



BOARD REPORT

TO: Chair and Directors

File No: 5360 01

SUBJECT: Carbon Neutral Local Government

DESCRIPTION: Report from Ben Van Nostrand, Team Leader, Environmental Health Services dated June 4, 2018. Corporate carbon neutrality update.

RECOMMENDATION #1: For Information Only

SHORT SUMMARY:

As a signatory to the British Columbia Climate Action Charter, the CSRD committed to becoming carbon neutral by 2012, measuring and reporting on GHG emissions and creating complete, compact, more energy efficient rural and urban communities. The purpose of this Board Report is to provide the Chair and Directors an overview of the CSRD's actions related to meeting these commitments.

VOTING:	Unweighted Corporate	<input checked="" type="checkbox"/>	LGA Part 14 (Unweighted)	<input type="checkbox"/>	Weighted Corporate	<input type="checkbox"/>	Stakeholder (Weighted)	<input type="checkbox"/>
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BACKGROUND:

The British Columbia Climate Action Charter was introduced in 2007 and to date, 174 local governments are signed to the Charter, committing to taking responsibility for the carbon pollution or greenhouse gas (GHG) emissions generated through local government operations. The two key elements of the Charter are:

- reporting on emissions; and
- taking actions to reduce or become carbon neutral.

Reporting

The Province of BC introduced the Climate Action Revenue Incentive Program (CARIP) grant to support local governments who are signatories to the Charter. In order to be eligible to receive the CARIP grant local governments are required to submit a Carbon Tax Calculation Form and a CARIP Climate Action/Carbon Neutral Progress Survey by June 1 in each year. This information must also be reported to the public.

Using the provincial government's SmartTool software, (a software tool developed by the province to assist local government in inventorying and quantifying carbon emissions), CSRD staff has calculated the 2017 overall emissions for CSRD operations at 543 tCO_{2e} (measured as tonnes of carbon dioxide equivalent (tCO_{2e})). This information, along with programs and activities related to reducing carbon emissions, are used to complete the Progress Survey report which is appended to this report and posted to the CSRD's webpage.

Based on CARIP reporting guidelines, local governments must state their climate action recognition level that best applies, based on the following criteria:

- Level 1 – Demonstrating Progress on Charter Commitments
- Level 2 – Measuring GHG Emissions
- Level 3 – Accelerating Progress on Charter Commitments

Level 4 - Achievement of Carbon Neutrality

Since the inception of the CARIP reporting program, the CSRD has achieved Level 4 status and has been recognized by the provincial government for its leadership demonstrated in maintaining Level 4 status.

Carbon Neutral

In order to maintain the Level 4 status of being a carbon neutral local government, the CSRD has implemented strategies to offset its corporate emissions, including; quantifying GHG reductions from a methane reducing bio filter constructed at the closed Skimikin Landfill site and a bio methane gas (biogas) plant constructed at the Salmon Arm Landfill.

The Salmon Arm Landfill biogas plant was constructed in 2010 in conjunction with the closure of Phase 1 of the landfill. The biogas plant collects methane generated in the landfill and converts it at a 1:1 ratio to carbon dioxide. As methane is a 23 times more potent of a greenhouse gas than carbon dioxide, for each tonne of methane converted to carbon dioxide, 23 equivalent tonnes of carbon dioxide are removed from the environment, generating 23 carbon credits. The CSRD collects and sells these carbon credits generated from the destruction of methane, either through flaring at the landfill or through the sale of gas to Fortis BC (flaring in furnaces). In 2017 the CSRD negotiated an agreement with the BC Climate Action Secretariat to retain carbon credits created by the Salmon Arm Landfill biogas plant to offset its corporate emissions.

The following table provides an overview of the cost benefits of the gas plant to date:

Contract Vintage	tCO ₂ e	Contract value \$/tCO ₂ e	Revenue for sale of tCO ₂ e	Revenue from Fortis BC for sale of Gas (approx.)	Gross	Verification Costs (Approx.)	Maintenance and Upkeep Costs (Approx.)	Net
2011	6,907	\$ 15.00	\$ 103,605.00	\$ -	\$ 103,605.00	\$15,000	\$10,000	\$ 78,605.00
2012	8,226	\$ 15.00	\$ 123,390.00	\$ -	\$ 123,390.00	\$15,000	\$10,000	\$ 98,390.00
2013	7,446	\$ 15.00	\$ 111,690.00	\$ 4,391.63	\$ 116,081.63	\$15,000	\$10,000	\$ 91,081.63
2014	7,206	\$ 15.00	\$ 108,090.00	\$ 7,876.68	\$ 115,966.68	\$15,000	\$10,000	\$ 90,966.68
2015	6,643	\$ 13.00	\$ 86,359.00	\$ 14,867.85	\$ 101,226.85	\$15,000	\$10,000	\$ 76,226.85
2016	7,627	\$ 13.00	\$ 99,151.00	\$ 17,554.21	\$ 116,705.21	\$15,000	\$10,000	\$ 91,705.21
2017	7,291	\$ 13.00	\$ 94,783.00	\$ 20,914.20	\$ 115,697.20	\$15,000	\$10,000	\$ 90,697.20
	51,346		\$ 727,068.00	\$ 65,604.57	\$ 792,672.57	\$105,000	\$70,000	\$ 617,672.57

According to project estimates, the cost to install the gas collection system (over and above regulated landfill closure costs), at the time of closing Phase 1 of the Salmon Arm Landfill in 2010, was estimated at approximately \$500,000. To date, the return on the investment has covered the capital construction costs and revenues are now being used for a variety of solid waste management planning initiatives.

POLICY:

Under the BC Ministry of Environment's Landfill Gas Regulation, the CSRD is required to conduct landfill gas generation assessment reporting every five years. Landfill gas management facilities (gas collection and treatment) are mandated to be installed no later than four years after the date the landfill is estimated to generate over 1,000 tonnes of methane gas. The CSRD's most recent landfill gas generation assessment report, prepared in 2017, showed that Salmon Arm Landfill produced 738 tonnes of methane in 2016.

Once the Salmon Arm Landfill becomes regulated to install gas collection treatment works, generation of carbon credits will not be available as a stipulation to generating carbon credits is that projects are done so voluntarily outside of any mandated regulation.

The ability to collect carbon credits ends when the landfill becomes regulated to install treatment works. It is important to note that current projections indicate that the Salmon Arm Landfill will become regulated in 2040. However, CSRD studies indicate that programs developed to reduce the incoming organic waste stream into the landfill (materials that generate methane when buried) such as food waste diversion and landfill bans could increase the period of voluntary GHG reduction by more than 20 years (regulated in 2060).

FINANCIAL:

The cost for the CSRD to achieve Level 4 – Carbon Neutral status in 2017 is the cost associated with offsetting the 2017 corporate GHG emissions calculated at 543 tCO_{2e}. Under the existing agreement with the BC Climate Action Secretariat, the CSRD receives \$13/ tCO_{2e} which is equivalent to \$7,059. All functions within the CSRD that create GHG's pay a proportionate amount of the annual total.

Assuming existing rates are projected to the estimated regulation date of the Salmon Arm Landfill at 2040, the CSRD would receive a total of \$1,380,000 in net revenue (between 2010 and 2040). Food waste diversion programs could increase the regulation date to 2060 and could generate an additional \$1,800,000 in net revenues (between 2041 and 2060).

KEY ISSUES/CONCEPTS:

The CSRD has achieved Level 4 – Carbon Neutral status in 2017 and continues to demonstrate leadership when it comes to local government carbon neutrality.

LIST NAME OF REPORT(S) / DOCUMENT(S) AVAILABLE FROM STAFF:

Report Approval Details

Document Title:	June_Carbon Neutrality.docx
Attachments:	- 2017_CARIP_Survey_Template.pdf
Final Approval Date:	Jun 12, 2018

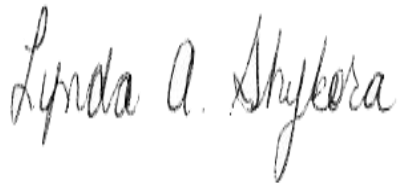
This report and all of its attachments were approved and signed as outlined below:

No Signature - Task assigned to Darcy Mooney was completed by assistant Phaedra Turner

Darcy Mooney - Jun 8, 2018 - 1:27 PM

No Signature - Task assigned to Jodi Pierce was completed by assistant Sheena Haines

Jodi Pierce - Jun 8, 2018 - 4:04 PM



Lynda Shykora - Jun 11, 2018 - 9:06 AM

No Signature - Task assigned to Charles Hamilton was completed by assistant Lynda Shykora

Charles Hamilton - Jun 12, 2018 - 10:39 AM