

DATE: August 8, 2018

FILE: 5360-60

TO: Waste To Energy Select Committee

FROM: Russell Dyson
Chief Administrative Officer

Supported by Russell Dyson
Chief Administrative Officer

R. Dyson

RE: Waste to Energy - Update

Purpose

The purpose of this report is to provide the Waste to Energy (WtE) Select Committee an update to Comox Strathcona Waste Management Board (Board) direction provided at the April 19, 2018 meeting and address comments and queries made by elected officials over the past few months.

Recommendation from the Chief Administrative Officer:

For information purposes only.

Executive Summary

Four recommendations related to the Board's continued interest in WtE were approved at the April 19, 2018 Board meeting. Provided in the report are the approved recommendations, followed by a summary of actions and the current status, since the April meeting. This information serves as an update to the WtE Select Committee to ensure related information is current.

The Board has received delegations describing current technologies and operations. Directors have toured the proposed Sustane Technologies Inc. (Sustane) facility in Chester, Nova Scotia, and the Waste to Energy Assessment report dated April 9, 2018, prepared by Morrison Hershfield, was referred for information to the Association of Vancouver Island Coastal Communities (AVICC) Special Committee on Solid Waste Management. Still outstanding is the delegation of the Ministry of Environment and Climate Change Strategy (MoE) scheduled for October and the monitoring of the Sustane facility in the Municipality of Chester, which is awaiting the start of operations.

In addition to the above work completed since the April Board meeting, the following related topics have been reviewed:

- Waste diversion trends, both global and regional;
- WtE Select Committee Terms of Reference and current resources;
- Status of the Solid Waste Management Plan (SWMP) and the Board direction after the five year effectiveness review:
 - Increased diversion of organic waste;
 - Optimization and development - recycling programs to achieve 70 per cent diversion;
 - Further monitoring of WtE technologies;
- Status of emerging technology projects in North America including the City of Edmonton, and the City of Ottawa;
- Updates of the full system cost model for Comox Strathcona Waste Management (CSWM).

Additional information can be found in the main body of the report and is provided for reference only.

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Concurrence:

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Background/Current Situation

Four recommendations related to the Board's continued interest in WtE were approved at the April 19, 2018 CSWM Board meeting. Provided below are the approved recommendations, followed by a summary of actions and the current status, since the April meeting. This information serves as an update to the WtE Select Committee to ensure related information is current.

THAT the Comox Strathcona Waste Management Board invite Sustane Technologies Inc. and Waste Treatment Technologies (WTT) Netherlands B.V. to present information regarding each company's waste management technologies to a future CSWM Board meeting.

- Invitation letters were sent to both Sustane and Waste Treatment Technologies (WTT) in late April 2018, inviting them to present to the Board. A delegation from WastAway Services Canada Inc. (WastAway), requested an opportunity to present to the Board;
- Both WTT and WastAway came to the June 2018 Board meeting and presented their technology services and current operations. As a follow up, staff will tour the City of Surrey Anaerobic Digestion facility on July 31, 2018;
- Sustane has responded and has asked to be a delegation at the September 6, 2018 Board meeting;
- It should be noted that Sustane has been working on the final construction and commissioning of their facility in Chester, Nova Scotia and several Directors and the Chief Administrative Officer attended the facility and met with representatives during the recent Federation of Canadian Municipalities conference in Halifax;
- The Sustane facility unfortunately was experiencing delays in construction and commissioning, and was not operational at the time of the tour. Sustane has since indicated that they anticipate to be commissioning the facility before the new year.

This action is considered COMPLETE.

THAT the Comox Strathcona Waste Management (CSWM) Board invite the Ministry of Environment to explain the provincial regulations associated with waste to energy technologies including a discussion on definitions associated with the objectives for 70% diversion and the reduce, reuse and recycle approach to solid waste management to a future CSWM Board meeting.

- The MoE was invited in late April 2018;
- MoE responded to the request and confirmed their attendance at the October 11, 2018 Board meeting.

This action is ONGOING.

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.

- As previously mentioned, the Sustane facility was not in operation at the time of the tour, but the objective is to be operational before the new year. Sustane has received permits for the overall project, and has recently submitted an environmental study for the Pyrolysis Plant Project [CBC link](#);
- Staff will continue to check in with Sustane and monitor the commissioning and operation of the facility. Staff will report back after one year of full operations and provide an update to the Board.

This action is ONGOING.

THAT the Waste to Energy Business Case Assessment staff report dated April 12, 2018, including the Waste to Energy Assessment report dated April 9, 2018 prepared by Morrison Hershfield, be referred to the Association of Vancouver Island Coastal Communities Special Committee on Waste Management for information.

- Staff sent the report to the AVICC Special Committee on Waste Management on May 1, 2018, for disbursement within the group.

This action is considered COMPLETE.

In addition to the above work completed since April Board meeting, the following related topics has been reviewed:

- Waste diversion trends, both global and regional;
- WtE Select Committee Terms of Reference and current resources;
- Status of the SWMP and the Board direction after the five year effectiveness review:
 - Increased diversion of organic waste;
 - Optimization and development - recycling programs to achieve 70 per cent diversion;
 - Further monitoring of WtE technologies;
- Status of emerging technology projects in North America including the City of Edmonton and the City of Ottawa;
- Updates of the full system cost model for CSWM.

WtE Select Committee

The following text is from the WtE Select Committee Terms of Reference:

Mandate: *The waste to energy select committee will have the authority to provide advice to the CSWM board on matters pertaining to its mission. The select committee will meet six times from March to September 2017 with aim to make final recommendations to the CSWM board at its November 2017 meeting. The select committee will keep the board informed about its progress and regular updates or presentations may be used as education sessions to help ensure all directors share knowledge about WTE and other emerging technologies.*

The final (expanded scope) WtE draft report was prepared in early 2018. The engineering consultant presented the report to the Select Committee and then the Board on April 19, 2018. At this time, the Board approved the direction from the WtE Select Committee (listed above, with updates).

Clarity for the continuing mandate of the WtE Select Committee should be sought from the Board to ensure staff and financial resources are allocated and directed by the Board. Within the Terms of

Reference, the tenure of the WtE Select Committee indicates continuance until the final report is provided to the Board, or the Select Committee is disbanded.

If the WtE Select Committee proposes to continue work beyond the current direction of the Board, it should seek an extended mandate that is then approved by the Board. The mandate should include the time and resources required for the Select Committee, and provide clear direction and expectations for its role and activity. Additional work will require consideration through the upcoming financial planning process. The WtE Select Committee can provide recommendations to the Board which could include:

- An updated mandate and tenure;
- Public engagement;
- New meeting frequency to facilitate report back to the Board (semi-annual meeting without action can be undertaken without additional resources);
- Staff resource requirements and inclusion in the 2019-2023 Financial Plan;
- Financial requirements and inclusion in the 2019-2023 Financial Plan;
- Name change – to reflect advancing technologies.

The WtE Select Committee should provide staff with suggested amendments to the Terms of Reference, so that a report can be prepared that recommends the resources required. Those details can be brought back through the Select Committee for review, or directly to the Board for approval.

Should the mandate be updated and increased resources required, staff can provide a report to the Select Committee and Board with budget implications for the 2019-2023 Financial Plan.

The Terms of Reference are provided as an appendix to the staff report.

Request For Information intent

The intent was to gather information of the possibilities available and to guide a future decision making process on a future procurement. This process was communicated to the vendors providing the information.

To be clear, the information requested was intended to be used as information only and the submission of information does not create a legal or contractual relationship between the vendor and the CVRD. Also it was not intended to be a request for qualifications leading to a request for detailed proposals, nor is it intended to be a request for proposals that would result in legal obligations by either party.

Waste Diversion Trends

Waste composition is changing as new regulations and government commitments are undertaken. In recent months, Recycle BC began a new pilot project for other flexible plastics, which will provide additional opportunity to divert plastic (especially plastic film) from landfill. The CSWM service should keep a watchful eye on changing environmental standards. Long term commitments must consider possible impacts from government regulations, consumer trends, stewardship programs and manufacturing standards. As the waste composition changes, long term commitments should be cautiously undertaken. Municipal solid waste (MSW) trends change over time, and what is possible now could be more challenging in the future.

British Columbia's regulatory environment

Guidelines released by the MoE indicate that a SWMP must have plans for 70 per cent diversion before WtE should be considered for the remaining residuals. The 70 per cent target is calculated only from Reduce, Reuse, and Recycle (3R's) initiatives. MoE stated that each regional district must

show that they have maximized the amount of diversion from the 3R's before they start looking at energy recovery and WtE. Further, it is highly likely that recyclables recovered in a mixed waste processing facility will not be considered recycled under 3R's, but would be considered recovery. MoE will be in attendance at the Board October 2018 meeting and will be able to further clarify their policies.

CSWM Solid Waste Management Plan status

The Board approved the CSWM SWMP five year effectiveness review at the April 19, 2018 Board meeting. Provided below are the approved recommendations.

THAT the Comox Strathcona Waste Management board continue to implement the Comox Strathcona Waste Management 2012 Solid Waste Management plan with a particular focus in the following areas:

- *Closure of CSWM landfills in compliance with Ministry of Environment (MoE) requirements;*
- *Increased diversion of organic waste;*
- *Continued optimization and development of recycling programs to achieve 70 per cent diversion or greater;*
- *Investigation of increased environmental controls;*
- *Further monitoring of Waste to Energy technologies as per the April 12, 2018 Waste to Energy business case assessment staff report.*

Staff will provide periodic reports, as well as update the Board on the performance of the current programs, and where we have progressed on the path to achieving the goal of 70 per cent diversion.

Organizational Risk

The issue of risk was discussed during the latest CSWM WtE assessment completed in April of 2018. Various technology proponents have suggested that they offer 'no risk' if their products, processes and resources are adopted by the CSWM Board. Risk may come in many different forms; financial/investment risk, budgetary risk, service management risk, legal liability risk, safety risk, reputational risk, etc. All risks must be considered when an organization is looking to make changes from the current method of business to another. To better understand the allocation of risk between Sustane and the Municipality of Chester we have asked for their contract. To date it has not been provided.

There have been two recent examples in Canada (City of Ottawa & City of Edmonton) where a new WtE technology promised a great solution to the local government. In both situations, large Canadian cities supported a new process to deal with MSW. However, both cities saw delays that impacted their MSW programs, with the City of Ottawa eventually abandoning the alternative solution. Both service management risk and reputational risk were impacted in this situation.

Technology will improve and solutions will be found to deal with MSW. The CSWM service should continue to seek the best and most cost effective process to reduce landfilling for current and future tax payers. Staff will provide the Board with information and solutions as it becomes available.

The CSWM service should develop a strong strategic plan with performance indicators that provide Directors and staff a framework to improve performance. The City of Edmonton internal audit includes recommendations that clearly define the roles, responsibilities, accountabilities, and procedures for performance management activities for waste services.

The audit suggests that organizations should have a strong, formal performance management framework within a procedural document, that reviews performance measure targets, and reviews calculation methodologies to ensure they provide reliable, comparable, and consistent information to support management decision-making and demonstrate achievement of SWMP goals.

Options

This report is presented for information only.

Financial Factors

Full Cost Model

The latest WtE process has provided the CSWM service a full system cost model that can be used moving forward to track the cost of each cost stream and compare performance year over year. Staff suggest keeping the model updated and referencing the model for changes in service levels. Goal setting and recapping performance is an important tool in the improvement of the service.

Regional Growth Strategy Implications

The recent waste composition study establishes a baseline towards achieving the objective identified in the Comox Valley Regional Growth Strategy:

- Objective 5-E: Reduce regional solid waste and improve landfill performance.

This objective is also identified in the Comox Valley Sustainability strategy:

- By 2050: The Comox Valley will use a ‘zero waste’ approach and achieve a 90 per cent diversion of waste from landfills