

DATE: December 18, 2014

TO: Chair and Directors
Committee of the Whole

FROM: Debra Oakman, CMA
Chief Administrative Officer

RE: Corporate energy plan update

FILE: 0970-08

Purpose

The purpose of this report is to provide an update on actions the Comox Valley Regional District (CVRD) is taking to reduce energy use and become carbon neutral in its operations, and to recommend allocation of remaining 2013 carbon offset funds to energy conservation measures at the Comox Valley Sports Centre.

Policy analysis

In 2006, the CVRD became a member of the Federation of Canadian Municipalities (FCM) partners for climate protection (PCP) program and in 2007 became a signatory to the British Columbia Climate Action Charter. The charter includes commitments for signatories to be carbon neutral by 2012.

To guide the CVRD with actions it could take to reduce corporate greenhouse gas (GHG) emissions and work towards carbon neutrality, the CVRD corporate energy plan was adopted by the board in February 2011 by the following resolutions:

THAT the Comox Valley Regional District conduct its operations with the objective to achieve energy efficiency, fiscal responsibility, and continually reduced greenhouse gas emissions;

AND FURTHER THAT the Comox Valley Regional District corporate energy plan dated February 4, 2011 be received and approved;

AND FURTHER THAT the Comox Valley Regional District strive to achieve a ten percent reduction in its greenhouse gas emissions below 2009 levels by the end of 2015;

AND FINALLY THAT staff be directed to address the recommendations from the Comox Valley Regional District corporate energy plan in the 2012-2017 financial plan process within appropriate functions.

As a signatory to the Climate Action Charter, the CVRD has purchased carbon offsets in order to achieve carbon neutrality for 2012 and 2013. In May 2014 the following resolutions were passed:

THAT the CVRD purchase 2109 tonnes of carbon offsets from the Someshwara Small Hydropower Project for a total cost of approximately \$4,218 to meet the province's carbon neutrality deadline of June 2, 2014;

AND FURTHER THAT the remaining funds, in the amount of approximately \$48,507, be set aside for a corporate retrofit at the CVRD's sports and/or aquatic centre and other potential climate related projects within the community;

AND FINALLY THAT staff prepare a report on the allocation of approximately \$48,507 to local projects.

At the October 21, 2014 board meeting, the following motion was carried:

THAT \$20,000 from the 2013 Comox Valley Regional District carbon offset funds be set aside for greenhouse gas reduction assessments for Comox Valley community carbon marketplace projects.

Executive summary

Through a combination of improvements to operations and purchasing offsets, the CVRD has been carbon-neutral in its operations since 2012. This report summarizes accomplishments towards reducing corporate emissions through the actions identified in the 2011 corporate energy plan, and presents options for further advancing corporate emissions reductions. Table 1 below summarizes CVRD corporate emissions and the utilization of carbon offset funds.

Table 1 – Summary of CVRD corporate GHG emissions

Year	GHGs (tonnes)	Comments
2009	2,442	Emissions baseline as established by 2011 corporate energy plan.
2011	2,196	Emissions inventory completed to establish procedure for carbon neutral reporting in 2012.
2012	2,154	First carbon neutral year. Verified offsets purchased, remaining funds used for local projects, including Project Watershed blue carbon initiative, community carbon marketplace & energy retrofits at the Comox Valley sports centre.
2013	2,109	Verified carbon offsets purchased, a portion of remaining funds committed to community carbon marketplace projects.

This report also introduces the proposed approach for achieving carbon-neutral status for 2014 operations.

Recommendation from the chief administrative officer:

THAT remaining 2013 carbon offset funds, in the amount of \$27,242 be committed to energy conservation measures at the Comox Valley Sports Centre.

Respectfully:

D. Oakman

Debra Oakman, CMA
Chief Administrative Officer

History/background factors

To guide the CVRD with actions it could take to reduce its energy use and work towards carbon neutrality, the CVRD board approved the corporate energy plan ([link](#)) in February 2011, which established a 2009 corporate baseline of 2,442 tonnes GHG emissions and included an eight-part action plan to achieve targeted corporate GHG emission reductions, as shown in table 1 below.

Actions

1. Conduct recommissioning assessments of large recreational facilities
2. Require an evaluation of energy efficiency for all new facilities, major capital projects, and existing facilities

3. Require an evaluation of alternative energy sources for new construction, major renovations, and existing facilities
 4. Initiate fleet management activities
 5. Investigate opportunities to generate offset credits from landfill
 6. Investigate opportunities for energy conservation and alternative energy generation from infrastructure systems
 7. Develop an energy efficiency purchasing policy
 8. Encourage and recognize energy efficient efforts in the workplace
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A summary of the current status of each action is included below:

1. BC Hydro and FortisBC assessments of the Comox Valley sports and aquatic centres have been conducted. Many of the recommendations from these assessments are being implemented, including updates to mechanical systems and lighting controls that optimize facility lighting. These assessments estimated available energy savings in excess of 500,000 kWh per year once the recommendations are fully implemented. One yet to be implemented energy conservation measure at the sports centre is further discussed below.
2. Energy efficiency and alternative energy evaluations have been focussed on key CVRD facilities. In addition to the recreation facilities, an energy audit was conducted at the Comox Valley water pollution control centre, and evaluations have been included during the design of the updated curling rink and the Hornby Island fire hall. The CVRD has also installed solar photovoltaic demonstration projects at four facilities ([link](#)); these installations have helped confirm the viability of solar energy in the Comox Valley.
3. Included in #2 above.
4. Most of the recommendations in this section of the action plan have been adopted. The CVRD's fleet management policy (board approved policy 1280-00) was amended in 2012 to include sections to address right-sizing, life-cycle costing, vehicle maintenance, trip/route planning and idling reduction. These changes to the fleet management policy also assisted the CVRD when updating its fleet by adding a Nissan Leaf electric car and an electric bicycle for short urban trips. In 2014, the CVRD offered the "SmartDriver in the City" training program to educate staff on fuel efficient driving techniques.
5. Included as part of the planned closure of the existing footprint of the Comox Valley waste management centre (CVWMC) is an assessment of opportunities to generate offset credits. A report to the Comox Strathcona waste management board in June 2014 provides the most recent update on this action ([link](#)). As landfill gas (LFG) collection & destruction is a legislated requirement per the *landfill gas management regulation*, carbon offset credits would only be generated from beneficial utilization of the gas.
6. In 2012 the CVRD retained Farallon Consultants Limited to conduct an integrated resource recovery study which involved a systematic examination of CVRD infrastructure systems and the benefits of recovering resources from solid waste (e.g. food waste, wood residues) and liquid waste (e.g. municipal wastewater) as well as waste heat and other waste materials. Many of the recommendations in this study are being incorporated into the project scope for the regional south sewer project, and this study is also being included in an organics management options assessment being conducted by Comox Strathcona waste management.
7. The CVRD's purchasing policy is guided by the following principle – "The purchasing management services policy is guided by the principle of probity, which means that all activities are undertaken in a visibly fair, ethical, environmentally sustainable, and prudent manner." As an example of the environmentally sustainable component, contracts with certain suppliers require reporting of fuel usage while delivering contracted services to the CVRD.
8. Many efforts to reduce energy use in the workplace are in place at the CVRD, including lights out signage, motion-sensing light switches, staff participation in bike to work week and

installation of a secure year-round lockup for bicycles, an office recycling program, and the installation of low-flow toilets at the corporate office.

In 2013 the CVRD's corporate GHG emissions were 2109 tonnes, a reduction of almost 14 per cent below the 2009 baseline of 2442 tonnes, meaning the target of a 10 per cent reduction by 2015 has been achieved. That said, it is still the CVRD's objective to continually reduce corporate GHG emissions, and this target will be re-evaluated at the end of 2015. The CVRD has achieved the first three partners for climate protection milestones (GHG inventory/forecast, target setting, action plan) and staff are initiating an application to FCM to recognize completion of the last two milestones (implementation and monitoring).

To achieve carbon neutral status in 2012 & 2013, the CVRD purchased verified offsets from the Someshwara small hydropower project in Karnataka, India at a cost of approximately \$2/tonne. Remaining 2012 funds have been used to fund local GHG reduction projects, including corporate energy retrofits, Project Watershed's Blue Carbon initiative, and establishing the Comox Valley community carbon marketplace (CCM). A portion of the remaining 2013 funds are being used to further develop the CCM, and this report recommends allocating the remaining funds to an energy conservation project at the Comox Valley Sports Centre.

This energy conservation project, currently in the planning phase, would reclaim energy from the sports centre arena ice plant and convert it to pool and space heating. Similar energy conservation projects have been undertaken in many recreation complexes in Canada. This project carries an estimated cost approaching \$290,000, however, implementation of this project could result in energy cost savings of about \$35,000 per year and GHG emission reductions of almost 90 tonnes CO₂e. Recreation staff are currently working with a consultant to refine the project scope and to verify project costs and benefits.

The carbon neutral workplan for 2014 will include purchasing any offsets available from the community carbon marketplace, with remaining offsets required to be purchased from the international carbon market. Staff will bring a report detailing the steps to achieve carbon neutral status for 2014 operations to the board in the spring of 2015.

Options

1. Commit remaining 2013 carbon offset funds, totalling \$27,242, to an energy conservation project at the Comox Valley Sports Centre to convert waste heat from the arena ice plant into pool or space heating.
2. Direct staff to research other options for the use of remaining 2013 carbon offset funds.

Staff recommend proceeding with option 1.

Financial factors

Beginning in 2012, the CVRD included in its financial planning process budget line items to meet its carbon neutral objectives, such that carbon emissions not reduced through the corporate energy plan are offset through the purchase of verified carbon offsets. A cost of \$25/tonne CO₂e of estimated emissions is included in budgets for CVRD functions, based on the current BC carbon tax rate of \$30 tonne CO₂e as well as the estimated cost of purchasing BC offsets from the BC Climate Investment Branch.

In 2013, CVRD staff were able to purchase verified offsets to reach carbon neutrality for 2012 operations at an approximate cost of \$2/tonne on the international market, and for 2013 operations purchased offsets from the same project, at the same price. The remaining budgeted carbon offset

funds have been used in local projects, such as corporate energy retrofits and the community carbon marketplace.

For 2014 emissions, CVRD staff intend to purchase available offsets from the community carbon marketplace, with remaining offsets required purchased from the open market. Staff will bring a report with details of the 2014 carbon offset purchase to the board for approval.

Legal factors

The British Columbia climate action charter is not legally binding, but in being a signatory, the CVRD has the ability to access the climate action revenue incentive program (CARIP). CARIP is a conditional grant that provides funding to signatories equivalent to one hundred per cent of the carbon taxes they pay directly. For 2013 operations, the CVRD's CARIP grant was approximately \$50,000.

Sustainability implications

The Comox Valley sustainability strategy (CVSS) and the Comox Valley regional growth strategy (RGS) both reflect a long-term target of 80 per cent reduction of GHG emissions from 2007 levels by 2050, with a mid-term target of 50 per cent reduction by 2030.

Intergovernmental factors

All three member municipalities in the Comox Valley have signed the British Columbia climate action charter to become a carbon neutral local government.

Interdepartmental involvement

All CVRD functions are responsible for working toward reduced GHG emissions and carbon neutrality. Staff from the community services branch lead the energy inventory with assistance from financial services.

Citizen/public relations

The public is increasingly concerned about climate change and it is important that the CVRD show leadership and seek opportunities to reduce energy usage and related costs. As part of the CARIP requirements a public report on the CVRD climate action is prepared annually.

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