

Partners for Climate Protection

Greenhouse Gas Reduction Initiative of the Month

North Vancouver's core building lighting retrofits



Municipal Profile

Population: 45,165

PCP Member since 1997

In 2005, the City of North Vancouver became the first municipality in Metro Vancouver and the second municipality in British Columbia to adopt a local action plan that includes both corporate and community initiatives. In 2008, it developed a 100-year sustainability vision, in partnership with the University of British Columbia's Centre for Sustainability, which aims to achieve net zero community emissions by the city's 200th anniversary in 2107 and reduce total community greenhouse gas (GHG) emissions by 80% from 2007 levels by 2050.

Background

The city contracted Prism Engineering of Burnaby, B.C. to conduct energy audits of four of its municipal facilities and make recommendations on how to cut energy use. The audits revealed many energy-saving opportunities and the city decided to begin with a lighting retrofit for some of its core services buildings.

Implementation and Approach

Once the energy audits were finalized, the city's facilities staff took the findings to council along with a list of proposed projects, one of which was to retrofit the lighting at four of its buildings: the Gerry Brewer RCMP building, fire hall, works yard, and Civic Centre. The budget for the project was approved and Enerlight, a qualified lighting company, undertook the retrofits in 2007 and 2008.



Almost 4,000 lights (3,851) were replaced over a six-month period, primarily from T12 fixtures to more energy-efficient T8 and T5 fixtures at a cost of approximately \$186,000. BC Hydro's PowerSmart program helped to offset the cost with financial assistance of \$35,000.

"The audits recommended other lighting improvements such as installing occupancy sensors and expanding the city's building automation systems, and we're moving ahead with them," says Glenn Stainton, facilities manager.

The Gerry Brewer RCMP building. Photo courtesy of North Vancouver.

Results

The city will save close to \$14,000 each year in energy costs and reduce GHG emissions by about five tonnes annually. Although there were few challenges involved in the actual lighting retrofit, some light level adjustments had to be made for the RCMP building.

Lessons Learned

The only major challenge that the city faced was retrofitting the lights at the RCMP building. “We couldn’t just turn the contractor loose in the building,” says Mr. Stainton. “We had to have a commissionaire with them at all times, which added to the project cost.”

He also says that advanced consultation with the user groups would have streamlined the work. “We did this project as a one-off, rather than as a comprehensive energy management initiative, so if I had it all to do over again, I would have involved the groups at the buildings so that they knew what to expect.”

Future Direction

The City of North Vancouver is moving ahead on several sustainability projects, not the least of which is an expansion of its existing natural gas district heating system, which currently serves more than 1,700 residential and commercial customers from five mini-plants. A sixth mini-plant, which will incorporate renewable energy sources, is now in the design stage. The city also installed 120 solar collectors on the roof of its library; the collectors tie into the district heating system to provide supplemental heating.

District energy mini-plants, housed in selected buildings, can be added as the system grows. Photo courtesy of Lonsdale Energy Corporation.



Further Information

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The Partners for Climate Protection (PCP) program is a network of Canadian municipal governments that have committed to reducing greenhouse gases and acting on climate change. PCP is the Canadian component of ICLEI's Cities for Climate Protection (CCP) network, which involves more than 900 communities worldwide. PCP is a partnership between the Federation of Canadian Municipalities (FCM) and ICLEI – Local Governments for Sustainability. PCP receives financial support from FCM's Green Municipal Fund.