DIVERTING ORGANICS IN THE BOW VALLEY

PRESENTED TO THE RECYCLING COUNCIL OF ALBERTA
October 14, 2010

PETER DUCK
Regional Zero Waste Coordinator
Bow Valley Waste Management Commission
BOW VALLEY WASTE MANAGEMENT COMMISSION

INTERACTING JURISDICTIONS

I.D. 9

Banff & LLYK National Park Field Units

Kananaskis Country

Alberta Parks

MEMBER MUNICIPALITIES
## THE MUNICIPALITIES

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Area (km²)</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town of Banff</td>
<td>3.93</td>
<td>8,721</td>
</tr>
<tr>
<td>(4 Million Visitors)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Canmore</td>
<td>68.9</td>
<td>12,055</td>
</tr>
<tr>
<td>(5,667 Non-Perm. Residents)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD of Bighorn</td>
<td>2664</td>
<td>1,298</td>
</tr>
</tbody>
</table>
# Bow Valley Municipal Diversion for 2009 (t)

## Table

<table>
<thead>
<tr>
<th></th>
<th>Town of Banff</th>
<th>Town of Canmore</th>
<th>M.D. of Big Horn</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSW Sent to Landfill</td>
<td>6474</td>
<td>6823</td>
<td>365</td>
</tr>
<tr>
<td>MSW Recyclables</td>
<td>2401</td>
<td>1917</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>8875</td>
<td>8740</td>
<td>440</td>
</tr>
<tr>
<td>Diversion Rate</td>
<td>27</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>2011 Haul/Disposal Rates</td>
<td>$92.19</td>
<td>$87.04</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Lake Louise $101.46)</td>
</tr>
</tbody>
</table>
### FRANCIS COOKE REGIONAL RESOURCE RECOVERY CENTRE
#### 2009 MATERIAL STREAMS (kg.)

<table>
<thead>
<tr>
<th>Material</th>
<th>Recycle</th>
<th>Burial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>2,567,615</td>
<td></td>
</tr>
<tr>
<td>Asphalt Shingles</td>
<td>297,245</td>
<td></td>
</tr>
<tr>
<td>Concrete</td>
<td>3,093,265</td>
<td></td>
</tr>
<tr>
<td>Dry Waste</td>
<td></td>
<td>5,446,201</td>
</tr>
<tr>
<td>Drywall</td>
<td>583,700</td>
<td></td>
</tr>
<tr>
<td><strong>Kiln Dried Wood</strong></td>
<td><strong>916,310</strong></td>
<td></td>
</tr>
<tr>
<td>Mattress/Sofa</td>
<td></td>
<td>214,080</td>
</tr>
<tr>
<td>Pressure Treated Wood</td>
<td></td>
<td>281,426</td>
</tr>
<tr>
<td>Rock Waste</td>
<td></td>
<td>2,414,180</td>
</tr>
<tr>
<td>Scrap Metal</td>
<td>475,246</td>
<td></td>
</tr>
<tr>
<td><strong>Scrub &amp; Brush</strong></td>
<td><strong>991,729</strong></td>
<td></td>
</tr>
<tr>
<td>Tires</td>
<td>12,600</td>
<td></td>
</tr>
<tr>
<td><strong>Yard &amp; Garden</strong></td>
<td><strong>376,425</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SUB TOTAL</strong></td>
<td><strong>9,314,135</strong></td>
<td><strong>8,355,887</strong></td>
</tr>
<tr>
<td><strong>TOTAL DRY WASTE</strong></td>
<td><strong>17,670,022</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Diversion Rate**: 53

**Clean Cover**: 15,191,135
### AMOUNT OF MUNICIPAL SOLID WASTE, ORGANIC WASTE AND FOOD WASTE GENERATED IN BANFF

#### Source: 2cg 2004

<table>
<thead>
<tr>
<th>Source: Municipal Solid Waste</th>
<th>From All Sources</th>
<th>From Residential Sources</th>
<th>From Commercial Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (tonnes)</td>
<td>Weight (tonnes)</td>
<td>Weight (tonnes)</td>
<td></td>
</tr>
<tr>
<td>7,245</td>
<td>2,391</td>
<td>4,854</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>33</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Organic Municipal Solid Waste</td>
<td>5,001</td>
<td>1,506</td>
<td>3,495</td>
</tr>
<tr>
<td>Weight (% of All MSW)</td>
<td>69</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>Food Waste Component of All MSW</td>
<td>3,531</td>
<td>861</td>
<td>2,670</td>
</tr>
<tr>
<td>Weight (% of Organic MSW)</td>
<td>49</td>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>Food Waste Component of Organic MSW</td>
<td>3,531</td>
<td>861</td>
<td>2,670</td>
</tr>
<tr>
<td>Weight (% of Organic MSW)</td>
<td>71</td>
<td>17</td>
<td>53</td>
</tr>
</tbody>
</table>
### AMOUNT OF MUNICIPAL SOLID WASTE, ORGANIC WASTE AND FOOD WASTE GENERATED IN CANMORE

<table>
<thead>
<tr>
<th>Source: 2cg 2004</th>
<th>From All Sources</th>
<th>From Residential Sources</th>
<th>From Commercial Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (tonnes)</td>
<td>%</td>
<td>Weight (tonnes)</td>
<td>%</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>--------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Municipal Solid Waste</td>
<td>5,617</td>
<td>100</td>
<td>2,696</td>
</tr>
<tr>
<td>Organic Municipal Solid Waste</td>
<td>2,384</td>
<td>42</td>
<td>1,186</td>
</tr>
<tr>
<td>Food Waste Component of All Municipal Solid Waste</td>
<td>1,523</td>
<td>28</td>
<td>647</td>
</tr>
<tr>
<td>Food Waste Component of Organic Municipal Solid Waste</td>
<td>1,523</td>
<td>64</td>
<td>647</td>
</tr>
</tbody>
</table>

*Source: 2cg 2004*
Did You Know?

“Landfills account for 38% of Canada’s methane production.

This is the equivalent of greenhouse gas emissions from more than six million cars—or 40 per cent of all the passenger vehicles in the country.”

Environment Canada
Did You Know?

“Aiming for ZERO WASTE is one of the fastest, cheapest and most effective strategies for combating climate change.”

THE RESIDENTS
THE BARRIERS

Resistance to Sustainable Technologies - Garburators
Regulator Caution for End Uses
Haul Distances/Critical Mass
Cost of Collection Systems
Staff/Resident Turn-over
No Backyard Composting
No Curb-side Collection
Space in their Kitchen
Space in Their Alley
Facility Capacity
Facility Siting
THE OPPORTUNITIES

Already Committed to Diverting Biosolids
In-Vessel Biosolids/Yard waste Facilities in Operation
Special Events Model Behaviours/Prove Results
Regional, National and International Exposure
Municipality Collects All Sectors
Organics Heavy MSW Streams
Variety of Potential Markets
Green Tourism Economy
Alberta Proving Ground
Willing Population

Take advantage of these ...
THE PROJECTS

Town of Banff Residential and Commercial Food Collection
Town of Canmore Commitment to Biosolids Diversion
M.D. Bighorn Experiments in Lime Stabilization
Lake Louise Planning for Food Residuals Diversion
Francis Cooke/Canmore Collegiate Demonstration Project
Garburator Feasibility Study and Test Sites
Toward Zero Waste Special Events
SUCCESSFUL TRIAL HAS LED TO ORGANICS INTEGRATION WITH BILLING CHANGES

PHASED REMOVAL FROM TAXES INTO SEPARATE WASTE UTILITY CHARGE (Jan. 2011)

USER DEFINED SERVICE LEVEL (# STOPS, # BINS, BIN SIZE)

USER PAY:

- GARBAGE
- CARDBOARD
- FOOD RESIDUALS

Rethink.Waste@Banff.ca
WasteWater Treatment Facility

102 Bow Valley Trail

Operated by EPCOR

Inquiries 609-6400
Cleanit Greenit Composting Systems

Site 1 - Northwest Edmonton

Operator: KC Environmental Group Ltd.
Allowable Materials: KC approved testaehyes only
Legal: A 25, 30, 7, 5E

Contact Numbers:
Operator: K. Castro Wunder
403-292-09
Fire: 403-3000 (local) or 911
Police: 403-599-09 (local) or 911
Alberta Environmental Protection, Pollution Emergency Response Team:
20450 - 113 Avenue NW
THE FOODS FILE
From Potato Peels to Parsley
SUSTAINABLE RESOURCE DEVELOPMENT

BY-LAW

PLANNERS

EMERGENCY SERVICES

SCHOOL DIVISION ADMINISTRATION

ALBERTA ENVIRONMENT
Low Energy Dishwashing Procedures

1. Fill up the dishwasher with dishes.
2. Add detergent to the dispenser.
3. Close the dishwasher door.
4. Start the dishwasher cycle.

Daily Cleaning Procedures

1. Clean the dishwasher filter daily.
2. Wipe down the exterior of the dishwasher with a damp cloth.
3. Check for any blockages in the drain line and clear them if necessary.

For more information, visit www.dishwasher.com. 
BANFF GARBURATOR TRIAL RESULTS

Residential Garburators Incorporated Into Housing Corporation Specifications.

2 Commercial Operations Each Easily Diverted 3 to 4 t/yr.

Water Consumption 1/9 Of Feasibility Projection.

Water Costs $35 to $50/mo.

Reduced Clogging Of Drain And Sump?
BANFF GARBURATOR TRIAL RESULTS

Concluded that given appropriate garburator installation and best operating practices there are...

“...practical and economic reasons to carefully consider the role of commercial garburators in achieving convenient and cost effective diversion of food waste to composting.”
2010 TZW SPECIAL EVENTS

30 Events
82% Total Diversion
38% Organics Diversion
66% Cardboard + Organics + Refundable
Plastic Bag Initiative

Reduce The Use
PETER DUCK
Regional Zero Waste Coordinator
403-688-1627
Peter@BVWaste.ca