED Gold registered building, we are ensuring that local resources are sustainable now and in the future. This building has brought the college forward in new technologies and identified opportunities to apply to the college facilities.

We continue to support community initiatives like Bike to Work Week and added new change facilities and bike racks for bike commuters. We will continue to work with our communities to promote awareness of the beauty of our natural setting and support implementation of environmentally sustainable practices.

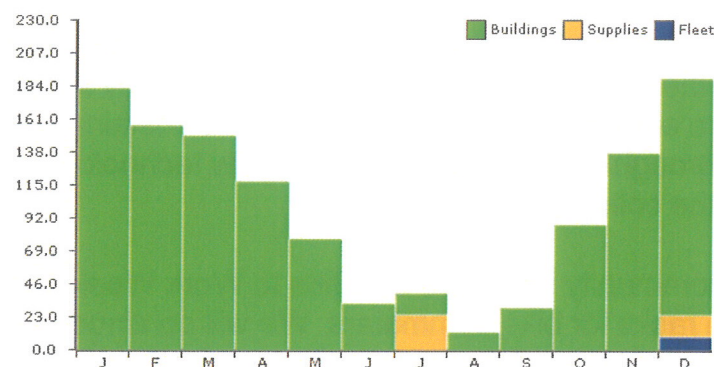
### **2011 Greenhouse Gas Emissions:**

North Island College's greenhouse gas emissions in 2011 were 1,227 tonnes of CO<sub>2</sub>e (equivalent). North Island College's greenhouse gas emissions increased in 2011. It is important to note that the Trades Building and Tyee Hall Student Lounge increased the size of the College's built infrastructure. The majority of greenhouse gas emissions generated came from energy required to provide heat and power to our buildings. Due to the implementation of printing and photocopying fees for students, a continued emphasis on double-sided printing and moving some learning materials to electronic format, paper consumption for 2011 decreased by 46%.



**Total Emissions  
Calendar Year 2011  
North Island College**

Metric tonnes  
CO<sub>2</sub> equivalent (tCO<sub>2</sub>e)



Click on the bars to view data for each month

## Overview:

- **Actions taken in 2011 to reduce Greenhouse Gas Emissions**
  - Upgrade lighting, controls and glazing.
  - Install LED lighting in public spaces, main halls of Trades Training Building
  - Boiler replacement with condensing technology
  - Initiate student central printer control (pay for print), upgrades to net printers from stand alone desk units to centralized multitask units.
- **Plans to Continue Reductions 2012 onward.**
  - Educate users and increase awareness of ongoing efforts to become carbon neutral.
  - Explore opportunities to increase recycling in all college communities.
  - Encourage carpooling and use of public transportation
  - Invest in energy efficient upgrades to existing infrastructure.
  - Bring real time building energy metering for public education and awareness.

## Offsets Applied to Become Carbon Neutral in 2011:

In order to become carbon neutral for 2011, North Island College will purchase carbon offsets for 1,227 tonnes of CO<sub>2</sub>e from Pacific Carbon Trust.

## Changes to Greenhouse Gas Emissions and Offsets Reporting from Previous Years:

Following the public release of North Island College's 2010 Carbon Neutral Action Report, it was determined that total emissions for 2010 were under reported by 63 tonnes of CO<sub>2</sub>e.

The difference in offsets required have been purchased and applied against our 2010 emissions.


### **Emissions Reduction Activities:**

We are continuing to educate and create awareness among the College community to conserve energy:

- We have recently established an Environmental Sustainability Team to provide leadership in regards to the types of activities and steps that we can take to serve as a respectful steward of our unique natural setting and support implementation of environmentally sustainable practices.
- We introduced printing fees to students which has helped to reduce our paper consumption
- Increased use of double-sided printing and the move of some learning materials to electronic format have also contributed to the reduction in paper consumption.
- We continued working as a Power Smart Partner with BC Hydro to reduce energy consumption.
- Energy retrofits included replacement of a boiler and a lighting system upgrade at the Port Alberni campus.
- Completion of the Trades Building which brought the college forward in new technologies and identified opportunities to apply to the existing college facilities.

### **Plans To Continue Reducing Greenhouse Gas Emissions 2012 – 2014:**

We plan to continue to reduce Greenhouse Gas Emissions through energy conversation by educating and encouraging behavioural change. We will also continue to work with BC Hydro to perform energy and lighting retrofits.



Carol Baert,  
Vice President, Finance and Facilities  
North Island College

May 3, 2012

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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 <i>Greenhouse Gas Reduction Targets Act</i> . |                            |   |   |   |   |            |                             |
| Action  | Status<br>(as of 12/31/11) | Performance to Date<br>(as of 12/31/11) |   | Steps Taken in 2011   | Steps Planned for 2012 -2014  | Start Year | End Year                    |
| Mobile Fuel Combustion (Fleet and other mobile equipment)   |                            |   |   |   |   |            |                             |
| Vehicle fuel efficiency   |                            |   |   |   |   |            |                             |
| Replace vehicles with more fuel-efficient models  | Ongoing/In Progress        |   |   | Fleet is small gas vehicles with diesel for heavy duty applications.  | Review of vehicle as opportunity is available.  | 2007       | No End Date<br>(Continuous) |
| Replace larger vehicles with smaller models according to fleet "right-sizing" principles  | In Development             |   |   | Evaluation will occur as opportunities arise.   | Review of vehicle as opportunity is available.  | 2007       | No End Date<br>(Continuous) |
| Perform regular fleet maintenance specifically to improve fuel-efficiency   | Ongoing/In Progress        |   |   | Standard operating procedure.   | Standard operating procedure.   | 2007       | No End Date<br>(Continuous) |
| Replace small maintenance vehicles with more fuel-efficient models  | Ongoing/In Progress        |   |   | College owns two snow blowers and three forklifts.  | Review of vehicle as opportunity is available.  | 2007       | No End Date<br>(Continuous) |
| Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)  |                            |   |   |   |   |            |                             |
| Planning/management   |                            |   |   |   |   |            |                             |
| Reduce office space (square meters) per employee  | Ongoing/In Progress        |   |   | Continue review of current utilization.   | Propose standards out of results from utilization review.   | 2008       | No End Date<br>(Continuous) |
| Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)   | Completed in 2011          |   |   | Energy dashboard in entrance of Trades Building displays real time usage.   |   | 2010       | 2011                        |
| Owned buildings   |                            |   |   |   |   |            |                             |
| Achieve LEED NC Gold certification at a minimum for new construction or major renovations   | Ongoing/In Progress        | 0                                       | % of owned buildings are certified LEED NC Gold or LEED NC Platinum | New Trades Building target LEED Gold level - application submitted.   | Final submission for LEED Gold application.   | 2010       | 2012                        |
| Perform energy retrofits on existing, owned buildings   | Ongoing/In Progress        |   |   | Replaced boilers in Port Alberni. Upgraded 2nd floor lighting from T12s to T8s.   | Upgrade ground floor lighting in Port Alberni.  | 2006       | No End Date<br>(Continuous) |
| Retrofitting owned buildings  |                            |   |   |   |   |            |                             |
| Upgrade mechanical systems (heating, cooling, ventilation) during retrofits   | Ongoing/In Progress        |   |   | Renovations are upgraded as opportunities arise. Port Alberni boilers retrofit to condensing model. Upgrades in the Campbell River campus include boiler replacement with a high efficiency boiler, re-balancing of the air supply/return, installation of blank off sectors to reduce air volume to small offices, and control valves and direct digital controls upgrade. | Ongoing planning of renovations includes HVAC review.   | 2006       | No End Date<br>(Continuous) |
| Upgrade lighting systems during retrofits   | Ongoing/In Progress        |   |   | Retrofitting lights is standard procedure. Upgraded 2nd floor lighting in Port Alberni from T12s to T8s. LED lighting installed in Tyee Hall Student Lounge.  | Other campuses are being scheduled for retrofit in small projects. Upgrade ground floor lighting in Port Alberni. | 2006       | No End Date<br>(Continuous) |
| Upgrade/adjust control systems during retrofits   | Ongoing/In Progress        |   |   | Controls were upgraded on HVAC as projects were done. Direct digital controls upgrade in Campbell River.  | Ongoing evaluation for control retrofit as projects are identified.   | 2006       | No End Date<br>(Continuous) |
| Improve building insulation (including windows) during retrofits  | Ongoing/In Progress        |   |   | Glazing retrofit upgrade as determined by need.   | Ongoing evaluation of existing glazing and replacement.   | 2006       | No End Date<br>(Continuous) |

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| Action   | Status<br>(as of 12/31/11) | Performance to Date<br>(as of 12/31/11) |  | Steps Taken in 2011   | Steps Planned for 2012 -2014   | Start Year | End Year                    |
|--|----------------------------|---|--|---|--|------------|-----------------------------|
| Install an on-site renewable energy demonstration project  | Completed in 2011          |   |  | Solar panels installed on Trades Building. Completed in 2011. Real time metered.  |  | 2010       | 2011                        |
| IT power management  |                            |   |  |   |  |            |                             |
| Install power management software which shuts down computers outside of regular business hours                                     | Ongoing/In Progress        |   |  | Done when units are purchased, standard procedure.  | Ongoing start up of new/retasked equipment.                          | 2006       | No End Date<br>(Continuous) |
| Apply auto-sleep settings on computer monitors and CPUs  | Ongoing/In Progress        | 95                                      | % of computers have auto-sleep settings applied          | Done when units are purchased, standard procedure.  | Ongoing for new and retasked units.                                  | 2006       | No End Date<br>(Continuous) |
| Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices                                       | Ongoing/In Progress        |   |  | Ongoing program to install central multifunction devices as equipment is updated.   | Net printer/multifunction devices being installed as upgrades.       | 2007       | No End Date<br>(Continuous) |
| Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices  | Ongoing/In Progress        | 95                                      | % of devices have auto-sleep settings applied            | Completed and installed on upgraded equipment.  | Ongoing installation on new equipment as upgraded.                   | 2007       | No End Date<br>(Continuous) |
| Replace computers with ENERGY STAR models during regular computer upgrades   | Ongoing/In Progress        |   |  | Replaced older models.  | Ongoing upgrades as units are upgraded/replaced due to obsolescence. | 2007       | No End Date<br>(Continuous) |
| Appliances and electronic devices  |                            |   |  |   |  |            |                             |
| Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases                                    | Ongoing/In Progress        |   |  | Not applicable.   | Replace units as needed.   | 2006       | No End Date<br>(Continuous) |
| Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases | Ongoing/In Progress        |   |  | Purchase of CFL models for new stations, current lamps are replaced as needed. Some progress replacing but user difficulty with o/h flourescent lighting. | Ongoing replacement as needed.                                       | 2009       | No End Date<br>(Continuous) |
| Behaviour change program   |                            |   |  |   |  |            |                             |
| Ask staff to close blinds at end of work day to reduce heating/cooling demands   | Ongoing/In Progress        |   |  | Newsletter/email, group meetings  | Continue to educate users.   | 2007       | No End Date<br>(Continuous) |
| Provide tips to staff on saving energy in the office while working outside of regular business hours                               | Ongoing/In Progress        |   |  | Emailed message about energy savings.   | Continue to educate users.   | 2007       | No End Date<br>(Continuous) |
| Encourage use of stairs instead of elevators   | Ongoing/In Progress        |   |  | Poster program at elevator and stairs for employees and students in high use location   | Ongoing evaluation of opportunities.                                 | 2008       | No End Date<br>(Continuous) |
| Provide reminders for turning off lights (e.g., signs, stickers, messages)   | Ongoing/In Progress        |   |  | Stickers to remind users to turn off lights are installed at light switches.  | Evaluate communication opportunities.                                | 2006       | No End Date<br>(Continuous) |
| Promote hot water conservation   | Ongoing/In Progress        |   |  | Newsletter/email  | Continue to educate users.   | 2007       | No End Date<br>(Continuous) |
| Supplies (Paper)   |                            |   |  |   |  |            |                             |
| Paper Type   |                            |   |  |   |  |            |                             |
| Purchase 30% post-consumer recycled paper  | Ongoing/In Progress        | 0                                       | % of total paper purchased contains 30% recycled content | Purchasing reviewed options for purchasing 30% recycled paper.  | Continued testing of recycled papers for machine compatibility.      | 2009       | No End Date<br>(Continuous) |
| Purchase 40% post-consumer recycled paper  | Ongoing/In Progress        | 5                                       | % of total paper purchased contains 40% recycled content | Purchased 40% recycled colour paper.  | Continued testing of recycled papers for machine compatibility.      | 2009       | No End Date<br>(Continuous) |
| Printer/document settings  |                            |   |  |   |  |            |                             |

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| Action   | Status<br>(as of 12/31/11) | Performance to Date<br>(as of 12/31/11) |   | Steps Taken in 2011  | Steps Planned for 2012 -2014   | Start Year | End Year                    |
|--|----------------------------|---|---|--|--|------------|-----------------------------|
| Switch networked printers and photocopiers to automatic double-sided                             | Ongoing/In Progress        | 90                                      | % of network printers or photocopiers are set to automatic double-sided | On track to setting 100% of network printers or photocopiers to print automatically double-sided.          | Standard set up is double sided printing on all network printers for students and on staff units if technology allows. | 2009       | No End Date<br>(Continuous) |
| Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs          | Completed in 2011          | 98                                      | % of network printers have 'print and hold' settings applied            | Technology is now in place for all multipurpose units. Campbell River Campus staff are using this feature. |  | 2011       | 2011                        |
| Electronic media in place of paper   |                            |   |   |  |  |            |                             |
| Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)            | Ongoing/In Progress        |   |   | Plan install of portal (sharepoint system) for all users.  | Completion and implementation planned for 2012.  | 2009       | 2012                        |
| Use electronic document library for filing common documents                                      | In Development             |   |   | Server in place for all electronic storage of documents.   | Begin roll out of imaging and storage software.  | 2011       | No End Date<br>(Continuous) |
| Behaviour change program   |                            |   |   |  |  |            |                             |
| Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.) | Ongoing/In Progress        |   |   | IT Department made shareware available.  | New browser to be introduced Portal.   | 2009       | No End Date<br>(Continuous) |
| Encourage re-use of scrap paper  | Completed in 2011          |   |   | Print shop provides scrap paper pads to staff and libraries provide scrap paper pads to students.          |  | 2007       | 2011                        |



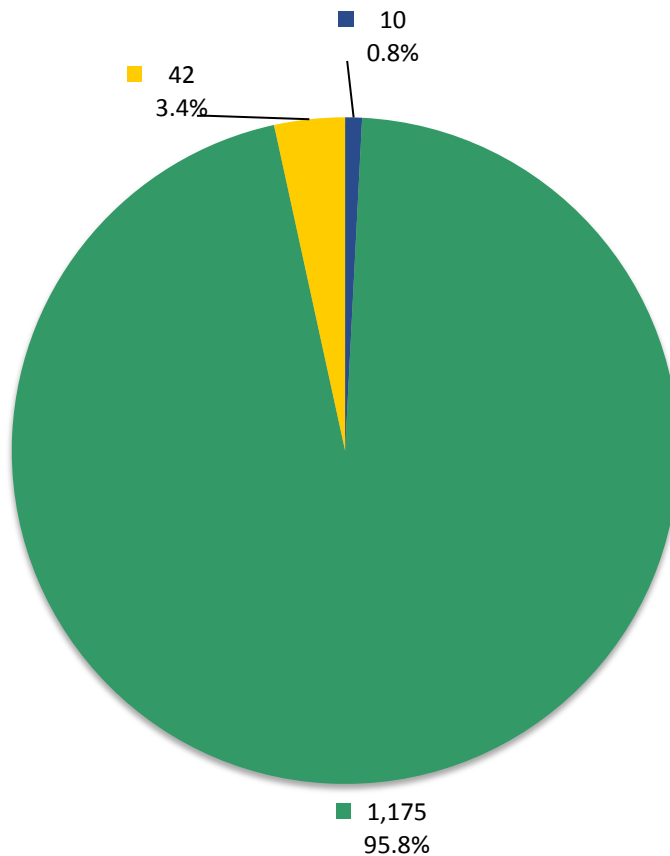
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| Actions to Reduce Provincial Emissions and Improve Sustainability   |                            |   |  |  |   |            |                             |
|---|----------------------------|---|--|--|---|------------|-----------------------------|
| 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 <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<br>(as of 12/31/11) | Performance to Date<br>(as of 12/31/11) |  | Steps Taken in 2011  | Steps Planned for 2012 -2014  | Start Year | End Year                    |
| Business Travel   |                            |   |  |  |   |            |                             |
| Virtual meeting technology  |                            |   |  |  |   |            |                             |
| Make desktop web-cameras available to staff   | Ongoing/In Progress        |   |  | As requested.  | IT support to install and train users.  | 2008       | No End Date<br>(Continuous) |
| Behaviour change program  |                            |   |  |  |   |            |                             |
| Train staff in web-conferencing   | Ongoing/In Progress        |   |  | Training information distributed to managers.  | Training opportunity with rollout of Portal based system to College.  | 2009       | No End Date<br>(Continuous) |
| Train staff in video-conferencing or provide technical support for video-conferencing set-up  | Ongoing/In Progress        |   |  | IT provides support and training for conferences.  | IT continues to provide support and training when requested.  | 2006       | No End Date<br>(Continuous) |
| Encourage staff to consider virtual attendance/presentation at events where possible  | Ongoing/In Progress        |   |  | Ongoing reminders to use video links and webinars.   | Training opportunity with rollout of Portal based system to College.  | 2006       | No End Date<br>(Continuous) |
| Encourage carpooling to meetings  | Ongoing/In Progress        |   |  | Carpooling is encouraged with staff through the use of a car pool information board on the NIC intranet. | Education of users on opportunities. Ongoing reminders to car pool. Parking stalls to be designated as carpool stalls.  | 2007       | No End Date<br>(Continuous) |
| Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)  | Ongoing/In Progress        |   |  | Improve bike rack installation, promote bike to work week.   | Ongoing education.  | 2006       | No End Date<br>(Continuous) |
| Education, Awareness, and Engagement  |                            |   |  |  |   |            |                             |
| Team-building   |                            |   |  |  |   |            |                             |
| Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement   | Ongoing/In Progress        |   |  | Establish an Environmental Sustainability Team   | Provide recommendations to environmentally sustainable practices.   | 2011       | 2012                        |
| Provide resources and/or dedicated staff to support teams   | In Development             |   |  |  | Research opportunities for partnership.   | 2011       | No End Date<br>(Continuous) |
| Staff Professional Development  |                            |   |  |  |   |            |                             |
| Support green professional development (e.g., workshops, conferences, training)   | Ongoing/In Progress        |   |  | Ongoing education - BOMI/LEED  | Ongoing education BOMI/LEED   | 2008       | No End Date<br>(Continuous) |
| Staff awareness/education   |                            |   |  |  |   |            |                             |
| Provide education to staff about the science of climate change  | In Development             |   |  |  | Education information being evaluated and roll out in electronic format. Sustainability committee will review. Presentation by Andrew Weaver, Climate Modeller. | 2011       | No End Date<br>(Continuous) |
| Provide education to staff about the conservation of water, energy, and raw materials   | Ongoing/In Progress        |   |  | Environmental Sustainability Team ongoing education in conservation activities.                          | Install signage to support awareness. Monitoring of consumption.  | 2007       | No End Date<br>(Continuous) |
| Provide green tips on staff website or in newsletters   | Ongoing/In Progress        |   |  | Provide education through staff orientation.   | Investigate opportunities in new Portal system for education.   | 2006       | No End Date<br>(Continuous) |
| Provide sustainability education during new staff orientation   | Ongoing/In Progress        |   |  | Under review by the Environmental Sustainability Team.   | Continuous HR program for new employees.  | 2007       | No End Date<br>(Continuous) |
| Client/public awareness/education   |                            |   |  |  |   |            |                             |

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| Action   | Status<br>(as of 12/31/11) | Performance to Date<br>(as of 12/31/11) |  | Steps Taken in 2011   | Steps Planned for 2012 -2014  | Start Year | End Year                    |
|--|----------------------------|---|--|---|---|------------|-----------------------------|
| Provide education to clients/public about the science of climate change  | In Development             |   |  |   | Presentation by Andrew Weaver, Climate Modeller.                                    | 2011       | No End Date<br>(Continuous) |
| Provide education to clients/public about the conservation of water, energy, and raw materials   | Ongoing/In Progress        |   |  | Educational tours.  | Install signage to support awareness.   | 2007       | No End Date<br>(Continuous) |
| Provide green tips on client/public website or in newsletters  | In Development             |   |  |   | Currently developing signage and will be the basis for public messages on web.      | 2011       | 2012                        |
| Other Sustainability Actions   |                            |   |  |   |   |            |                             |
| Water conservation   |                            |   |  |   |   |            |                             |
| Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features | Ongoing/In Progress        |   |  | Low flow aerators on lavatories, ongoing replacement of toilets as needed.  | Continue with low flow replacement. New buildings are low flow fixtures (standard). | 2007       | No End Date<br>(Continuous) |
| Introduce a storm water management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)   | Ongoing/In Progress        |   |  | Trades Building is not irrigated, LEED sustainable. Erosion plan in place.  | Ongoing monitoring of Led erosion and sediment control measures.                    | 2010       | No End Date<br>(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                                     | Ongoing/In Progress        |   |  | Encourage recycling of glass, metal, plastic, and paper.  | Community resources engaged to recycle and reuse (Re-Store).                        | 2007       | No End Date<br>(Continuous) |
| Implement a hazardous waste reduction and disposal strategy  | Completed in 2011          |   |  | Metal waste is treated chemically to reduce volume and convert to less hazardous solid oxides and hydroxides. Halogenated and non-halogenated solvents are collected in liquid form. Aerosmith Environmental Services picks up the waste every other year from the CVC campus. Nursing bio-hazard supplies are placed in 4 containers in a Stericycle box and picked up by Stericycle in January and May. Stericycle provides a new box and 4 new containers. |   | 2007       | 2011                        |
| 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             |   |  | Ongoing discussions with purchasing to identify options.  | Identify green opportunities and evaluate costs.                                    | 2010       | No End Date<br>(Continuous) |
| Building construction, renovation, and leasing   |                            |   |  |   |   |            |                             |
| Incorporate lifecycle costing into new construction or renovations   | In Development             |   |  |   | Testing new finishes for durability and costs.                                      | 2010       | No End Date<br>(Continuous) |
| Commuting to and from home   |                            |   |  |   |   |            |                             |
| Encourage commuting by foot, bicycle, carpool or public transit  | Ongoing/In Progress        |   |  | Ongoing discussions with transit to improve service, bike to work week promotion, bike racks.   | Ongoing transit discussions. Install additional bike racks.                         | 2007       | No End Date<br>(Continuous) |
| Provide shower or locker facilities for staff/students who commute by foot or by bicycle   | Ongoing/In Progress        |   |  | Additional showers for staff and students installed.  | Promote awareness of available facilities.  | 2009       | No End Date<br>(Continuous) |
| Provide secure bicycle storage   | Ongoing/In Progress        |   |  | Additional bike racks installed.  | Increase bike racks.  | 2006       | No End Date<br>(Continuous) |

# North Island College Greenhouse Gas Emissions by Source for the 2011 Calendar Year (tCO<sub>2</sub>e\*)



**Total Emissions: 1,227**

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

## **Offsets Applied to Become Carbon Neutral in 2011 (Generated May 18, 2012 11:11 AM)**

Total offsets required: **1,227**. Total offset investment: **\$30,675**. Emissions which do not require offsets: **0** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.