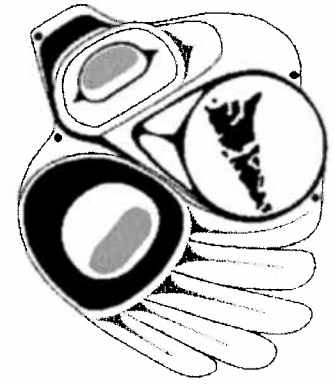



School District 50 (Haida Gwaii) - 2011 Carbon Neutral Action Report



Executive Summary

Placed in a small, fragile and unique ecosystem, School District 50 (Haida Gwaii) is endeavouring to be a leader in sustainable practises and carbon neutrality. We see around us in severe winter storms, coastal erosion and tidal flooding the implications of climate change and want to actively engage in this problem of our era. We see that, as an institution dedicated to education, we must make sure our staff and students are full participants in the solutions we develop and actions we take. SD 50 has moved to a virtually all electronic format for letters, memos, and similar items. As much as possible, we are reducing the numbers of meetings, conferences, and the like that require physical travel. Along with other stakeholder groups of Haida Gwaii, we are working to replace the islands' diesel oil electrical power grid with green technologies. We are hopeful that viable and sustainable formats will replace our reliance on oil over the next decade. Finally, we are looking ahead to gradual replacement and elimination of inefficient or oversized vehicles, equipment and buildings. This continues to be a challenge as a small, remote district with no staff assigned to environmental initiatives but an area we nonetheless take very seriously. Further community issues to consider include the lack of public transportation, distance between villages, and the increasing demand for electricity by all consumers. School District 50 is an active participant in all these discussions.



Angus Wilson, Superintendent of Schools

March 2012

Date

Overviews

Greenhouse Gas Emissions in 2011

Total emissions for SD 50 in 2011 were 724.16 tonnes of Carbon Dioxide, down significantly from 2010 (862.65t). While smaller than many other institutions, SD 50 is a disproportionately large polluter on a per capita basis. Large, older buildings with old heating systems are the most significant factor in considering our GHG emissions. Indeed, building emissions account for over 98% of our footprint and emissions from other sources, in particular vehicles and supplies amount to less than 2% of our footprint. New heating systems are already noted at several buildings for having lower emissions than our legacy systems. As an example, a comparably sized 'modern' building costs about 65% of the monetary costs of an older building to heat (In 2010, forty year old Tahayghen Elementary cost \$85 000 to heat while twelve year old Sk'aadgaa Naay Elementary cost \$55 000, for example) . Another consideration is that our buildings were designed for considerably larger student populations than they currently house; thus, our emissions are quite high on a 'per capita' basis—we have over 17,000 square metres of building space for about 750 employees and students.

Greenhouse Gases in Tonnes

| | Measure | Quantity | Greenhouse Gases in Tonnes | | | |
|--|------------|-----------|----------------------------|-----------------|------------------|---------------------------------|
| | | | CO ₂ | CH ₄ | N ₂ O | tCO ₂ e ¹ |
| Scope 1 (Direct) Emissions | | | | | | |
| Mobile Combustion (Fleet) | Litres | 4,399.00 | 9.64 | 0.00 | 0.00 | 10.44 |
| Stationary Combustion, Reported ³ | GigaJoules | 10,212.47 | 653.04 | 0.01 | 0.02 | 660.71 |
| Total Scope 1 Emissions | | | 662.68 | 0.01 | 0.03 | 671.15 |
| Scope 2 (Indirect) Emissions | | | | | | |
| Purchased Energy, Reported ³ | GigaJoules | 5,448.43 | 37.59 | 0.00 | 0.00 | 37.59 |
| Total Scope 2 Emissions | | | 37.59 | 0.00 | 0.00 | 37.59 |
| Total Scope 3 Emissions | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Emissions from Biomass | | | | | | |
| Total Biomass Emissions | | | 15.84 | 0.00 | 0.00 | 15.84 |
| Total Emissions, Calendar Year 2011 | | | 716.12 | 0.01 | 0.03 | 724.59 |

Offsets Applied to Become Carbon Neutral in 2011

Total Emission offsets have been applied to become neutral for 2011. Our total emissions for offsets is 709 tonnes as reported in SMARTTool.

Emissions Reduction Activities 2011

- Maintain limits on off island travel; reduced on-island travel with most meetings now skyped/teleconferenced, etc.; utilisation of Elluminate as an alternate to off island trips.
- Removed one lease vehicles from the fleet, planning for 2012 to replace one 'over-capable' vehicle with a more efficient model.
- Meetings are now virtually paperless – agendas are emailed or posted on our website as appropriate, with no shared physical copies. PC/CCing of documents has been replaced by EC (electronic copies) for all but the most significant legal documents. Our public board meetings now feature iPads for the public to use to follow the agenda and attachments.
- Extensive work on heating systems at two of our schools to improve efficiency of heating and domestic hot water. Continued work to upgrade insulation, windows, etc. in our older buildings.
- Completed various in-services with staff on recycling, reducing electrical consumption, right-sizing of orders, and similar activities.
- Work with students on environmentally themed programmes, including BC Hydro powersmart, Farm to School, and a number of local initiatives in this area. A considerable portion of our food is locally sourced.
- Member of the HGCEC working on reducing the island's dependence on oil. Reliability will be a consideration, as the islands are plagued by 'brown outs' which damage many of our electrical components, including heating systems and electrical panels, increasing our costs and decreasing our energy efficiency.

Plans to Continue Reducing Greenhouse Gas Emissions 2011 – 2013

Looking ahead, we plan to reduce the footprint of the district by continuing to reduce the number of face to face meetings, eliminate one more of our vehicles, replace current vehicles, computers and other appliances with more efficient models, and continue to improve the efficiency of our buildings by replacing outmoded heating systems or complete building replacement. As our enrolment declines, our emissions per square metre will continue to increase unless we begin to rationalise our building envelope. This challenging work is already in the planning stages.

As an institution of education, we also recognise that educating our staff and students will be key. We already work with BC Hydro in our secondary schools with reducing lighting costs and various food initiatives to relate our consumption to environmental impact for all of our students, but we need to do more with our employees and staff to educate and empower them to make wise decisions on equipment use and utilise their innovative ideas.

School District 50 Haida Gwaii - 2011 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 *Greenhouse Gas Reduction Targets Act*.

| Action | Status (as of 12/31/11) | Performance to Date (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 | 50 | % of vehicles are fuel- efficient models | Leased Vehicle not replaced | As replacement required | 2009 | 2012 |
| Replace larger vehicles with smaller models according to fleet "right-sizing" principles | Ongoing/In Progress | 0 | % of vehicles down-sized since start year indicated | Leased Vehicle not replaced | Replacing V8 vans with Transit style vehicles | 2009 | 2012 |
| Perform regular fleet maintenance specifically to improve fuel-efficiency | Completed in 2011 | 100 | % of vehicles are subject to regular maintenance for fuel efficiency | Maintenance is ongoing | | 2006 | No End Date (Continuous) |
| Replace small maintenance vehicles with more fuel-efficient models | Ongoing/In Progress | 25 | % of small maintenance vehicles are fuel-efficient | As replacement required | As replacement required | 2009 | 2012 |
| Behaviour change program | | | | | | | |
| Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages) | Completed in 2011 | | | Occasional Reminders | | 2010 | 2011 |
| Encourage carpooling in fleet vehicles | Ongoing/In Progress | | | Difficult in a large remote district; staff are encouraged to co-ordinate travel | Ongoing; reduce travel requirements, etc. | 2006 | No End Date (Continuous) |
| Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings) | | | | | | | |
| Planning/management | | | | | | | |
| Reduce office space (square meters) per employee | Ongoing/In Progress | | | Student number decline had led to a review of facilities; we are now renting out unused space. Newer buildings are smaller and more efficient than those they have replaced. | Possible consolidation of two schools into one building; retrofit or replacement of one other. | 2003 | No End Date (Continuous) |
| Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls) | Ongoing/In Progress | 75 | % of buildings have a real time metering system installed | As available for replacement | As available for replacement | 2003 | No End Date (Continuous) |
| Owned buildings | | | | | | | |
| Incorporate integrated design process into new construction or during renovations of owned buildings | Ongoing/In Progress | 100 | % of buildings built or renovated since start year indicated used the integrated design process | all renovations, refits, etc planned with stakeholder groups to include disposal of materials, envelope, etc. Shared services in one building site is another example | possible construction of a new school in Sandspit with potential of shared services with other agencies | 2009 | 2014 |
| Perform energy retrofits on existing, owned buildings | Ongoing/In Progress | 72 | % of owned buildings have undergone energy retrofits since start year indicated | Refits on heating systems in 2 schools | Refit for at least one more school's heating system | 2007 | 2014 |
| Retrofitting owned buildings | | | | | | | |

School District 50 Haida Gwaii - 2011 Carbon Neutral Action Report

| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|--|----------------------------|---|--|--|--|------------|-----------------------------|
| Upgrade mechanical systems (heating, cooling, ventilation) during retrofits | Ongoing/In Progress | 75 | % of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades | All retrofits include comprehensive review of heating systems and alternatives | Consideration of different heating systems | 2007 | 2014 |
| Upgrade lighting systems during retrofits | Ongoing/In Progress | 20 | % of retrofits since start year indicated had lighting systems upgrades | Beginning extensive reworking of electrical systems | Ongoing as possible | 2008 | No End Date (Continuous) |
| Upgrade/adjust control systems during retrofits | Ongoing/In Progress | 60 | % of retrofits since start year indicated had control system upgrades or adjustments | Ongoing replacement throughout district | Ongoing | 2007 | No End Date (Continuous) |
| Improve building insulation (including windows) during retrofits | Ongoing/In Progress | 90 | % of retrofits since start year indicated had insulation improvements | In 2011 Windows at one secondary school partially replaced; new insulation at one elementary school | Ongoing | 2002 | No End Date (Continuous) |
| IT power management | | | | | | | |
| Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices | Ongoing/In Progress | 80 | % reduction in printers, copiers, and/or fax machines since start year indicated | As available for replacement | As available for replacement | 2006 | 2014 |
| Appliances and electronic devices | | | | | | | |
| Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases | Ongoing/In Progress | 90 | % of fridges are ENERGY STAR rated | As available for replacement | As available for replacement | 2006 | 2014 |
| Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases | Ongoing/In Progress | | | Ongoing replacement throughout district | ongoing | 2007 | No End Date (Continuous) |
| Behaviour change program | | | | | | | |
| Help staff reduce personal energy use through "workstation tune-ups" | Ongoing/In Progress | 30 | % of current staff have completed a workstation tune-up | Implemented | Completion by 2013 | 2011 | 2013 |
| Provide tips to staff on saving energy in the office while working outside of regular business hours | Ongoing/In Progress | | | Implemented | completion by 2012 | 2011 | 2012 |
| Provide reminders for turning off lights (e.g., signs, stickers, messages) | Completed in 2011 | | | use of email, memos, etc. | | 2011 | 2011 |
| Promote hot water conservation | Ongoing/In Progress | | | Rebuild of HW systems at QCSS and SNES | Review of other facilities | 2011 | No End Date (Continuous) |
| Supplies (Paper) | | | | | | | |
| Electronic media in place of paper | | | | | | | |
| Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.) | Ongoing/In Progress | 30 | % of staff workstations with software installed | use of sharepoint, linked stations, cloud, etc. | ongoing | 2010 | No End Date (Continuous) |
| Use electronic document library for filing common documents | Ongoing/In Progress | | | All documents are stored electronically except as required by law; Board Meetings are now essentially paperless, including use of iPads for public | ongoing | 2007 | No End Date (Continuous) |

School District 50 Haida Gwaii - 2011 Carbon Neutral Action Report

| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|--|----------------------------|---|--|---|------------------------------|------------|-----------------------------|
| Behaviour change program | | | | | | | |
| Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.) | Ongoing/In Progress | 25 | % of staff currently have received collaborative software training | implementation slowed due to Job Action | ongoing | 2010 | 2013 |
| Encourage staff to hold paperless meetings or presentations (i.e., no handouts) | Ongoing/In Progress | | | Use of skype, iPads, etc. | ongoing | 2009 | No End Date (Continuous) |

School District 50 Haida Gwaii - 2011 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability

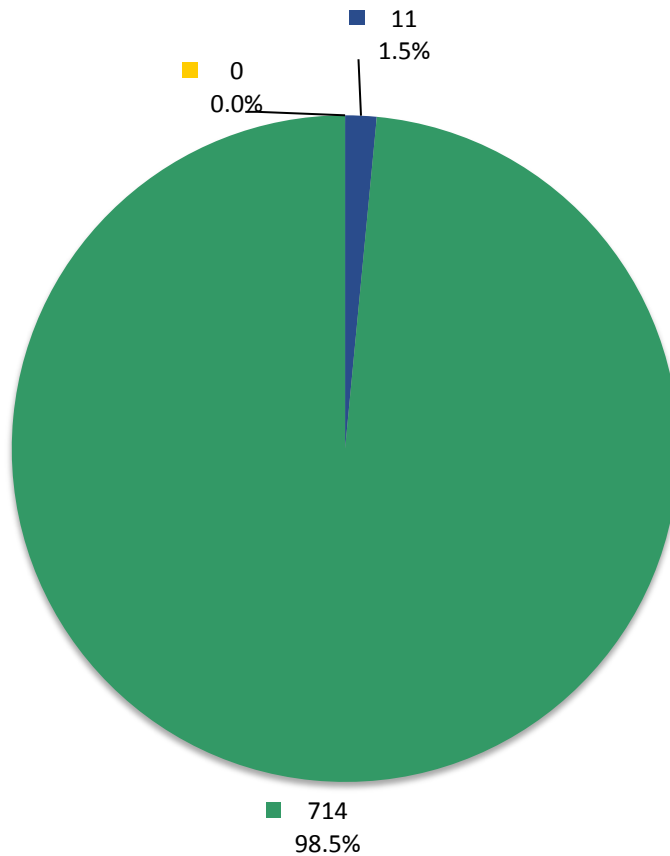
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to 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 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|--|----------------------------|---|--|---|------------------------------|---------------------|--------------------------|
| Business Travel | | | | | | | |
| Policy and budgeting | | | | | | | |
| Create a low-carbon travel policy or travel reduction goal | In Development | | | Policy draft 2011 | Implementation | 2011 | 2013 |
| Virtual meeting technology | | | | | | | |
| Make desktop web-cameras available to staff | Completed in 2011 | 100 | % of staff have access to a desktop web-camera | All sites have webcams | | 2008 | 2011 |
| Education, Awareness, and Engagement | | | | | | | |
| Staff Professional Development | | | | | | | |
| Support green professional development (e.g., workshops, conferences, training) | Ongoing/In Progress | | | Part of Education System Mandate | Ongoing | 2009 | No End Date (Continuous) |
| Staff awareness/education | | | | | | | |
| Provide education to staff about the science of climate change | Ongoing/In Progress | | | Part of Education System Mandate | Ongoing | 2001 | No End Date (Continuous) |
| Provide education to staff about the conservation of water, energy, and raw materials | Ongoing/In Progress | | | Ongoing Reminders | Ongoing | 2007 | No End Date (Continuous) |
| Provide green tips on staff website or in newsletters | Ongoing/In Progress | | | As available | Ongoing | 2006 | No End Date (Continuous) |
| Client/public awareness/education | | | | | | | |
| Provide education to clients/public about the science of climate change | Ongoing/In Progress | | | This is an essential part of Science, Social Studies, and Planning Curriculae | Ongoing | 1997 | No End Date (Continuous) |
| Provide education to clients/public about the conservation of water, energy, and raw materials | Ongoing/In Progress | | | This is an essential part of Science, Social Studies, and Planning Curriculae | Ongoing | Started before 1995 | No End Date (Continuous) |
| Provide green tips on client/public website or in newsletters | Ongoing/In Progress | | | All school websites feature green items and issues | Ongoing | 2008 | No End Date (Continuous) |
| Other Education, Awareness, and Engagement Actions | | | | | | | |
| Numerous activities at schools around growing local and traditional foods; active participation in the HGCEC project to replace power supply with green energies | Ongoing/In Progress | 82 | % schools with comprehensive programmes | Expansion to all schools | Membership in HGCEC | 2010 | No End Date (Continuous) |
| Participation in Farm to School Programme | Ongoing/In Progress | 50 | % schools with comprehensive programmes | Programme initiated | Ongoing | 2011 | 2011 |
| Other Sustainability Actions | | | | | | | |
| Water conservation | | | | | | | |

School District 50 Haida Gwaii - 2011 Carbon Neutral Action Report

| Action | Status (as of 12/31/11) | Performance to Date (as of 12/31/11) | | Steps Taken in 2011 | Steps Planned for 2012 -2014 | Start Year | End Year |
|--|----------------------------|---|--|--|--------------------------------|------------|-----------------------------|
| Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models | In Development | | | Discussion with Facilities department | Implement replacement protocol | 2013 | No End Date (Continuous) |
| 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 | | | Ongoing replacement as needed | Ongoing | 2008 | 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 | Ongoing/In Progress | 90 | % paper recycled; some site using composting | Policy in place | Ongoing | 2005 | No End Date (Continuous) |
| Implement a hazardous waste reduction and disposal strategy | Completed in 2011 | | | Some issues with material like Mercury being disposed of on island | | 2006 | 2011 |
| Procurement (non-paper supplies) | | | | | | | |
| Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.) | Completed in 2011 | | | Implemented | | 2010 | 2011 |
| 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 | | | policy under consideration | Implementation | 2010 | 2013 |
| Commuting to and from home | | | | | | | |
| Introduce telework/work from home policy | Ongoing/In Progress | | | Only applicable to a very few employees in a traditional school system | None | 2008 | No End Date (Continuous) |

**School District 50 - Haida Gwaii
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 725

- 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 12:16 PM)

Total offsets required: **709**. Total offset investment: **\$17,725**. Emissions which do not require offsets: **16** **

*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.