Climate & Energy Action Award Applications 2015

Corporate Operations

Comox Valley Regional District

In February 2011, the CVRD board approved a corporate energy plan with the objective of a 10% reduction in corporate GHG emissions below 2009 levels by 2015. The CVRD has completed an annual inventory of corporate energy use (& resulting emissions) since 2011, and has achieved carbon neutrality in each year since 2012 by reducing energy use and purchasing verified carbon offsets for remaining corporate emissions. 2014 corporate emissions were 23% below the 2009 baseline.

Township of Esquimalt

As part of its commitment to become a leader in sustainability and protecting the environment, the Township of Esquimalt has completed retrofitting projects that has reduced the energy costs of its two high profile Recreation facilities: the Archie Browning Sports Centre and the Esquimalt Recreation Centre. Facility upgrade opportunities arose in each complex as the 50 year old sports centre required refurbishing and a major mechanical retrofit was required for the recreation centre's heating, pool filtration, lighting, and ventilation systems. The addition of heat recovery in both buildings as well as an ambient solar system at the recreation centre added to a significant increase in overall energy reduction. Through this project the Township is proud to demonstrate the principles of sustainable design for both public and private developments through the use of green building technologies.

City of Prince George

The Prince George RCMP Facility is a newly constructed LEED building which opened in May, 2014.

The building is designed to use 64% less energy than a similar building built to the Canadian Building Code. To reduce heating and cooling demand all the envelope components were upgrade from code minimum values. Heat for the building is supplied by Prince George District Energy, a hot water system using bio waste as the fuel source. The renewable energy components of the mechanical systems include solar air preheat, solar domestic hot water, and acquifer (geoexchange) cooling. Building control systems ensure all components of the mechanical system are performing together as efficiently as possible. Heat recovery is utilized to pre heat makeup air. Electrical lighting use is minimized by using occupancy and daylight controls, and further power reductions by the use of variable frequency drives on pumps and fans.

The facility is constructed in the downtown core and will aid in the downtown revitalization of our city.

Town of Qualicum Beach

The Town of Qualicum Beach is in the process of completing their new fire hall, which will be ready for occupancy in July 2015. The custom tailored facility for emergency response showcases the leading edge energy efficiency and building technology. In 2013 the project team set out with an ambitious goal of achieving 75% greater energy efficiency than the 2010 MNECB base building. Currently the project stands at achieving 72.1% improved energy efficiency. To accomplish this, the Town focused the design team on energy efficiency as the primary green building strategy for this project.

By combining a high performance building envelope system that incorporates the use of Cross Laminate Timber Panels as the wood based roof structure with a water to water heat-exchange system sourced from the adjacent Berwick Well field, the proposed fire hall will dramatically decrease energy usage.

Included in the overall design is the integration of solar thermal panels to preheat domestic water, in floor radiant heating throughout the building, solar photovoltaic panels which provide 27kw of power, LED lighting and a Heat Recovery Ventilation system to increase the building's overall performance without compromising operational functionality. The design also included the goal of exceeding LEED requirements for water conservation and the inclusion of “onsite timber” in the interior design. Consideration throughout the design process has been given to ensure that effective operation of the building be a key component in its design.

Qualicum Beach's new fire hall stands as a testament to the local community and the rest of Canada as to what leadership in environmental building practices can achieve with a modest budget and an integrated team effort. As a result, Qualicum Beach's new fire hall is considered to be the most energy-efficient fire hall in Canada.

City of Richmond

The City of Richmond, B.C. is committed to reducing its corporate greenhouse gas emissions (GHG) and to incorporating waste heat recovery technologies into its corporate energy system where possible. Both of these corporate priorities have been achieved through the comprehensive renewal and upgrade of crucial equipment at the Richmond Ice Centre.

With over 500,000 users and visitors each year, the Ice Centre is an essential recreational facility for the community. The facility supports minor and adult hockey programs, skating and figure skating clubs, as well as playing host to more than 15 tournaments each year. The Ice Centre has six sheets of ice, with four used all year round, and was constructed in 1994.

To ensure that the Ice Centre remains an active place for users for years to come, the facility underwent a major equipment replacement and upgrade project in 2014. Paramount to the project was improvement in the energy efficiency of the building and reduction in GHG emissions.

In the first six months since the project was completed and systems were optimized, the facility has reduced electricity use by over 20% (340,000 kWh), and natural gas use by over 25% (460,000 kWh). These reductions have reduced the facility's GHG emissions by 26% (100 tonnes). Given the significant use and size of this facility, these reductions are projected to reduce overall corporate energy use by 2.5% and will contribute greatly to a key City goal of continued GHG emissions reduction and energy efficiency improvement in existing buildings.

Community Planning & Development

Municipality of North Cowichan

The Municipality of North Cowichan in partnership with the City of Duncan has completed the University Village Sustainable Local Area Plan (UVLAP). This comprehensive land use planning and urban design document provides a detailed policy framework and implementation strategy for North Cowichan's largest growth centre. The plan area is adjacent to Duncan's downtown core, bisected by the Trans-Canada Highway, contains numerous regionally significant institutions and facilities, and is bounded to the north by the Somenos Marsh, a wildlife conservation area.

The main elements addressed in the UVLAP:

- A vision for the area to guide its development and improvement
- Translation of strategic policies from the OCP and Climate Action Energy Plan to the local area level
- Establishment of a design and land use framework to achieve a vision and proposed urban structure
- Identification of key pedestrian and bike linkages through the Plan area
- Creation of a linked system of high quality public spaces, enabling a greater supply of community parks
- Provision of a clear design approach for new development, which will guide decision makers including Council and Municipal administration on Rezoning and Development Permit applications
- Provision of a basis on which development proposals will be evaluated

The UVLAP is future oriented with a 30 year vision. It was developed with significant public input over a two year period that included a stakeholder advisory group, open houses, meetings with business owners, sounding boards distributed around the plan area asking for input, dedicated website using the PlaceSpeak platform, newsletters directly mailed to all residents and business owners, and meetings/presentations with Cowichan Tribes.