

DATE: November 7, 2019

FILE: 5360-50

TO: Chair and Directors
Comox Strathcona Waste Management Board

FROM: Russell Dyson
Chief Administrative Officer

Supported by Russell Dyson
Chief Administrative Officer

R. Dyson

RE: Campbell River Waste Management Centre – Carbon Credit Purchase Options

Purpose

To provide information regarding the purchase of carbon offsets related to emissions from the Campbell River Waste Management Centre (CRWMC).

Recommendation from the Chief Administrative Officer:

THAT the Comox Strathcona Waste Management Board proceed with a competitive best value procurement process to support the purchase of \$160,000 of carbon offsets incorporating quality, price, environmental and social value.

Executive Summary

At the September 12, 2019 Comox Strathcona Waste Management (CSWM) Board (Board) meeting the CRWMC – Landfill Gas (LFG) Management Regulation (the Regulation) Warning Letter report was provided. The staff report included a recommendation related to purchasing carbon credits to mitigate greenhouse gas (GHG) emissions from the CRWMC until the LFG collection and flare is installed in 2023. The Board requested more information and options for the consideration of carbon offset purchases.

- At the Union of BC Municipalities (UBCM) convention staff and elected officials met with Minister Heyman, regarding the warning letter, the current status of the CRWMC, as well as the timeline for closure and the financial commitment in place to close when at capacity. During the meeting the purchase of carbon credits as a possible mitigating action to address the non-compliance at the CRWMC was suggested by Ministry of Environment and Climate Change Strategy (MoE) staff.
- Based on the above meeting and on discussions with MoE staff, CSWM staff recommend that carbon offsets be purchased to offset the environmental impact of closing the CRWMC landfill in 2023 as opposed to completing the closure immediately.
- The value of the proposed offsets exceeds the threshold for a direct award under the Comox Valley Regional District (CVRD) Procurement Policy, therefore a competitive process is necessary. Incorporation of social and environmental value within the competitive process will ensure consideration of community social and environmental benefits within the evaluation.
- A representative from the Community Carbon Marketplace will address the Board at the November 14, 2019 meeting and take additional questions related to the local options available to purchase carbon credits.

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Background/Current Situation

Further background information regarding LFG collection at the CRWMC and the subsequent warning letter from the MoE can be found in the report provided to the Board at the September 12, 2019 meeting – Campbell River Waste Management Centre – Landfill Gas Management Regulation Warning Letter.

At the September 12, 2019 Board meeting, the following motion was carried:

THAT the potential purchase of carbon offsets for the emissions from the Campbell River Waste Management Centre, as outlined in the staff report dated September 5, 2019 be referred to staff for a report with further options for the board's consideration.

Staff have reviewed a variety of carbon offset options currently available in the marketplace, with a preference for local projects and landfill gas projects. Three carbon credit marketplaces were contacted for information about potential local projects, and options for new project development services and portfolio creation. Additional information about these specific marketplaces and some of their projects can be found in Appendix A.

1. 3Degrees. - <https://3degreesinc.com/about/>
2. Community Carbon Marketplace - <https://www.communitycarbonmarketplace.com/about-community-carbon-marketplace>
3. Offsetters - <https://www.offsetters.ca/about-us>

The Board requested a meeting with Minister Heyman to discuss the CRWMC warning letter at UBCM in September and were successful in arranging this meeting. At the meeting the plan to become compliant at CRWMC was reviewed, the timeline for this to occur, and the financial commitments to complete closure when the service reaches capacity in 2022/23 were conveyed. It was suggested by Ministry staff at the meeting with Minister Heyman that the CSWM service consider the option to purchase carbon offset to mitigate the release of methane at CRWMC while in noncompliance and until the facility becomes compliant. The *Environmental Management Act* [SBC 2003] does not include the purchase of offsets as an action to consider, however this action is expected to provide for some mitigation of the impacts to the atmosphere from the non-compliance status at the CRWMC until closure and LFG capture is achieved and shows good faith in our approach to planned closure of CRWMC. The estimated emissions resulting from selection of Option 3, versus immediate closure is 48,300 tonnes of CO₂e between 2019 and 2023.

If the priority of the Board is to minimize the environmental impact of the delay of the installation of LFG works, then the purchase of the entire 48,300 tCO₂e would best reflect that desire. Discussions with representative marketplaces have shown that projects with carbon offsets available to purchase that are specifically based on Vancouver Island or coastal BC have a typical price range of \$25 to \$30 per tonne of CO₂e. To restrict the purchase of carbon offsets to BC based projects for

the entire estimated impact of delayed closure, 48,300 tonnes of CO₂e, would result in expenditures for the CSWM service of \$1.21 to \$1.45 million dollars.

Estimates of the minimum amount required to purchase 48,300 tCO₂e of verified carbon offsets from the marketplaces contacted is approximately \$160,000. This exceeds the threshold for a public competitive process for goods and general services under the CVRD Procurement Policy, thus a direct award is not possible. Purchases from a non-profit organization are an exemption to the requirement for a competitive process, however, best value may be achieved in this circumstance by instead incorporating sustainability factors within the evaluation.

Companies and consultants selling carbon offsets also have the option of developing custom portfolios of offsets, to reflect the needs of a particular buyer, and to incorporate the buyer's values within the portfolio. A blend of BC or Canadian offsets, with lower cost offsets from other jurisdictions may provide the service with the preferred balance of environmental, ethical, social and financial values of the CSWM service.

Following the CVRD Procurement Policy, when evaluating sustainability factors, staff shall look to third party verification and certifications when awarding points and may also look to utilize reference checks to verify claims made in response to a public solicitation.

New Project Development

An alternative to purchasing carbon offsets from existing verified and or voluntary projects, all three organizations offer assistance to companies wishing to develop a project, including feasibility studies, project design, project validation, and contract development. All new projects developed must meet certain minimum criteria: additionality, quantification, verification and registration. They require evidence that a proposed project's emission reductions could not be achieved without carbon market incentives, and they cannot be required by regulation.

Carbon offset projects accepted by the BC provincial government must meet criteria established in the *Greenhouse Gas Industrial Reporting and Control Act* (GGIRCA), the Greenhouse Gas Emission Control Regulation and relevant approved protocols. The Forest Carbon Offset Protocol would be an example of a relevant protocol to conserving forest land. Other standards to consider achieving when developing a project are the Gold Standard, Climate Action Reserve, Verified Carbon Standard and the American Carbon Registry.

Policy Analysis

The emissions the Board are considering are voluntary, and thus any project they are purchased from does not have to be verified and are not subject to meeting the GGIRCA as would be required for offsets to meet the BC Climate Action Charter as a local government.

Investing locally in carbon reduction projects can have positive economic impacts beyond the initial investment amount.

Options

The Board has the following carbon offset options to consider:

1. Purchase 48,300 tCO₂e of verified carbon offsets at an estimated cost of \$3.25, totalling approximately \$160,000, through a public competitive process and low bid procurement. Emissions offset would match what is estimated to be released from the CRWMC.
2. Proceed with a competitive best value procurement process to support the purchase of \$160,000 of carbon offsets incorporating the social and environmental value to maximize

best quality, price, environmental and social benefits. Emissions offset could be less than what is estimated to be released from the CRWMC.

3. Proceed with a competitive best value procurement process to support project development fees up to \$160,000 for a community level carbon offset project that will be able to sell back to the CSWM service 48,300 tonnes of CO₂e verified carbon offsets. Any excess credits would be made available in the international market to third-parties.

Based on discussion at the September 2019 Board meeting, and the preference for the incorporation of community level benefits, the recommendation from staff is to pursue Option 2.

Financial Factors

The CSWM service has a budget line item for the purchase of carbon credits to offset emissions from collection activities. Additional funds would need to be directed to this line item as a budget amendment for 2020 to support this recommendation.

Delay in the closure of the CRWMC and resulting emissions prevents the consumption of approximately 81,700 m³ of airspace at the Comox Valley Waste Management Centre valued at approximately \$5,000,000.

Legal Factors

In an effort to show awareness of the environmental impacts of delayed closure, and a willingness to meet the intent of the regulation, a reduction in GHG emissions, the CSWM Board is considering the purchase of carbon offsets. While this action is not required under the Regulation, and has not been requested in writing by MoE staff, it has been raised by ministry staff and Minister Heyman in conversation as a show of good faith. The purchase of carbon offsets will not legally change our non-compliant status under the Act.

Intergovernmental Factors

Making money available to support local projects for the reduction of GHG emissions will be reinvesting within our community, have a positive impact on local businesses, and our global air shed. Member municipalities seeking to offset their carbon emissions to achieve carbon neutrality may also choose to invest in these local projects if they were made available for purchase.

Interdepartmental Involvement

Engineering Services is leading this work, with support from Financial Services and Planning and Development.

Citizen/Public Relations

Communication to the public on this matter is not necessary at this time.

Attachments: Appendix A – “Summary of Marketplaces and Projects Reviewed”

Appendix A: Summary of Marketplaces and Projects Reviewed

1) 3Degrees.

3Degrees is an offset marketplace based out of Seattle, WA. Certified B Corp, 3Degrees is the number one supplier of voluntary offsets in the U.S. market by volume. As such, they have very competitive rates and a large selection of projects to choose from. They provide carbon offsets from projects that are third-party verified using internationally recognized standards that are managed and maintained by independent, not-for-profit organizations. The Comox Valley Regional District (CVRD) has purchased carbon offsets through 3Degrees before because of their cost effective options.

2) Community Carbon Marketplace

The Cowichan Energy Alternative in Duncan, BC, operates a community based carbon exchange initiative called the Community Carbon Marketplace (CCM) that enables local governments, businesses and individuals to meet carbon-neutral objectives by purchasing community carbon credits from local small scale projects. Carbon credits sold by the CCM are voluntary, and typically not verified by a third-party and do not meet the *Greenhouse Gas Reduction Targets Act* – Emissions Offset Regulation standards. Their goal is to support small greenhouse gas reducing projects and an online Farmer’s Market version of the Carbon Market, where buyers can support local initiatives. Each project is assessed and reported on by the CCM and once a credit is purchased as an offset, its unique identifier number is permanently retired. A fee from each sale supports the growth of the CCM.

Nanaimo Regional Landfill Gas Capture and Utilization

The Regional District of Nanaimo (RDN) project achieves greenhouse gas emissions reductions through the collection of landfill gas (LFG) generated as a result of the anaerobic degradation of municipal solid waste placed at the regional landfill site. The methane portion of the collected LFG is collected, and either flared, or utilized in reciprocating engines to produce electricity. The LFG capture and electricity generation project prevents a large quantity of methane from being released to the atmosphere that would otherwise occur in the baseline scenario.

The RDN is able to sell carbon offsets from their LFG collection because the infrastructure was installed and in use prior to the regulation being enacted. Their actions were voluntary at that time, and not required, and the project would not have been economically viable without the funds from selling the offsets at the time it was installed.

<https://www.offsetters.ca/t/lib/pdf/projects/nanaimo-landfill-gas-capture-and-flare.pdf>

The CCM currently has 2,700 tonnes of CO₂e available for purchase from the RDN project which could be bought immediately. If purchasing in bulk, the per tonne price could be reduced from \$30 to \$10 per tonne CO₂e, with any further price reduction only available through negotiation directly with the RDN. All 2,700 tonnes of CO₂e credits could be purchased for an estimated \$27,000.

Net Zero Waste – Abbotsford Inc.

The Net Zero Waste compost facility in Abbotsford, BC is responsible for the treatment of organic waste for Abbotsford’s approximately 150,000 residents and has capacity to receive

60,000 wet metric tonnes per year of yard waste, food waste and agricultural waste. These materials are composted onsite and a Class A compost is produced from their Gore Cover Processing Model. The benefits of the Gore Cover System include odor reduction of 90 – 97 per cent bio-aerosol emissions reduction of greater than 99 per cent; less than 1 KWH/ton energy requirement and a three ft²/ton space requirement. Their compost is certified organic by the Organic Material Review Institute, making it ideal for organic producers in the Fraser Valley Regional District and beyond.

Net Zero Waste has 7,386 tonnes CO₂e of voluntary credits available for sale through the CCM. The listed price is \$30 per tonne CO₂e, which would value these credits at \$221,580.

3) Offsetters

Offsetters provides sustainability and carbon-management solutions, helping organizations and individuals understand, reduce and offset their environmental impacts. Through their sister company, ERA Ecosystem Services, they also provide global forest carbon project development, ecosystems services, and conservation finance services. Based in Vancouver, BC, Offsetters has an experienced project development team and is one of the largest offset project developers in Canada. Advisory services team members have all been individually certified as GHG Inventory Quantifiers by the Canadian Standards Association, and Offsetters uses third party verifiers such as KPMG and Stantec for all of their offsets available for sale.

Offsetters - Synergy Portfolio

The current price is \$25 per tonne of CO₂e credits available for purchase with this portfolio. The 'Synergy Portfolio' is a combination of three projects: Uganda Efficient Wood Cook Stoves, Great Bear Forest Carbon Project and the Quadra Island Forestland Conservation Project. <https://www.offsetters.ca/project-services/offset-projects/by-portfolio/synergy-portfolio>

Quadra Island Forestland Conservation Project

The purpose of the Quadra Island Forestland Conservation Project (the Quadra Project) is twofold - to reduce greenhouse gas levels and to conserve site-specific features. Greenhouse gas levels are reduced by protecting 417.9 hectares of forestland previously slotted for conversion to vacation home development and continued logging activity.

The specific site was chosen by the project proponents because it includes: Remnant Coastal Western Hemlock second growth forests; the opportunity to establish connectivity for wildlife between existing parks; as well as important archaeological sites and a historic Aboriginal portage route.

This project has been verified by the Forest Carbon Offset Protocol (FCOP) that was designated by the Ministry of Environment and Climate Change Strategy in 2011.

Uganda Efficient Wood Cook Stoves Project

More than 95 per cent of Ugandans rely on wood as a fuel for cooking and boiling water in both rural and urban areas. The conventional cookstoves used are inefficient which increases the amount of wood required to prepare a meal. The project will replace conventional cookstoves with a more efficient stove called a rocket stove. The aim of the project is to promote the widespread distribution of these efficient cook stoves. Compared to baseline, the new cookstoves will reduce fuel wood consumption by more than 50 per cent. The new cookstoves will also greatly improve indoor air quality, which will positively impact respiratory health, birth weights and mortality rates. This carbon credit project holds a Gold Standard certification.

Great Bear Forest Carbon Project

The Great Bear Forest Carbon Project is an Improved Forest Management project. The project activities include changes in land-use legislation and regulation that result in increased carbon stocks by converting forests that were previously designated, sanctioned, or approved for commercial logging to protected forests. Emissions caused by harvesting, road building and other forestry operations are also prevented. It is a landmark project for balancing human well-being and ecological integrity through carbon finance, and is the first carbon project in North America on traditional territory with unextinguished Aboriginal rights and title. Funds from the sale of carbon offsets in the project will also go towards creating jobs within the First Nation communities in the project area. This project has been verified by the FCOP for Improved Forest Management.

Offsetters - Custom Portfolio

For purchases larger than 10,000 tonnes of CO₂e Offsetters provides a service to work with Comox Strathcona Waste Management staff to develop a mix of lower cost per tonne internationally verified projects, and higher cost per tonne Canadian and local verified projects to come up with a cost per tonne CO₂e that is acceptable to the Board. The cost of this purchase will depend on the mix of projects included and would range between \$3 and \$30 per tonne. This could be including the Quadra Island Forestland Conservation Project.