

## Partners for Climate Protection

### Greenhouse Gas Reduction Initiative of the Month

#### City of Regina's Building Retrofits



#### Municipal Profile

Population: 192,800

PCP Member since 1994

The City of Regina aims to reduce GHG emissions from its municipal operations by 15 per cent below 1990 levels by 2012. The city's Green Ribbon Community Climate Change Advisory Committee, made up of local stakeholders, created an action plan in 2004 to meet these targets. The city has already cut greenhouse gas (GHG) emissions by five per cent through a series of operational improvements.

#### Background

Over the course of two years, Regina implemented energy-efficiency retrofits of several municipal facilities under an energy services company (ESCO) contract. The upgraded sites include City Hall, the Transit Operations and Garage building and three recreational facilities.

#### Implementation and Approach

In 2002, the City of Regina entered into an ESCO contract with Honeywell, a technology leader and manufacturer of control technologies for buildings, to conduct energy audits of its municipal facilities. Honeywell conducted heating, ventilation, air conditioning (HVAC), electricity and other equipment evaluations of several facilities. The city then chose buildings with the greatest energy use for retrofits. Regina also partnered with SaskPower, the provincial electricity utility, to provide support for the project.

Under the ESCO contract, Honeywell performed all the upgrades on behalf of the city between 2002 and 2004.

At City Hall, for example, upgrades included replacing and redesigning lighting, installing weatherproofing and insulation to improve the building envelope, installing building automation control equipment to optimize electricity demand, and installing a variable speed drive to the domestic water booster pump to eliminate excess drainage and improve electricity consumption and demand.

Similar upgrades were made to the city's Transit Operations and Garage building, as well as three of the city's recreation centres.



*Regina City Hall.  
Photo courtesy of City of Regina.*

## Results

The city invested approximately \$2.4 million in the building upgrades. Savings were higher than originally anticipated, for a combined payback of about 10.5 years. Between 2002 and 2008 electricity use at City Hall, for example, was reduced by about 23 per cent, while natural gas use dropped by almost 42 per cent. Overall, the upgrades reduced GHG emissions by almost 2,500 tonnes.

Jamie Hanson, the city's Facilities Development and Maintenance Manager, says that the newer equipment installed in many of the facilities has also improved the city's ability to manage energy use. "With the use of the new Honeywell building control systems we can see instantly how our buildings are operating," he says. "We can also operate the equipment remotely, which saves us time and money on maintenance work."

## Lessons Learned

Hanson says that having third-party building evaluations to ensure that the correct upgrades will be performed is critical and that municipalities that are considering using an ESCO should negotiate a service agreement before any work is performed. A service agreement would allow for priority responses to system issues.

Another critical component is training, including refresher courses for employees operating and maintaining the facilities, Hanson says. "Training maintenance, operations and information technology staff on the new control systems is important because they have the ability to make adjustments that affect the buildings' performance, so their involvement is critical to ensure the energy savings goals are achieved."

## Future Direction

Although Regina currently has no official energy policy for buildings, Hanson says the city plans to build new facilities to LEED guidelines and regularly incorporates energy-efficiency measures as part of its ongoing maintenance work. Funding has been requested to conduct an energy consumption and GHG emission study for a wider range of city facilities and plants, which will help city officials decide where to invest future energy-efficiency dollars.

Regina's Green Ribbon Energy Efficiency Showcase Series highlights local commercial energy retrofit projects and is currently focused on energy issues in commercial buildings, including owner and tenant awareness.

## 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.