

**DATE:** March 31, 2021

**FILE:** 5360-60/WTE

**TO:** Chair and Directors  
Solid Waste Advanced Technology Select Committee

Supported by Russell Dyson  
Chief Administrative Officer

**FROM:** Russell Dyson  
Chief Administrative Officer

*R. Dyson*

**RE: Solid Waste Advanced Technology Research Methodology**

---

### **Purpose**

To provide an overview of the research methodology to assess and evaluate alternative, advanced technologies, for solid waste disposal.

### **Recommendation from the Chief Administrative Officer:**

This report is presented for information only

### **Executive Summary**

The Comox Strathcona Waste Management (CSWM) Board (Board) has an expressed interest in reducing waste volumes and providing the lowest cost effective waste management solution. In support of these objectives, the Board established the Solid Waste Advanced Technology Select Committee (SWAT) in 2018, comprised of CSWM elected officials, to assess and evaluate waste-to-energy (WTE) and other emerging solid waste technologies.

The long-term stability and resiliency of residual waste management has been a strategic focus for the CSWM service. Over the past 10 years, the Board has spent considerable time and resources to evaluate WTE process technologies as an alternative to landfilling residual waste, including two separate reviews by AECOM in 2011 and Morrison Hershfield in 2017/2018. The technologies were evaluated for:

- Technical feasibility and effectiveness;
- Effect on waste disposal;
- Environmental impact and benefits;
- Regulatory risks and constrains;
- Financial considerations; and
- Social risks and constraints.

Both evaluations concluded that WTE technologies are financially cost prohibitive and carry a higher level of risk as compared with landfilling and diversion programs. The financial risks are much greater with emerging/unproven technologies as the market for and the value of refuse derived fuel remains unproven.

Staff continue to monitor the WTE Sustane Technologies Inc. facility in Nova Scotia, per the April 19, 2018 Board directive. This facility was originally expected to be fully operational in March/April 2019 but remains in the commissioning phase as detailed in the March 24, 2021 Sustane Technologies

Chester Facility – Status Update staff report. The one year monitoring period will commence following full operation.

Staff are committed to continually seeking environmentally responsible, best waste management practices and expanding our reach of knowledge in all areas of waste management such as residual waste disposal, recycling, composting, extended product stewardship, policy development and analysis, facilities management, and public education and promotion. In an effort to stay abreast of solid waste emerging technologies, staff will continue to identify opportunities via a myriad of avenues, including but not limited to:

- Participation and or memberships in various solid waste associations
  - Coast Waste Management Association – a networking and education group specifically targeting the solid waste industry in coastal BC, comprised of memberships from over 160 organisations and an active network of over 700 solid waste professionals.
  - British Columbia Product Stewardship Council – a coalition of all of BC’s 28 regional districts with a mission to ensure the success of Extended Producer Responsibility (EPR) programs in BC and to provide a forum to gather and share pertinent information from regarding existing and proposed EPR programs in BC and in other jurisdictions.
  - Solid Waste Association of North America – an organization of professionals committed to advancing solid waste management in North America to resource management through shared emphasis on education, advocacy and research, with a BC chapter to allow for localized engagement for regional issues.
  - Recycling Council of British Columbia – Canada’s longest serving recycling council founded in 1974, aimed at the facilitating the exchange of ideas and knowledge that enable efficient solutions to eliminate waste.
  - Association of Vancouver Island and Coastal Communities Special Committee on Solid Waste – formed in response to the need identified by members to initiate a process to work toward finding a long-term sustainable strategy for solid waste management on Vancouver Island and the coastal communities.
- Review of industry news subscriptions
- Review of weekly industry news compilations
- Subscription to Ministry of Environment and Climate Change Strategy (the Ministry) solid waste related updates
- Maintain regular communication and collaboration with other regional districts and municipalities wherever possible
- Participation at waste conferences, technical sessions and workshops
- Review of Google search alerts for solid waste related keywords to ensure notification of noteworthy news items

Moreover, the CSWM will be initiating its Solid Waste Management Plan (SWMP) 10 year update in 2022 to identify goals and strategies for the next 10 years. This review process will:

- Estimate the lifespan of approved waste disposal facilities;
- Consider existing solid waste management policies and programs;
- Identify and evaluate options for waste reduction, diversion and residual management; and
- Evaluate system financing to support waste reduction, diversion and residual management.

As outlined in the October 11, 2018 presentation by the Ministry to the CSWM Board, and further reiterated in their January 25, 2019 follow-up letter, the CSWM service needs to demonstrate that reasonable effort has been made to adhere to the 5R pollution hierarchy to achieve over 70 per cent waste diversion prior to considering the inclusion of an energy recovery process in our waste management system.

Compostable organics remain the single biggest regional opportunity in waste diversion to advance the goals of the 2012 CSWM SWMP. If there remains interest by the Board to explore alternative advance technologies for waste disposal following the implementation of the regional organics composting project, expected to be fully operational by fall 2022, the CSWM service will be in a better position to conduct a review of available technologies as part of the SWMP update. It is important to stress that any technology should be considered in the context of the Board approved landfill master plan for the Comox Valley Waste Management Centre, which has planned and existing infrastructure for residual waste disposal.

In the solid waste arena, rapid advances in waste disposal are unlikely. The SWMP process takes a comprehensive look at the entire waste management system and financing at a frequency that is in tune with the speed of the industry, and is an excellent forum for consideration of alternative technologies. The Board can be assured that staff remain committed to diligently seeking the most cost effective and efficient waste disposal solutions for the CSWM service and sharing this information with the Board through SWMP.

Prepared by:

***V. Schau***

---

Vivian Schau  
Acting General Manager  
Engineering Services