

Regional Solid Waste Management Plan Review: *Engaging solutions for tomorrow*

PAC Meeting #2
April 26th, 2005



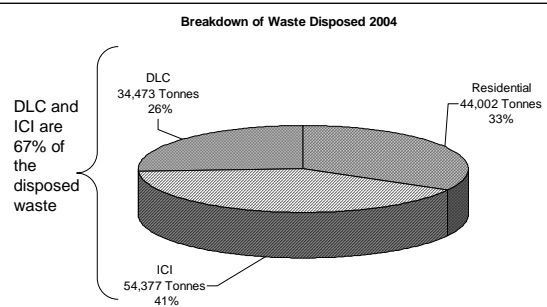
Agenda

4:00	• Review of agenda, housekeeping items
4:15-5:15	• Review of current situation • Presentation and group discussion on long list of waste management options & any new options
5:15-5:45	• Explanation of evaluation model • Establish decision factors
5:45-6:00	• Other issues, further discussion
6:00	• Adjourn. Staff available for Q&A

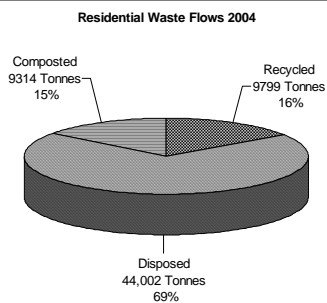
Types of Waste

- Residential/Household
 - Comes from Single Family Units (SFU)
- Institutional, Commercial, Industrial (ICI)
 - Includes schools, hospitals, businesses, light industry
 - Also often includes Multi-Family Units (MFU)
- Demolition, Land Clearing, Construction (DLC)
 - Includes waste from renovation too

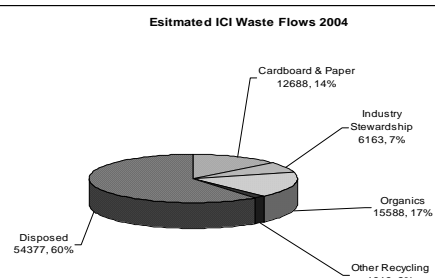
Waste Breakdown 2004



Residential Breakdown 2004



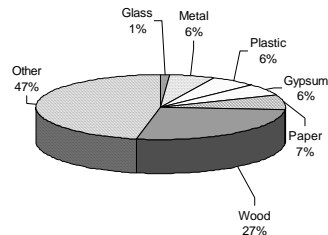
ICI Breakdown 2004



DLC Breakdown

- Pilot project currently underway

Estimated DLC Waste Composition 2002



Note: Paper, asphalt/ concrete and drywall (gypsum) are banned from the landfill

Disposal Trends

- 47% reduction in per capita disposal between 1990 and 2000
- But since 2000, rates have increased:

Residential Waste	16%
ICI Waste	16%
DLC Waste	<u>60%</u>
<i>Overall Increase</i>	<i>27%</i>

Additional Diversion Potential

	Residential	ICI	DLC
Recycling	15,000 tonnes 11%	23,000 tonnes 17%	To be determined after pilot (currently 36,000 tonnes disposed)
Composting	14,000 tonnes 10%	13,000 tonnes 9%	
Total	29,000 tonnes 21%	36,000 tonnes 26%	

47% total

Who's Responsible?

- Local governments:
 - Collection (from SFU)
 - Processing (recyclables and organics from SFU)
 - Disposal (from all streams)
- Private companies
 - ICI, MFU and DLC collection
 - ICI/DLC recycling
- See graphic

Government-Associated Facilities

- 2 landfills with joint capacity until 2050
 - Capacity calculated using a lower per capita disposal rate than the current rate
- 3 composting facilities for yard waste composting
 - Not suitable for processing food waste
- Metro Materials Recovery operates the recycling facility

Categories of Options

- Reduce & Reuse
- Recycling
- Organics Management
- Energy Recovery
- Other Options
- Residual Waste Management

Legend

- Systems already existing in the RDCO
 - 1=Fully established
 - 2=Introductory phase
 - 3=Tried and failed
 - x=Does not exist
- Additional Diversion Potential (relative to total MSW)
 - L= Low diversion potential
 - M = Moderate diversion potential
 - H= High diversion Potential
 - x= No diversion Potential

Waste Reduction & Reuse Options

	Existing	Additional Diversion Potential		
	1,2,3	Res.	ICI	DLC
Education programs	1	L	L	L
Share Sheds	x	L	x	x
Waste Exchange Days	x	L	x	x
DLC reuse area at Landfill	2	x	x	H
Round up events	1/2	L	x	x
Industry Stewardship	2	L	L	x

Recycling Options

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Continue existing collection system – residential mixed waste & blue bag	1	L	x	x
Expand types of recyclables collected in blue bag	1	L	x	x
Increase blue bag collection frequency	1	L	x	x
Collect more recyclables at depots	1	L	x	x
Expand types of recyclables collected at depots	1	L	x	x

Recycling Options (2)

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Increase # of depots	1	L	x	x
Take control of collection of MFU recyclables	x	H	L	x
Change to 2 stream collection system; organics & mixed waste. Compost the organics and mechanically separate recyclables.	x	H	H	x

Recycling Options (3)

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Continue collection of blue bag recyclables. Treat mixed waste portion with mechanical separation of remaining recyclables and biological treatment of organics.	x	H	H	L
Switch to single stream commingled collection followed by mechanical separation of recyclables and biological treatment of organics (dirty MRF)	x	H	H	M

Organics Management Options

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Increase frequency of yard waste collection	1	M	x	x
Implement food waste collection	x	M	x	x
Increase organic waste drop off to include food waste	x	L	M	L
Ban organics at LF				
Centralized composting	x	H	H	L
Decentralized composting	2	H	H	L
Aerobic digestion	x	L	M	L

Energy Recovery Options

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Conventional Combustion Systems	x	H	H	M
Advanced Thermal Systems (pyrolysis, gasification)	x	H	H	M
Anaerobic Digestion	x	H	H	M
Bioreactor landfill – Anaerobic biogas generation	x	H	H	M

Other Options

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Disposal bans for specific materials with alternative handling options provided by RDCO	2	L	H	H
Disposal bans for DLC waste with alternative handling options provided by private sector.	x	x	x	H
Variable Tipping Fees	2	L	H	H
Limits on garbage collection volume	2	M	x	x
Pay by weight garbage collection	x	M	x	x

Management of Residuals

	Existing	Additional Diversion Potential		
	1,2,3	Res	ICI	DLC
Continue to provide environmentally compliant landfill capacity	1	x	x	x
Close local landfill and send waste to regional southern BC landfill	x	x	x	x

Additional Options to Consider

- Any additional ideas to consider?
- Open for more input until May 6th
- Email to: solidwasteplan@earthtech.ca

How do we decide?

- Use a “decision model”
- Allows us to consider a large number of factors at the same time
- Need to determine the factors
- Aim for consensus on how important each one is
- Then rank how each option performs against each factor

What’s the most important?

- Essential Criteria- An option will only be considered for further consideration if it meets the essential criteria
- Current draft essential criteria:
 - Capable of meeting environmental legislation and guidelines
 - Must be proven

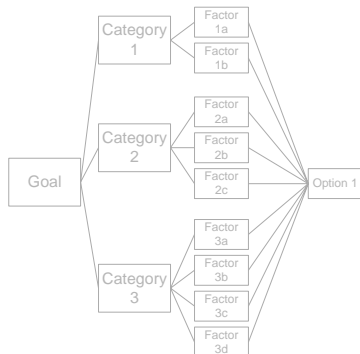
What else matters?

- Desirable criteria- Will be used to rank options that pass the essential criteria
- Four categories of desirable criteria
 - Cost
 - Environmental
 - Social
 - Practical
- Each category will be assigned a number from 1 to 10 to indicate its importance

Then what?

- Within each category there can be several factors
- Each option from the long list will be scored against each factor
- The score is multiplied by the importance of the factor
- The cumulative score will be used to rank the options and identify options that will be on the short list

How does this all fit together?



What happens now?

- Review essential and desirable criteria
- Add or delete criteria
- Establish importance of each criteria
- Earth Tech will score the performance of each option and bring the results back at the next meeting

Desirable Criteria – Cost

- Capital
- Operating
- Cost of implementation
- Long term viability and availability of feedstock (supply of waste)

Desirable Criteria – Environmental

- Progress towards Zero Waste
- Air emissions
- Risk
- Impact on the environment

Desirable Criteria – Social

- Attract skilled workforce and external funding
- Export potential of newly developed technologies
- Locally desired by general public

Desirable Criteria – Practical

- Ease of implementation
- Extension of landfill life

Next Steps

- Develop decision model
- Share results of model at next meeting
- Tentative next meeting in May, early June

- Thank you for your time and energy!