

**Office of the Chief Administrative Officer**

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File: 5360-60

February 22, 2019

**Sent via email only:** pcarlyle@rdn.bc.ca

Phyllis Carlyle  
Chief Administrative Officer  
Regional District of Nanaimo  
6300 Hammond Bay Rd  
Nanaimo, BC V9T 6N2

Dear Phyllis:

**Re: Monitoring of Sustane Facility – Chester, Nova Scotia**

The Comox Valley Regional District (Comox Strathcona Waste Management) Board (Board) continues to be interested in reducing waste disposal volumes and providing cost effective alternatives to landfilling. As follow-up to a Request for Information process completed in 2018, the Board plans to observe Sustane Technology Inc.'s progress as they work to commission and test their newly constructed facility in Chester, Nova Scotia. In support of this, the Board passed the following resolution at its February 7, 2019 meeting (Report attached):

*THAT the Comox Valley Regional District (Comox Strathcona Waste Management) Board endorse the performance monitoring program as presented in the report titled "Performance Monitoring of Waste Management Technology – Chester, Nova Scotia," dated January 28, 2019, for a period of one year after successful start-up.*

*AND FURTHER THAT the Board approach the Cowichan Valley Regional District and the Nanaimo Regional District to request sharing of the costs and information related to performance monitoring.*

We understand that the Regional District of Nanaimo and the Cowichan Valley Regional District may also have an interest in monitoring the performance of the Sustane facility in Chester. Per the above recommendation, we are seeking your feedback on sharing in both the cost and information gathered related to performance monitoring. We propose to take the lead in this work, to develop the detailed performance monitoring questionnaire and to work directly with Sustane to complete the monitoring and gather the performance related information. We expect this process to take one year from successful start-up of their facility.

In parallel with this letter to you, we have reached out to Sustane to request their feedback on the concept of performance monitoring.

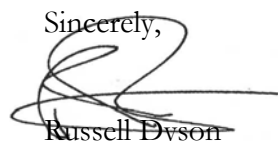
The above recommendation includes sharing of costs, which per the attached staff report are estimated to be \$20,400 and we propose to be apportioned to each regional district based on 2018 landfilled waste volumes generally as per the following table.

Regional District	Residual Waste (tonnes) <sup>1</sup>	Share of Cost
Comox Valley	63,074	43% or \$8,800
Nanaimo	53,739	37% or \$7,500
Cowichan Valley	30,092	20% or \$4,100

Each regional district would be responsible for their own travel arrangements if a site visit to the Chester facility was desired

Please provide your feedback to the above and direct us to your key staff that we should work with on this initiative. If you have any questions or require further information, please contact Marc Rutten, General Manager of Engineering Services, email [mrutten@comoxvalleyrd.ca](mailto:mrutten@comoxvalleyrd.ca) or call 250-334-6080.

Sincerely,



Russell Dyson  
Chief Administrative Officer

cc: Marc Rutten, General Manager of Engineering Services

Enclosure: Staff Report - Performance Monitoring of Waste Management Technology

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<sup>1</sup> Based on AVICC solid waste data summary for 2016

**DATE:** January 28, 2019**FILE:** 5360-60**TO:** Chair and Directors  
Solid Waste Advanced Technology Select CommitteeSupported by Russell Dyson  
Chief Administrative Officer**FROM:** Russell Dyson  
Chief Administrative Officer**R. Dyson****RE: Performance Monitoring of Waste Management Technology – Chester, Nova Scotia****Purpose**

To present the proposed methodology for performance monitoring of Sustane Technologies' (Sustane) waste management system currently under construction in Chester, Nova Scotia in order that the Solid Waste Advanced Technology (SWAT) Select Committee provide a recommendation to the Comox Strathcona Waste Management Board (Board).

**Recommendation from the Chief Administrative Officer:**

THAT the Comox Valley Regional District (Comox Strathcona Waste Management) Board endorse the performance monitoring program as presented in the report titled "Performance Monitoring of Waste Management Technology – Chester, Nova Scotia," dated January 28, 2019, for a period of one year after successful start-up.

AND FURTHER THAT the Board approach the Cowichan Valley Regional District and the Nanaimo Regional District to request sharing of the costs and information related to performance monitoring.

**Executive Summary**

The Comox Valley Regional District (Comox Strathcona Waste Management) Board (Board) has an interest in reducing waste disposal volumes and providing cost effective alternatives to landfilling. In support of these objectives, the Board posted a Request for Information (RFI) for Waste to Energy, now SWAT in the summer of 2017. The intent of the RFI process was educational in nature and not a competitive selection process.

Six submissions were received and evaluated based on high level criteria (innovation, technology, environmental/social and economic). Three technologies were selected for further detailed analysis and the final version of the report was provided to the SWAT Select Committee on April 5, 2018.

The highest ranked technology in the RFI process was Sustane, which converts waste into biomass fuel pellets and synthetic diesel, and recovers metals. Sustane's technology offers estimated lower costs than the other shortlisted technologies (although still higher than the status quo of landfilling); however, they attract greater risk for the Comox Strathcona Waste Management (CSWM) service due to a lack of installed infrastructure and untested technology. In consideration of this risk and the Board's continued interest in Sustane, the following resolution was approved on April 19, 2018:

THAT the Comox Strathcona Waste Management Board direct staff to monitor waste management technology proposed by Sustane Technologies Inc. in Nova Scotia, for up to one year of full operations;

AND FURTHER THAT a report on its effectiveness and efficiencies be presented to the CSWM Board following the monitoring period.

In order to act on the above CSWM Board direction, it is proposed that staff undertake the following key performance monitoring activities subsequent to the completion and commissioning of Sustane's facility in Chester, Nova Scotia (which is currently scheduled for start-up in April 2019).

- The performance monitoring will include a set of detailed performance monitoring criteria and a performance monitoring timeline that will incorporate the following draft criteria (at a minimum):
  - Plant efficiency, plant uptime, fuel pellet production efficiency, synthetic oil production efficiency (actual vs design)
  - Operating costs, maintenance costs (pre and post full operation)
  - Fuel pellet quality, synthetic oil quality, residuals quality
  - Greenhouse gas implications for the life cycle of the process
  - Other important performance parameters identified by the monitor once retained
- Visit Sustane's facility in Chester, Nova Scotia to witness and observe the facility in operation, to interview operators and maintainers, to interview Chester Solid Waste employees and to meet with Nova Scotia Environment
- Review all agreements between Chester and Sustane to confirm costs, risks and benefits to the community
- Identify other financial costs or benefits outside of the contract
- Review regulatory requirements of the Province of British Columbia
- Assess local market demand for by-products
- Identify potential unintended consequences, benefits and risks
- Use of qualified professionals will aid staff with legal opinions and performance monitoring. A modest budget accounts for this.

The following table summarizes the expected costs and resources required to complete the performance monitoring. This work can be accomplished within the current proposed 2019-2023 financial plan, which will cover expenses, incidentals, travel, legal and third party expertise as required. Also, other regional districts on Vancouver Island may be interested in alternative disposal options for their regions and in better understanding how Sustane's technology performs in Chester. It is proposed to approach these other regions and request sharing of the costs and information related to performance monitoring.

Performance Monitoring Activity	Cost
Third party consultants to undertake legal reviews and development of draft performance monitoring criteria	20,400
Site Visit (4 representatives)	9,600
<b>Total</b>	<b>\$30,000</b>

It is expected that performance monitoring would be required over approximately one year following the full start-up and commissioning of Sustane's facility in Chester. This period of time is recommended to help ensure consistent, continuous operation for measurement of all performance criteria and costs.

Prepared by:

***M. Rutten***

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Marc Rutten, P.Eng.  
General Manager of Engineering Services

Concurrence:

***A. McGifford***

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Andrew McGifford, CPA, CGA  
Senior Manager of CSWM Services