



Rocky Mountain School District No. 6 - 2009 Carbon Neutral Action Report

Executive Summary

The Rocky Mountain School District has made significant progress in reducing greenhouse gas emissions in 2009, with an overall reduction of 5% compared to the 2008 calendar year. This marks a significant turning point, since energy use and greenhouse gas emissions had been increasing year over year for a number of years prior to 2009. In response to the provincial government's carbon neutral mandate for government operations, and to tie together environmental initiatives already underway in the district, in 2008 *Environmental Stewardship* was added as one of the key focus areas to the school district's five year strategy document entitled *District Directions 2008 to 2013*. This executive level focus on environmental stewardship has been the key driver for success in reducing greenhouse gas emissions since it has led to the prioritisation of staffing resources, capital projects, and environmental education towards energy reduction and environmental stewardship.

Overviews

Actions Taken by the Rocky Mountain School District to Reduce Greenhouse Gas Emissions in 2009

With the assistance of BC Hydro, an Energy Manager was hired in 2009 to lead planning and implementation of projects to reduce energy consumption and greenhouse gas emissions. Benchmarking of energy performance for buildings, vehicles, and other energy consumption areas was completed to identify key opportunity areas for energy reduction, using a new software platform that ties the school districts capital project management, building condition assessments, and energy and greenhouse gas performance together in one package. Projects to reduce energy consumption and greenhouse gas emissions implemented in 2009 include:

Part A – 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*:

- Re-roofing of David Thompson Secondary school with a doubling of roof insulation.
- Re-commissioning of the control systems of schools and other buildings to optimise heating, cooling, ventilation supply, and exhaust operation and schedules.
- Installation of programmable thermostats on heating systems of buildings that don't have central control systems.
- Replacing door and window weather-stripping at schools and other buildings.



- Construction of a 3,000 sq ft net zero energy greenhouse at David Thompson Secondary school in partnership with community volunteers. Solar thermal & PV, rainwater collection, annualized geo-thermal, air heat exchange and high insulation values are some of the features incorporated. The Community Greenhouse is an educational facility that grows food for the schools chef program, with a focus on enhancing local food security, and reducing the carbon footprint of food production & transportation.
- Lighting upgrades in numerous buildings, including changing T12 lamps to T8 lamps, reducing lighting in over lit areas, and adding occupancy sensors.
- Installation of block heater controllers on bus and maintenance vehicle block heater electrical outlets to reduce operation based on temperature and time.
- Energy audits at the three high schools.
- Office and school practices that were modified to reduce paper consumption and mailing transportation energy including:
 - School newsletters changed from paper copies mailed to parents to electronic copies sent out by email.
 - Paperless pay slips sent by email instead of paper copies
 - Paper copies of Board policies and Occupational health and safety manuals replaced with on line versions
 - Paperless board meetings
- Anti Idling practices established for school buses and district vehicles.

Part B – 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.

- Reduction in employee travel within the district and outside the district including:
 - Use of Elluminate Live video conferencing for board meetings and meetings with Ministry of Education and other school districts.
 - Organisational restructuring in the operations department to decrease travel between the three distant school zones.
- During 2009 schools continued to promote practices such as recycling, composting, operating greenhouses, and planting trees.

Operational Changes in 2009

No major operational changes that affected Rocky Mountain School District's GHG emission profile, such as changes to owned or leased building area or changes to the number of employees requiring vehicles, occurred during 2009.



Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

Reducing energy consumption and greenhouse gas emissions will continue to be a key focus for the Rocky Mountain School District over the next three years, in alignment with its focus on environmental sustainability contained in *District Directions 2008-2013*. Projects planned for the next three to five years show the potential for the school district to save approximately \$500K per year in energy costs, while significantly reducing greenhouse gas emissions and contributing towards becoming carbon neutral. Some projects planned for the next three years include:

- Retrofitting the HVAC system at Golden Secondary School with a ground source heat pump system
- Control system upgrades throughout the district
- Boiler upgrades at a number of schools and operations buildings
- Lighting upgrades at the three high schools and installation of occupancy controls throughout the district
- Increased roofing insulation and wall insulation with cladding and roof upgrades at a number of buildings
- Re-commissioning of the largest buildings and installation of real time energy consumption software to allow continuous optimisation of energy consuming systems
- Purchase of hybrid and fuel efficient district vehicles to replace less efficient vehicles
- Student and employee behavioural change education projects