

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

June 28, 2005



Follow-Up to Garbage School

4:00-4:30	Quick review of garbage school
4:30-5:00	Review of homework results
5:00-5:30	Discussion of strategies
5:30-6:30	Selection of strategies for further evaluation

What did we learn last time?

- Waste to Energy
- Policy Options
- Landfilling
- Composting
- Recycling

Waste to Energy

- 4 basic options
 - Incineration with energy recovery
 - Advanced thermal
 - Anaerobic digestion
 - Bioreactor landfills (landfill gas recovery)
- Energy from organic (and plastic) materials is captured
- Air pollution control is critical

Policy Options

- Disposal bans
- Financial tools
- Disposal limits
- Product Stewardship
- Voluntary approaches
 - Social Marketing
- Green procurement
- Carbon credits

Landfilling

- Modern landfills have:
 - Liner
 - Leachate Management System
 - Gas Management System
 - Cap
- Some materials cannot be easily recycled, used for energy, or composted

Composting

- Static piles
- Turned windrows
- Aerated static piles
- Bays, beds and runnels
- In-vessel systems
- Organics are approximately 30% of the waste stream

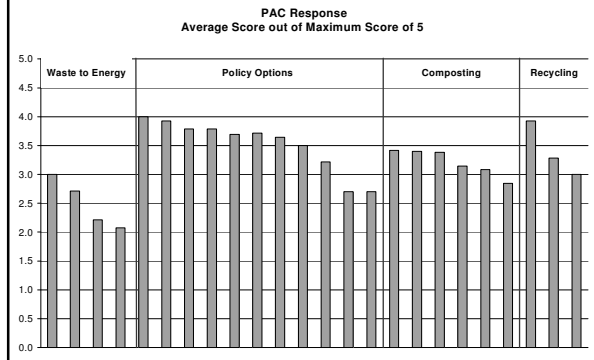
Recycling

- Blue bag system used in RDCO
 - Unlimited number of bags collected → higher recovery rate
 - Recyclables are protected from the elements
 - No sorting required by the user or hauler
 - Can use the same equipment for garbage collection
 - Fewer WCB claims
 - Lower collection costs
- There are 7 types of plastic – only #2 natural coloured is collected now
 - Natural #2 is 23% of plastics; if coloured #2 is added, the total would be 47%
 - #1 (soft drink bottles) are covered by deposit system

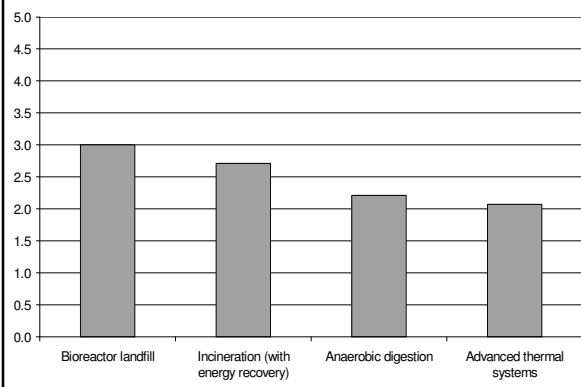
What did you think?

- Waste to Energy
 - Bioreactor landfill
 - Incineration with energy recovery
- Policy Options
 - You liked almost all of them!
 - Carbon credits and landfill tax were less popular
- Composting
 - Turned windrow, aerated static piles (covered and uncovered)
- Recycling
 - Add #2 plastics

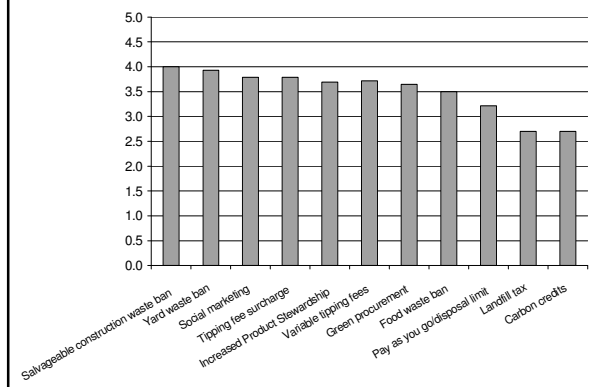
All the Results

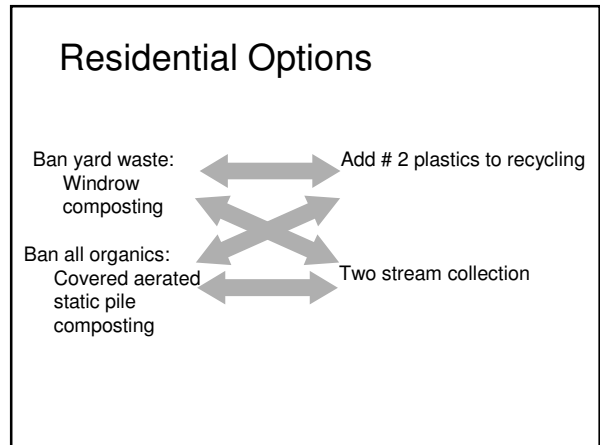
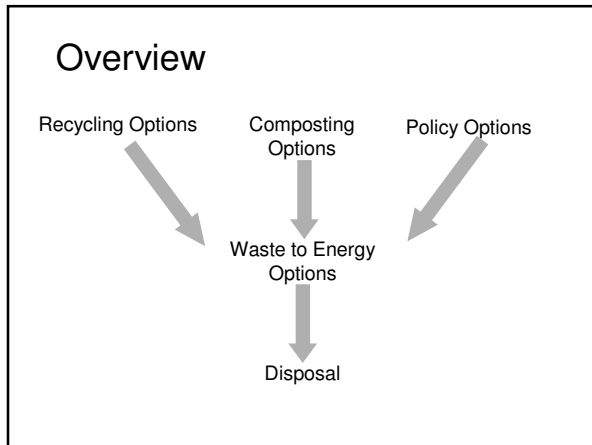
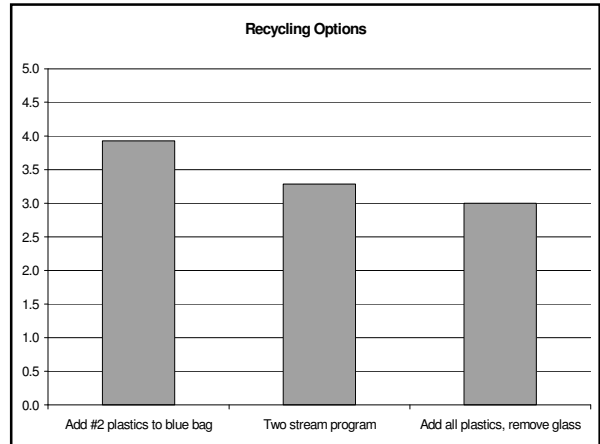
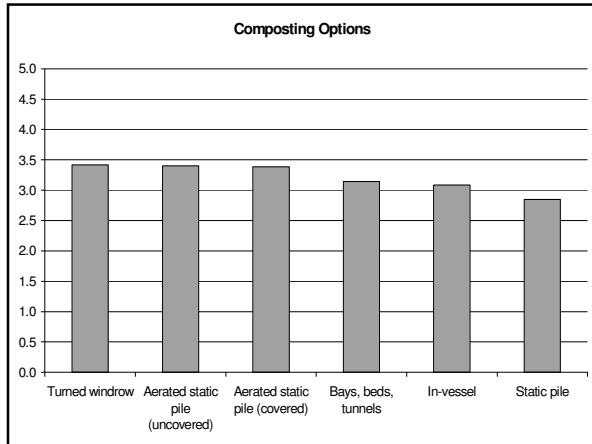


Waste to Energy Options



Policy Options





Ban Yard Waste, Add #2 Plastics

Program	Total New Diversion	Total Diversion	Additional \$ per HH (no collection)	Additional \$ per HH (collection)
Ban yard waste	5,722	18,722	\$12	\$24
Add #2	125	9,924	\$0.78	\$0.78
Total	5,847	28,646	\$11	\$25

Ban All Organics, Add #2 Plastics

Program	Total New Diversion	Total Diversion	Additional \$ per HH (weekly collection)
Ban organics	11,785	24,785	\$57
Add #2	125	9,924	\$0.78
Total	5,847	34,709	\$58

Ban Yard Waste, Two Stream Recycling

Program	Total New Diversion	Total Diversion	Additional \$ per HH (no collection)	Additional \$ per HH (collection)
Ban yard waste	5,722	18,722	\$12	\$24
2 stream recycling	0	9,799	\$0.15 <small>Does not include collection cost</small>	\$0.15 <small>Does not include collection cost</small>
Total	5,722	28,521	\$12	\$24

Ban All Organics, Two Stream Recycling

Program	Total New Diversion	Total Diversion	Additional \$ per HH (weekly collection)
Ban all organics	11,785	24,785	\$57
2 streams	0	9,799	\$0.15 <small>Does not include collection cost</small>
Total	5,847	34,584	\$57

ICI – Organics Options

Policy	Composting	Total New Diversion	Total Diversion	Cost per tonne
Ban yard waste	Turned windrow	5,352	10,852	\$32
Ban food and yard waste	Covered aerated static pile	15,291	20,791	\$42

DLC Options

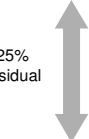
Policy	Total New Diversion	Cost/tonne
Variable tipping fee	27,600	\$(14)
Ban DLC waste	34,000	Significant loss of tipping fees

Waste to Energy – Incineration

Status Quo Diversion

132,850 tonnes for incineration

25% residual



33,000 tonnes disposed

Maximum Diversion

- Organics banned
- #2 plastics added
- DLC program in place

83,000 tonnes for incineration

25% residual



21,000 tonnes disposed

Waste to Energy – Bioreactor

- A micro-turbine has been installed at the Glenmore Landfill
- Currently generates power for 10 homes
- Eventually could generate power for 1500-2000 homes for 20 years
- Power is sold to the grid
- NOTE: A ban on organics is not compatible with profitable landfill gas collection. Bioreactors and incinerators are also mutually exclusive.

Policies that Apply to All Strategies

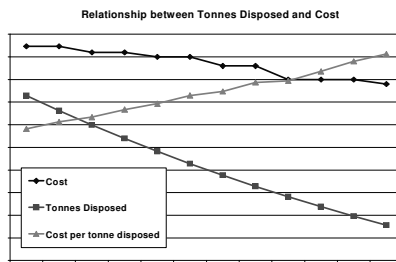
- Social marketing
- Lobbying for increased Product Stewardship
- Green procurement for the RDCO
- Tipping fee surcharge:
 - \$3-7/tonne, depending on diversion program chosen
- Variable tipping fee (non DLC waste)
 - Already in place, unlikely to have significant impact

One More Idea...

- Provide recyclables collection to multi-family dwellings
- Currently building managers contract directly with haulers

Keep in mind...

- The less waste goes in the landfill, the higher the tipping fee on the remaining waste



Next Steps

- Incorporate today's feedback
- Develop options into a presentation for general public at community meetings
- Set up community meetings
 - Peachland, Westbank, Kelowna, Lake Country, Joe Rich, N Westside Road,
 - Orchard Park or similar for a display
 - PAC participation

Next Steps

- Present plans to PAC in early September
- Community meetings in late September and early October
 - Media coverage
 - Broader public feedback
 - Use of website
- Incorporate feedback and present at joint PAC, TAC, and Engineering Committee meeting later in the fall