

**DENISE PERRY**  
Superintendent / Secretary-Treasurer

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School District 10, Arrow Lakes  
Ministry of Education

Denise Perry  
Superintendent/Secretary Treasurer

Carbon Neutral Action Report  
Executive Summary:

School District No. 10 (Arrow Lakes) is a small rural dispersed district in the province with seven (7) buildings of varied ages and size that it maintains, nine (9) busses in the fleet, six (6) gas driven passenger and/or small cargo vehicles, three (3) grounds maintenance machines, and 160 computers, forty-two (42) laptops, seven (7) servers. Efforts to improve energy efficiencies and energy consumption in the buildings, bussing, small cargo and passenger vehicles and computer technology have, in part, been implemented or are planned to be implemented. Building refits with energy efficiency windows and doors, computer controlled HVAC of the buildings, a propane fueled bus, greater efficiency ballasts for lighting, are some examples of the actions the district has taken and will continue to take to gain greater efficiencies in energy consumption. The installation of Air-to-Water heat pumps at the Edgewood School and high efficiency condensing boilers at Nakusp Elementary School are examples of the commitment to increasing energy efficiency and reducing carbon emissions across the district.

Behaviors in the District are continuing to change. Evidence of this can be seen in the increased use of digital document management of paper in our Facilitated Learning Centers and central office. The implementation of virtualized desktops is contributing to lower emissions across the districts IT systems.

Overviews:

#### *Actions Taken to Reduce Green House Gas Emissions in 2011*

The district installed Air-to-Water heat pumps in the Edgewood school, significantly reducing propane consumption. A reduction in 30 desktop PC's across the administration and remote school locations by moving these desktops to a virtualized state also contributed to emission reduction objectives.

#### *Operational Changes in 2011*

Continued training to "power off after use" led to a significant cultural change which resulted in a yet unmeasured reduction in power usage.

*Global Learning In A Rural Setting*



*Plans to Continue Reducing Greenhouse Gas Emissions 2011-2013*

The district intends to continue with its desktop virtualization program. A focus on optimizing and refining existing systems, with regard to heating and lighting, will continue across all facilities.

*2011 Greenhouse Gas Emissions, Offsets Applied to become Carbon Neutral in 2011*

School District 10 purchased \$5684.00 in Carbon Offset Credits from the Pacific Carbon Trust to offset 203 tonnes of qualifying emissions during 2011. The district produced 275 tonnes of qualifying emissions, 72 tonnes of which was offset by an overpayment of 72 tonnes of qualifying emissions in the 2010 payment to the Pacific Carbon Trust.

A handwritten signature in cursive script that reads 'Denise Perry'.

Ms. Denise Perry,  
Superintendent of Schools/Secretary Treasurer  
School District 10, Arrow Lakes

# School District 10, Arrow Lakes - 2011 Carbon Neutral Action Report

## Actions Towards Carbon Neutrality

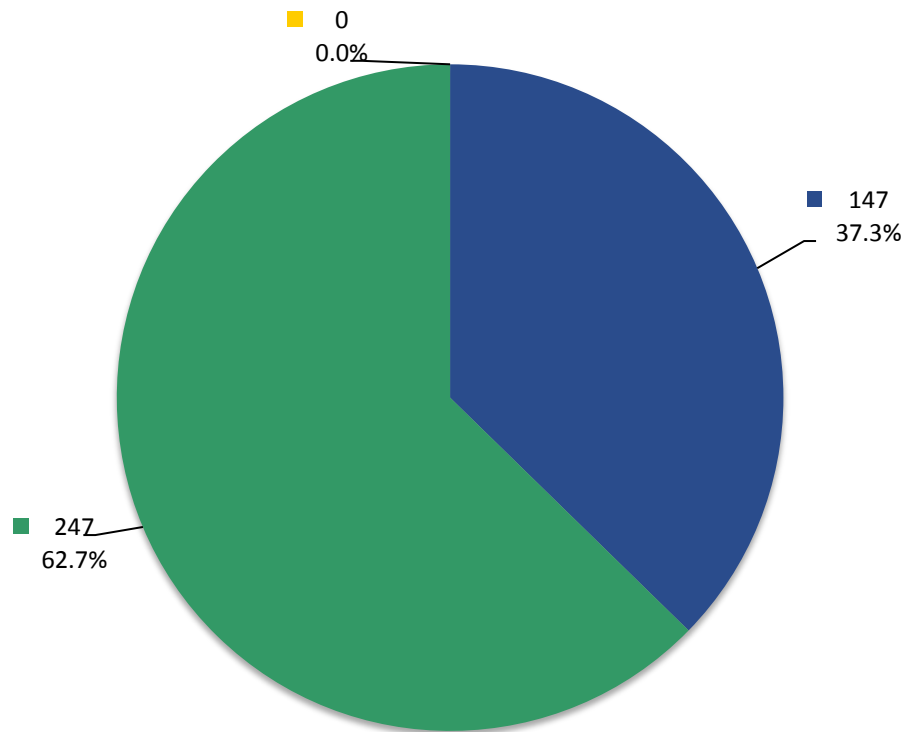
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*.

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
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>							
<b>Vehicle fuel efficiency</b>							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	24	% of vehicles are fuel- efficient models	No changes in 2011	Continue to evaluate and replace on schedule.	2009	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	0	% of vehicles down-sized since start year indicated	No changes in 2011	Continue to evaluate and replace on schedule.	2009	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	0	% of small maintenance vehicles are fuel-efficient	No changes in 2011	Continue to evaluate and replace on schedule.	2009	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
Perform energy retrofits on existing, owned buildings	Completed in 2011	42	% of owned buildings have undergone energy retrofits since start year indicated	Replaced propane boilers at EES with Air-to-Water heat pums. Replaced boiler at NES with condensing boiler. Roof upgrade at LESS.		2011	2011
<b>Retrofitting owned buildings</b>							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Completed in 2011	100	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Replaced propane boilers at EES with Air-to-Water heat pums. Replaced boiler at NES with condensing boiler.		2011	2011
Improve building insulation (including windows) during retrofits	Completed in 2011	33	% of retrofits since start year indicated had insulation improvements	LESS roofing upgrade included the installation of high desity foam insulation.		2010	2011
<b>Other Stationary Fuel Combustion, Electricity, and Fugitive Emissions Actions</b>							
Virtualization Desktop PC infrastructure.	Ongoing/In Progress			Continued to virtualise desktops to the datacenter. kWh per CPU decreasing.	Continue to virtualise desktop PC infrastructure.	2011	No End Date (Continuous)
<b>Supplies (Paper)</b>							
<b>Printer/document settings</b>							
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development				Upgrade copiers that are not capable of this function and continue to educate staff.	2007	2013
<b>Electronic media in place of paper</b>							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development				Continue to discuss options and encourage training.	2004	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed in 2011			moved to eServe timesheet entry and payroll notification.		2009	2011
<b>Behaviour change program</b>							

**School District 10, Arrow Lakes - 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
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development				Continue to discuss options and encourage training.	2004	No End Date (Continuous)

**School District 10 - Arrow Lakes (Nakusp)  
Greenhouse Gas Emissions by Source  
for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 394**

- 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 11:56 AM)**

Total offsets required: **275**. Total offset investment: **\$6,875**. Emissions which do not require offsets: **119** \*\*

\*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.