

mwin *Position Paper On Integrated Waste Management*

PRINCIPLES OF INTEGRATED WASTE (Resource) MANAGEMENT

Integrated Waste (Resource) Management means that communities and stakeholders should be guided by the following principles in making waste management decisions. Communities can be viewed in the broadest possible terms to include businesses, governments, citizens and non-governmental organizations and other stakeholders.

Overall Approach

An overall approach should take into consideration all of the community's solid wastes, using a systems approach that considers the full range of management options available to the community.

Solid waste includes, but is not limited to, all components of household, industrial/commercial/institutional (ICI), household hazardous waste and construction/demolition wastes as well as other sources of municipal waste. Management options include, but are not limited to, source reduction, reuse, recycling, biological management (aerobic and anaerobic composting, biogasification), combustion with energy recovery and advanced thermal management (such as pyrolysis distillation and gasification) and landfilling.

Guiding Principles

Social Sustainability

Takes into account a community's circumstances and goals, while selecting the particular mix of available management options suitable to its needs and consistent with the concept of community sustainability. This will translate into a community's willingness to participate in and support for the overall system.

Environmental Sustainability

Reduce overall environmental burdens by optimizing the use of the resources contained in the waste while minimizing the generation of waste management emissions.

Economic Sustainability

The chosen mix of management options is based on the best balance between cost and benefits and that cost which is acceptable to the community. Cost information should reflect the full costs of the system and be based on accepted accounting principles.

Life Cycle Approach

Integrated waste management planning uses a lifecycle approach involving an inventory of environmental effects (burdens) conducted in accordance with acceptable international standards such as ISO 14000.

Waste Definitions

1) Recovery:

Resources originating in the waste stream subjected to upgrading (valorisation) into products that displace virgin materials by processes such as:

- a) Reduction through on-property management i.e. backyard composting, grasscycling, evapotranspiration
- b) Reuse – using the material(s) in its same form
- c) Recycling

A material is considered to be recycled if it has been subjected to:

- i) an appropriate level of processing related to the specifications for the intended use and
 - ii) the resulting products have value as commodities between two parties, such as, products from mechanical recycling, biological treatment (humus, bio-gas) and chemical recycling (CO, hydrogen, oils or constituent elements)
- d) Reduction of waste mass by processes that:
 - i) transform energy embodied in the waste into alternative fuels through distillation, gasification or biological conversion)
 - ii) combust waste to produce steam and/or electricity

2) Disposal:

The safe handling and management of residuals.

3) Diversion Credit:

Credit for diversion is appropriate for:

- a) Reduction
- b) Reuse
- c) Recycling

d) Reduction of waste mass by processes that:

i) transform energy in the waste into alternative fuels by processes exhibiting a low environmental burden, such as distillation, gasification, biological conversion (fermentation, anaerobic digestion/ dedicated bio-reactors)

ii) combust the waste to produce steam and/or electricity provided:

- the material being combusted has a calorific value of not less than 16 megajoules per kilogram (approximately the calorific value of soft coal) and;
- the useful recovered energy is not less than 25%* of the original energy embodied in the waste material (*currently, North American EFW plants operate between 13% and 17%)

Note: Credit is not given for any residuals sent to landfill for disposal resulting from any of these management options.

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