

Partners for Climate Protection

Greenhouse Gas Reduction Initiative of the Month

Port Alberni arenas lighting retrofit



Municipal Profile

Population: 17,743

PCP Member since: 1994

Background

In 2008, the City of Port Alberni, British Columbia, adopted a climate change strategy that recommended a series of practical actions that the city and the community could take to reduce the negative impacts of climate change. The city also partnered with the International Centre for Sustainable Cities (ICSC) to conduct a community sustainability assessment.

This stand-alone project involved replacing the lighting at two of Port Alberni's ice rinks. Although not part of a specific recommendation of the climate change strategy, the project supports the city's plan to adopt high-impact measures to reduce GHG emissions and energy costs.

Implementation and Approach

In 2008, the city was gearing up to host the 2009 World Under-17 Hockey Challenge and needed to upgrade the lighting at the Alberni Valley Multiplex Weyerhaeuser Arena. As part of that initiative, the city decided to upgrade the lighting at its smaller Coulson ice rink (*pictured at right*) at the same time.

"We wanted to upgrade the two arenas both for cost savings and to be more efficient," says Ron Doetzel, the city's manager of recreation services. Forty-five 400W metal halide lights were replaced with Miser 200W high-bay aluminum reflector magnetic induction fixtures.

"We researched a number of companies and once we made the decision to go with Miser, it took less than a week to replace the lighting," says Mr. Doetzel. The project was completed in December 2008 with a total budget of \$26,000 (\$21,000 for the new equipment, \$5,000 for labour).



Photo courtesy of the City of Port Alberni

Results

Electricity savings are estimated at 68,539 kWh, an annual cost savings of about \$4,000. The carbon dioxide footprint of the facility will drop by 21 metric tonnes over the next 10 years.

The new lamps have a much longer lifespan than the metal halides. “We had been replacing some of the old lights every two years or so,” says Mr. Doetzel. At current use patterns, the new lighting fixtures are estimated to last as long as 16–17 years. As a result, over the lifetime of the electrode-less magnetic induction lamps, almost 29 times less mercury will be released into the environment compared with the lamps previously used.

“There is also a subtle improvement in the quality of light,” says Mr. Doetzel. “The mercury halides were a yellow light, while the new ones provide a more blue-white light.”

Lessons Learned

Mr. Doetzel says that the project was very straightforward and that no obstacles were encountered. He did say, however, that the type of lighting the city chose is not often used in arenas. “Metal halides are the industry standard and many municipalities aren’t prepared to jump in with these new types of lights because they are radically different from what’s usually used.”

He advises other municipalities that may be considering arena lighting upgrades to do their homework. “If you’re looking at greener initiatives for energy and cost savings, then this is an option that is working for us,” he says. “You have to do your research and make sure that the product actually delivers on the specifications.”

Future Direction

On the strength of the lighting retrofits at the Weyerhaeuser arena and the Coulson rink, Port Alberni is now considering using the Miser lighting option at its aquatic centre.

As a result of its partnership with the ICSC, Port Alberni has also entered into a memorandum of understanding with the ICSC’s Cities Plus Network that commits the city to pursue a path of sustainability.

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.