

Considerations for the Inclusion of Waste-to-Energy Facilities (WTE) in Solid Waste Management Plans

Introduction

The purpose of this document is to help local governments assess their waste management practices and goals before considering the use of waste-to-energy (WTE) to manage municipal solid waste (MSW). The considerations listed below are based on Ministry of Environment operational policy used to guide Ministry staff during the review of solid waste management plans (SWMP). These considerations are used to assess WTE proposals within Solid Waste Management Plans. Regional Ministry staff should be consulted to determine if additional considerations apply.

The Ministry expects that local governments will set key waste reduction targets before considering the inclusion of WTE facilities within their SWMP. The purpose of this is to ensure that recycling initiatives are enhanced and that the pollution prevention hierarchy¹ continues to be the tool used for determining best waste management options.

Considerations

- 1) WTE is an allowable activity under the *Environmental Management Act*.
- 2) All local governments that plan to direct a portion of their MSW to a WTE facility must seek an amendment to their SWMP to reflect this intention.

¹ The Ministry defines the Pollution Prevention hierarchy as reduce, reuse, recycle, recovery and residual management. The hierarchy is in descending order of preference, such that management is not undertaken at one level unless or until all feasible opportunities for management at a higher level have been taken.

- 3) Performance criteria (listed in Table 1 below) should be met for all WTE facilities.
- 4) The Pollution Prevention Hierarchy should be followed. As a result, the Ministry prefers WTE facilities that incorporate resource recovery.
- 5) The Ministry expects local governments to have a minimum target of 70% reduction of waste before utilizing a WTE facility as a waste management option. The 70% target is calculated only from Reduce, Reuse, and Recycle initiatives.
- 6) The Ministry expects that resource recovery facilities (4th R) will obtain at least 60% of the potential energy from the MSW used as fuel.²
- 7) If a WTE facility does not achieve 60% energy efficiency, the Ministry will consider that WTE facility as a residual management facility (5th R).
- 8) If an environmental impact assessment is considered necessary for any new or existing WTE facility and the assessment indicates a potential for adverse environmental or human health effects, more stringent criteria, beyond the limits listed in Table 1, may be deemed necessary by a Director.

² Energy efficiency criteria modelled after Annex II of the European Commission Waste Framework Directive model (for existing facilities), available at

<http://register.consilium.europa.eu/pdf/en/08/st03/st03646.en08.pdf>

$$\text{Energy efficiency} = \frac{\text{Energy produced} - \text{Energy from fuels} - \text{Other energy imported}}{0.97 \times (\text{Energy of waste input} + \text{Energy from fuels})}$$

Application

This information applies to thermal treatment technologies such as mass-burn incineration (including cement kilns and pulp and paper mills), gasification and pyrolysis that produce energy from MSW, but does not apply to anaerobic digestion and agricultural greenhouses and does not describe site specific requirements of proposed facilities.

Please note that this information is for the convenience of the reader and may change from time to time. The current legislation and regulations should be consulted for complete information.

If you require additional information please contact your regional office of the BC Ministry of Environment.

Ministry Contact

For more information, consult our website at:

<http://www.env.gov.bc.ca/epd/mun-waste/waste-solid/sw-mgmt-plan/>

Or email the Ministry at:

Envprotdiv@victoria1.gov.bc.ca

Table 1: Criteria for WTE facilities

(A) Criteria for local governments planning to direct MSW to WTE facilities		(B) Criteria for WTE facilities utilizing MSW as a feedstock		
Waste Reduction Target	Technical Assessment	Technology	Ash Management	Emission Requirements
Local governments must have an approved SWMP with a minimum reduce, reuse, recycle target of 70% before considering the use of WTE technologies for managing MSW.	A professional assessment must be completed to compare waste management options for the region.	Adopt the best achievable technology. This should be determined by assessing feasible options based on reliability, cost effectiveness and discharge intensity.	Clearly identify options for disposal or use of bottom ash and fly ash (if necessary consult the Hazardous Waste Regulation).	The emissions from a facility must meet the Ministry's Emission Criteria for Municipal Solid Waste Incinerators * and emission requirements set out in the site specific authorization for the facility.

*<http://www.env.gov.bc.ca/epd/bcairquality/reports/ecmswi.html>