GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT (GVS&DD)
BOARD OF DIRECTORS

REGULAR BOARD MEETING
Friday, October 10, 2014
9:00 A.M.
2nd Floor Boardroom, 4330 Kingsway, Burnaby, British Columbia

Membership and Votes

AGENDA

A. ADOPTION OF THE AGENDA

1. October 10, 2014 Regular Meeting Agenda
   That the GVS&DD Board adopt the agenda for its regular meeting scheduled for
   October 10, 2014 as circulated.

B. ADOPTION OF THE MINUTES

1. September 19, 2014 Regular Meeting Minutes
   That the GVS&DD Board adopt the minutes for its regular meeting held
   September 19, 2014 as circulated.

C. DELEGATIONS

D. INVITED PRESENTATIONS

E. CONSENT AGENDA
   Note: Directors may adopt in one motion all recommendations appearing on the Consent
   Agenda or, prior to the vote, request an item be removed from the Consent Agenda for
   debate or discussion, voting in opposition to a recommendation, or declaring a conflict of
   interest with an item.

1. ZERO WASTE COMMITTEE REPORTS

   1.1 Clean Wood Disposal Ban Consultation Summary and Proposed Implementation
       Strategy
       That the GVS&DD Board approve the proposed implementation strategy as
       presented with an initial clean wood waste threshold of 10% in 2015 and that these
       changes be included in the Tipping Fee Bylaw for 2015.

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1 Note: Recommendation is shown under each item, where applicable.

October 2, 2014
1.2 Organics Disposal Ban Consultation Summary and Proposed Implementation Strategy
That the GVS&DD Board approve the proposed implementation strategy as presented with an initial food waste threshold of 25% in 2015 and that these changes be included in the Tipping Fee Bylaw for 2015.

1.3 Zero Waste Challenge Organics Campaign: Outreach to Increase Organics Recycling and Support the Organics Disposal Ban
That the GVS&DD Board receive for information the report dated September 3, 2014 titled “Zero Waste Challenge Organics Campaign: Outreach to Increase Organics Recycling and Support the Organics Disposal Ban”.

1.4 Comments on StewardChoice Packaging and Printed Paper Plan

1.5 Summary of European Delegate Recycling and Solid Waste Management Presentations
That the GVS&DD Board receive the report dated September 5, 2014 titled “Summary of European Delegate Recycling and Solid Waste Management Presentations” for information and distribute the report to Metro Vancouver member jurisdictions.

1.6 Update on Bylaw 280
That the GVS&DD Board receive for information the report titled “Update on Bylaw 280”, dated September 11, 2014.

2. UTILITIES COMMITTEE REPORTS

2.1 Metro Vancouver Sewer Heat Policy

2.2 Development of a Liquid Waste Outreach Strategy
That the GVS&DD Board receive for information the report titled Development of a Liquid Waste Outreach Strategy dated August 20, 2014.

F. ITEMS REMOVED FROM THE CONSENT AGENDA

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

I. OTHER BUSINESS

J. BUSINESS ARISING FROM DELEGATIONS
K. RESOLUTION TO CLOSE MEETING

Note: The Board must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item the basis must be included below.

L. RISE AND REPORT (Items Released from Closed Meeting)

M. ADJOURNMENT/CONCLUSION

That the GVS&DD Board adjourn/conclude its regular meeting of October 10, 2014.
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
BOARD OF DIRECTORS

Minutes of the Regular Meeting of the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board of Directors held at 9:13 a.m. on Friday, September 19, 2014 in the 2nd Floor Boardroom, 4330 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:
Chair, Director Greg Moore, Port Coquitlam
Vice Chair, Director Raymond Louie, Vancouver
Alternate Director George Affleck, Vancouver for Kerry Jang
Director Wayne Baldwin, White Rock
Director Malcolm Brodie, Richmond
Director Mike Clay, Port Moody
Director Derek Corrigan, Burnaby
Director Ernie Daykin, Maple Ridge
Director Heather Deal, Vancouver (departed at 9:25 a.m.)
Director Sav Dhaliwal, Burnaby
Director Steve Ferguson, Langley Township
Director Linda Hepner, Surrey
Alternate Director Bill Holmes, Electoral Area A for Maria Harris
Director Lois Jackson, Delta
Director Colleen Jordan, Burnaby
Alternate Director Bob Long, Langley Township for Jack Froese
Director Gayle Martin, Langley City (arrived at 9:22 a.m.)
Alternate Director Mary Martin, Surrey for Dianne Watts
Director Geoff Meggs, Vancouver
Director Darrell Mussatto, North Vancouver City
Director Barinder Rasode, Surrey
Director Mae Reid, Coquitlam
Director Andrea Reimer, Vancouver
Director Gregor Robertson, Vancouver
Director Michael Smith, West Vancouver
Director Barbara Steele, Surrey
Director Tim Stevenson, Vancouver
Director Harold Steves, Richmond
Director Judy Villeneuve, Surrey
Director Deb Walters, Pitt Meadows
Director Richard Walton, North Vancouver District
Director Wayne Wright, New Westminster
Commissioner Carol Mason*

MEMBERS ABSENT:
Director Richard Stewart, Coquitlam

* Non-voting member.
STAFF PRESENT:
Janis Knaupp, Assistant to Regional Committees, Board and Information Services,
Legal and Legislative Services
Chris Plagnol, Director, Board and Information Services/Corporate Officer,
Legal and Legislative Services

A. ADOPTION OF THE AGENDA

1. September 19, 2014 Regular Meeting Agenda

It was MOVED and SECONDED
That the GVS&DD Board adopt the agenda for its regular meeting scheduled for September 19, 2014 as circulated.

CARRIED

B. ADOPTION OF THE MINUTES

1. July 25, 2014 Regular Meeting Minutes

It was MOVED and SECONDED
That the GVS&DD Board adopt the minutes for its regular meeting held July 25, 2014 as circulated.

CARRIED

C. DELEGATIONS
No items presented.

D. INVITED PRESENTATIONS
No items presented.

E. CONSENT AGENDA
The following item was removed from the Consent Agenda for consideration under Section F. Items Removed from the Consent Agenda:

1.1 Award of Contract Resulting from Request for Proposal 14-084 Ground Improvement and Utility Relocation – Annacis Island Wastewater Treatment Plant Stage V Phase 1 Expansion Project

F. ITEMS REMOVED FROM THE CONSENT AGENDA

1.1 Award of Contract Resulting from Request for Proposal 14-084 Ground Improvement and Utility Relocation – Annacis Island Wastewater Treatment Plant Stage V Phase 1 Expansion Project
Report dated September 3, 2014 from Tracey Husoy, Division Manager, Purchasing and Risk Management, Financial Services, advising the GVS&DD Board of the results of RFP 14-084 Ground Improvement and Utility Relocation –
Annacis Island Wastewater Treatment Plant Stage V Phase 1 Expansion Project and recommending award of the contract, in the amount of $47,352,244, to JJM Construction Ltd./Geopac Inc., a Joint Venture.

Members were provided a presentation on the Annacis Island Wastewater Treatment Plant (WWTP) Stage V Expansion Ground Improvement and Utility Relocation Contract highlighting past upgrade, the need for Stage V expansion to provide additional plant capacity for growth, and future contracts related to the Stage V expansion project.

9:22 a.m. Director G. Martin arrived at the meeting.
2:25 a.m. Director Deal departed the meeting.

Presentation material titled *Annacis Island Waste WWTP Stage V Expansion Ground Improvement and Utility Relocation Contract* is retained with the September 19, 2014 GVS&DD Board agenda.

**It was MOVED and SECONDED**
That the GVS&DD Board authorize:

a) Award of a contract for $47,352,244 (exclusive of tax) to JJM Construction Ltd./Geopac Inc., a Joint Venture; and

b) The Chief Administrative Officer and the Corporate Officer to execute the contract.

**CARRIED**

**G. REPORTS NOT INCLUDED IN CONSENT AGENDA**
No items presented.

**H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN**
No items presented.

**I. OTHER BUSINESS**
No items presented.

**J. BUSINESS ARISING FROM DELEGATIONS**
No items presented.

**K. RESOLUTION TO CLOSE MEETING**
No items presented.

**L. RISE AND REPORT (Items Released from Closed Meeting)**
No items presented.
M. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED that the GVS&DD Board conclude its regular meeting of September 19, 2014. CARRIED (Time: 9:26 a.m.)

CERTIFIED CORRECT

_________________________________________  _______________________________
Chris Plagnol, Corporate Officer                  Greg Moore, Chair
RECOMMENDATION
That the GVS&DD Board approve the proposed implementation strategy as presented with an initial clean wood waste threshold of 10% in 2015 and that these changes be included in the Tipping Fee Bylaw for 2015.

PURPOSE
The purpose of this report is to inform the Board of Clean Wood Disposal Ban consultation activities and findings, and to seek approval of an implementation strategy for the ban.

BACKGROUND
Metro Vancouver’s Integrated Solid Waste and Resource Management Plan (ISWRMP) calls for a wood disposal ban by 2015 as part of a strategy to increase diversion of demolition, land clearing, and construction (DLC) waste to 80% by 2015. On March 28, 2014, the Board received an update on the Wood Waste Diversion Strategy and approved an engagement and consultation program for a Clean Wood Disposal Ban.

DISCUSSION
Wood waste makes up about 22% of all waste from the Metro Vancouver region currently going to disposal. Approximately 40% of that is clean wood, which is defined as solid wood, lumber, and pallets that are unpainted, unstained and untreated, and that may or may not be pierced with nails or other metal fasteners like screws or staples. Clean wood waste is easily recyclable in compost or as industrial fuel. Some types of clean wood are also reusable, particularly when recovered at the source. The remaining 60% of wood waste is painted or treated and is more challenging to recycle or reuse due to the variety of coatings, glues, and chemical treatments and the potential for environmental impacts from these chemicals.

City of Vancouver and Metro Vancouver transfer stations (Regional Facilities) receive about 25% of the clean wood waste from the region (14,000 tonnes per year of clean wood from small construction and renovation contractors, clean-up companies, and residents, as well as 16,000 tonnes per year from various institutional, commercial, and light industrial (ICI) activities delivered by large haulers). Private Demolition, Land Clearing and Construction (DLC) transfer stations and disposal facilities receive the majority of disposed clean wood in the region. This first phase of the clean wood disposal ban is focused on Regional Facilities as material disposal bans are applied at those facilities. Work is underway to look for opportunities to continue to enhance wood waste diversion at private licensed facilities.
**Consultation and Engagement Summary**

The objectives of the consultation and engagement program were to provide information and receive input on the specifics of the Clean Wood Disposal Ban, including:

- The types of clean wood to be banned from disposal
- The allowable threshold of clean wood in a load of garbage
- Implementation timelines
- Ways in which governments, businesses, and industry associations can support the diversion of clean wood from the garbage.

The Clean Wood Disposal Ban consultation period extended from April 28 to June 15, 2014. The consultation focused primarily on the renovation and construction industry and Regional Facility users. Discussions with municipal staff through the Regional Engineers Advisory Committee (REAC), REAC Solid Waste Subcommittee, Waste Reduction Coordinators and municipal communications staff also took place throughout the consultation period and will continue as Metro Vancouver moves toward ban implementation.

Key elements of the engagement and consultation program included a focus group, meetings with stakeholders, an on-line survey, distribution of educational materials at Regional Facilities and building material retail and reuse outlets, and, regional and municipal website postings. Metro Vancouver staff presented at the Greater Vancouver Home Builders’ Association Renovation Council on April 28th and at a school district workshop on May 13th. Details on the consultation activities and input opportunities can be found in Attachment 1.

The input collected during the consultation period was documented, reviewed and considered by staff in developing a proposed implementation strategy for the Clean Wood Disposal Ban.

**Feedback**

All feedback received during the consultation period (including that noted below) and Metro Vancouver responses to the feedback are presented in Attachment 2.

Key issues and findings from consultation include:

- Strong support for the Clean Wood Disposal Ban
- Some resistance to sorting out clean wood from garbage, due to space constraints and the time/cost of sorting
- Strong preference for an initial threshold of 10% clean wood in disposal loads
- Support for an expansion of services that sort construction materials, and for providing incentives for these services
- Support for training resources on recycling and source separation for new renovation staff
- Support for increasing homeowner awareness of clean wood ban and recycling
- Confusion over which materials would be included in the ban, such as sawdust or clean wood attached to other materials, which are not accepted at Regional Facilities for recycling into compost
- Concern that recovered clean wood go to the best use
- Support for reuse opportunities for good quality wood building materials
- Concern over potential poor quality of compost product (due to higher wood content).
**Proposed Implementation Strategy**

Metro Vancouver proposes a phased implementation of a Clean Wood Disposal Ban starting in 2015, as the first phase of the broader wood waste disposal ban called for in the ISWRMP. The Clean Wood Disposal Ban would be implemented at Regional Facilities where Metro Vancouver/City of Vancouver have the authority to apply disposal ban surcharges to incoming materials. Clean wood would continue to be collected in the green waste (yard trimmings) area of Regional Facilities.

The proposed implementation strategy for the Clean Wood Disposal Ban consists of these features:

- **Banned materials:** Solid wood, lumber, and pallets that are unpainted, unstained and untreated, not including sawdust, and that may or may not be pierced with nails or other metal fasteners.

- **Allowable threshold:** As of January 1, 2015, a 10% clean wood ban threshold would be applied, assessed through a visual inspection of the loads. At this threshold, the ban would affect less than 10% of loads, primarily small drop-off loads from renovation contractors, clean-up companies, and residents at Regional Facilities. These loads are typically hand-loaded and unloaded, and haulers are able to either pre-sort in advance of arriving at the Regional Facility to allow recycling of the clean wood or alternatively sort at the Regional Facility thus avoiding a surcharge. Feedback from the consultation supported starting at a 10% threshold and decreasing over time. On January 1, 2016, the allowable threshold would decrease to 5% clean wood in a disposal load. This threshold would still primarily affect small drop-off loads.

- **Surcharge:** Educational notices would be given for loads exceeding the allowable threshold for the first six months of the disposal ban. As of July 1, 2015, non-compliant loads would receive a 50% surcharge on the disposal tipping fee for the entire load. Metro Vancouver would permit Regional Facility users who exceed the allowable threshold to separate clean wood from their loads following the inspection, so the clean wood could be recycled and the surcharge avoided.

- **Applicability of Surcharges:** Different types of banned materials would not be added together when determining whether the clean wood threshold is exceeded. Only the highest surcharge would apply to any particular load.

Under the proposed strategy, the Clean Wood Disposal Ban would not initially apply to large DLC material loads delivered to the Vancouver Landfill. Applying a DLC ban only at the Vancouver Landfill would likely shift the DLC material to private facilities for disposal rather than enhance diversion. DLC materials delivered to the Vancouver Landfill are used for road construction and closure activities. If those materials were no longer accepted, other materials would need to be substituted for those purposes. Work is underway to identify options to further enhance diversion of DLC materials delivered either to the Vancouver Landfill or private facilities. One of the challenges in enhancing diversion of large loads of DLC materials is that there currently isn’t recycling capacity to process all of the material generated in the region. Markets for recovered materials, particularly painted and treated wood, also need to further evolve.

The Board should note that the City of Vancouver, through its *Solid Waste Bylaw*, independently sets Ban requirements at City of Vancouver facilities. Metro Vancouver staff have met on various occasions with City of Vancouver staff to ensure bylaw revisions are done collaboratively.
To support clean wood diversion efforts across the region, Metro Vancouver would strategically invest in focused communications and outreach initiatives:

- Communication materials for haulers and renovation contractor staff and clients
- Public outreach through the media, industry associations, schools, and on-line
- Educational resources and reuse/recycling outlets
- Signage and notices at Regional Facilities and convenient drop-off in green waste area.

If the Board approves the proposed implementation strategy, corresponding provisions for the Tipping Fee Bylaw will be brought to the Board for consideration in October.

Future phases to a wood waste ban may include expansion of the types of wood banned from disposal, and additional regulatory measures to encourage wood waste diversion at private licensed facilities that receive wood waste.

**ALTERNATIVES**

1. That the GVS&DD Board approve the proposed implementation strategy as presented with an initial clean wood waste threshold of 10% in 2015 and that these changes be included in the Tipping Fee Bylaw for 2015.

2. That the GVS&DD Board approve an alternative implementation strategy for the Clean Wood Disposal Ban.

**FINANCIAL IMPLICATIONS**

Costs associated with the proposed implementation strategy for the Clean Wood Disposal Ban, including communication and education materials, are expected to be $10,000 in the last quarter of 2014 and $10,000 in 2015. These costs are included in the Solid Waste budget for 2014 and proposed budget for 2015. No effect on the cost of disposal ban inspections is anticipated.

**OTHER IMPLICATIONS**

The proposed implementation strategy is anticipated to affect Regional Facility users at a level that will not impede facility operations. If a lower allowable threshold of 5% were introduced in 2015, twice as many users could be affected and result in traffic congestion at these facilities.

**SUMMARY / CONCLUSION**

Metro Vancouver consulted with industry and residents on the Clean Wood Disposal Ban between April and June 2014. Considering feedback received during the consultation period, as well as operational impacts at Regional Facilities, Metro Vancouver proposes to implement the disposal ban with an initial allowable threshold of 10% clean wood in disposal loads, starting on January 1, 2015. The allowable threshold would decrease to 5% in 2016, by which time clean wood diversion would have increased as a result of broad communications, education, and ban enforcement. Progressively decreasing the allowable threshold would result in fewer customer complaints and site congestion than if the disposal ban started with a 5% threshold. All non-compliant loads would receive a 50% surcharge on the disposal tipping fee as of July 1, 2015, after an initial period of educational notices following the introduction of the disposal ban. Considering consultation input and direction in the ISWRMP, staff recommends that the GVS&DD Board approve the proposed clean wood disposal ban implementation strategy.
Attachments and References:
Attachment 1: Clean Wood Disposal Ban Engagement and Consultation: Activities and Input Opportunities
Attachment 2: Clean Wool Disposal Ban Engagement and Consultation: Issue-Response Table
Clean Wood Disposal Ban Engagement and Consultation: Activities and Input Opportunities
April 28 – June 15, 2014

This attachment summarizes key elements of this consultation program, including workshops, focus
groups, an on-line survey and communication mechanisms.

Renovation Council Meeting (April 28, 2014):
• 25 participants
• Presented the proposed Clean Wood Disposal Ban to industry leaders and
  renovation/construction company representatives
• Participants shared perspectives and provided feedback on ban implementation and allowable
  thresholds of clean wood in a load of garbage.

School District Meeting (May 13, 2014):
• 27 participants
• Presented the proposed Clean Wood Disposal Ban to school district representatives and
  municipal staff, in coordination with a discussion on the proposed Organics Disposal Ban
• Participants shared perspectives and provided feedback on ban implementation and allowable
  thresholds of clean wood in a load of garbage.

Spring Home Renovation Show (May 24, 2014)
• Provided attendees with handouts regarding the proposed Clean Wood Disposal Ban and
  opportunities to submit feedback.

Industry Focus Group (June 12, 2014):
• 3 participants
• Presented the proposed Clean Wood Disposal Ban to representatives from the renovation and
  construction industry
• Participants shared detailed feedback on ban implementation; allowable thresholds of clean
  wood in loads of garbage; potential transition resources for businesses to improve diversion of
  clean wood through education and communications; and their own challenges and those of
  their clients regarding waste management and diversion.

Education Materials
• 50,000 bookmarks were printed for distribution. Bookmarks included a call to complete the on-
  line survey and cross-promoted the Organics Disposal Ban engagement program and
  MetroVancouverRecycles.org. The bookmarks were provided to:
  o Metro Vancouver’s six transfer stations
  o City of Vancouver Landfill and transfer station
  o Building supply and reuse stores
  o Municipal building permit counters
  o Waste Management Association of British Columbia
• 5,000 FAQ documents were provided to the above noted locations for distribution.
On-line Survey
• An on-line survey was developed to receive feedback regarding ban implementation
• 48 surveys were completed during the consultation period.

Communication Mechanisms
• Clean Wood Disposal Ban engagement and consultation webpage:
  http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/CWDB.aspx
• Construction Waste information page:
  http://www.metrovancouver.org/services/solidwaste/businesses/constructionwaste/Pages/default.aspx
• Postings and news stories on municipal homepages
• Notifications in on-line industry/business association newsletters
• Notifications and reminder correspondence (letters and emails May to June 2014) to municipal staff and an industry database of 324 contacts compiled by Metro Vancouver.
# Metro Vancouver's Clean Wood Disposal Ban - Phase 1

## Issues, Comments, Questions and Metro Vancouver Responses

<table>
<thead>
<tr>
<th>Issue #</th>
<th>Category</th>
<th>Source</th>
<th>Issue/Comment/Question</th>
<th>Metro Vancouver Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Incentives for Source-Separation</td>
<td>Resident - Vancouver</td>
<td>Uncertainty over where to take clean wood.</td>
<td>Municipalities prefer that residents take clean wood to the staffed Green Waste area at Regional Facilities for recycling into compost. This will prevent any possible contamination of organics collected at the curbside with non-compostable materials such as treated wood or construction/demolition waste.</td>
</tr>
<tr>
<td>2</td>
<td>Incentives for Source-Separation</td>
<td>Renovation Council April 28, 2014</td>
<td>Interest in better systems for sorting materials on site that commonly contaminate wood loads, such as cardboard, plastic film, and Styrofoam.</td>
<td>Contractors are encouraged to communicate their needs for convenient collection of cardboard, plastic film, and Styrofoam with hauling companies, which will encourage innovation amongst haulers. Metro Vancouver will also share this recommendation with the hauling and recycling industry.</td>
</tr>
<tr>
<td>3</td>
<td>Awareness/Education</td>
<td>Renovation Council April 28, 2014</td>
<td>Interest in better source separation training for staff arriving at new sites.</td>
<td>Metro Vancouver has developed a Demolition, Land Clearing, and Construction Waste Management Toolkit, available on-line. We will continue to work with industry associations and trade schools to introduce current and future demolition contractor staff to the principles of source separation.</td>
</tr>
<tr>
<td>4</td>
<td>Incentives for Source-Separation</td>
<td>Renovation Council April 28, 2015</td>
<td>Interest in lower disposal/recycling rate for services that sort on behalf of renovation companies.</td>
<td>Private licensed facilities charge lower tipping fees for source-separated recyclable materials. At Regional Facilities, services that sort out banned materials pay a lower disposal fee than those delivering loads containing banned materials that incur a surcharge.</td>
</tr>
<tr>
<td>5</td>
<td>Threshold</td>
<td>Renovation Council April 28, 2016</td>
<td>5% is too low, 10% seems a fair threshold.</td>
<td>The proposed implementation strategy for the clean wood disposal ban calls for an initial acceptable threshold of 10% clean wood in disposal loads starting in January 2015, and then shifting to a more stringent 5% acceptable threshold in January 2016. This will keep the number of non-compliant loads at a level that will not impede operations and site traffic, while communicating the message about the disposal ban and encouraging more recycling amongst all clean wood generators.</td>
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<tr>
<td>6</td>
<td>Threshold</td>
<td>Renovation Council April 28, 2017</td>
<td>Larger loads should be allowed a higher threshold, because it is more difficult for large projects to sort material than it is for a small project.</td>
<td>The proposed implementation strategy for the clean wood disposal ban calls for an initial acceptable threshold of 10% clean wood in disposal loads starting in January 2015, and then shifting to a more stringent 5% acceptable threshold in January 2016. Feedback from renovation contractors supported the 10% initial threshold, particularly if industry associations can share information about services that facilitate sorting on large projects.</td>
</tr>
<tr>
<td>7</td>
<td>Targeted Materials</td>
<td>School Districts - Workshop</td>
<td>Will plywood be banned from disposal?</td>
<td>Plywood is treated with glue. Treated wood will not be banned from disposal at this stage, until there are more recycling options for treated wood.</td>
</tr>
<tr>
<td>8</td>
<td>Targeted Materials</td>
<td>School Districts - Workshop</td>
<td>Will sawdust from school carpentry classes be banned from disposal, if it contains plywood sawdust?</td>
<td>Sawdust will not be banned from disposal, since it may contain particles of treated wood. Treated wood is not accepted in the Green Waste area for composting as per BC’s Organic Matter Recycling Regulation.</td>
</tr>
<tr>
<td>9</td>
<td>Transfer Station Operations</td>
<td>School Districts - Workshop May 13, 2014</td>
<td>Can clean wood from carpentry classes be recycled with organics?</td>
<td>Clean wood waste generators should check with their hauler and the facility receiving their organics about what types of materials are accepted at the facility.</td>
</tr>
<tr>
<td>10</td>
<td>Threshold</td>
<td>On-line Comments</td>
<td>A ban on the disposal of clean wood is overdue.</td>
<td>Support noted. The community also strongly supported a disposal ban on clean wood during public consultation on the Integrated Solid Waste and Resources Management Plan (ISWRMP). Metro Vancouver will present a proposed implementation strategy for the clean wood disposal ban to the Board in September with the intention to initiate the disposal ban in January 2015.</td>
</tr>
<tr>
<td>11</td>
<td>Targeted Materials</td>
<td>On-line Comments</td>
<td>Bylaw No. 281 defines clean wood waste as including “plywood, particle board, and oriented strand board”. The Clean Wood Disposal Ban states that wood must be free of glue to be banned.</td>
<td>The definition of clean wood waste will be updated in Metro Vancouver’s Tipping Fee Bylaw effective in 2015. Clean wood will no longer include plywood, OSB, and particle board to align with the BC Organic Matter Recycling Regulation.</td>
</tr>
<tr>
<td>12</td>
<td>End Uses and Products</td>
<td>On-line Comments</td>
<td>A wood waste ban is long overdue. Support for providing an opportunity to reuse good quality wood waste from construction and demolition.</td>
<td>Support noted. In addition to the Clean Wood Disposal Ban, Metro Vancouver will also investigate the feasibility of recovering usable material from loads delivered to Regional Facilities.</td>
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<td>13</td>
<td>End Uses and Products</td>
<td>On-line Comments</td>
<td>Industrial markets other than fuel energy supply from waste wood exist.</td>
<td>Metro Vancouver’s ISWRMP supports end uses of wood that are higher in the hierarchy of waste management, favouring waste reduction, reuse, and recycling. Diverse markets for recycling wood will increase demand for recycled wood and encourage more wood waste generators to recycle.</td>
</tr>
<tr>
<td>14</td>
<td>Impacts</td>
<td>Focus Group June 12, 2014</td>
<td>A disposal ban on clean wood would make the process of salvaging and diverting the material easier to defend to customers.</td>
<td>Metro Vancouver will communicate its Clean Wood Disposal Ban through various media to inform homeowners and contractors of the recycling requirements.</td>
</tr>
<tr>
<td>15</td>
<td>Transfer Station Operations</td>
<td>Focus Group June 12, 2015</td>
<td>Concern that need for a worker to sort materials at the transfer station will impact traffic and will affect the contractor’s bottom line. Transfer stations should have bins designated for clean wood or mixed wood that are clearly marked, easy to understand and quick to use.</td>
<td>Pre-sorted clean wood can be placed in the Green Waste area for recycling at Regional Facilities. Metro Vancouver is exploring the feasibility of introducing drop-off of mixed wood at Regional Facilities. After an initial education period, Metro Vancouver anticipates that most facility users will sort materials before delivering them to Regional Facilities.</td>
</tr>
<tr>
<td>16</td>
<td>Impacts</td>
<td>Focus Group June 12, 2016</td>
<td>Applying the disposal ban to small loads that drop off at Regional Facilities, while excluding C&amp;D material at Vancouver Landfill, will lead contractors/homeowners to combine and deliver larger loads to other facilities. Applying the disposal ban to all clean wood generators would create an even playing field.</td>
<td>Metro Vancouver licenses private facilities that consolidate smaller loads of C&amp;D material prior to delivery to recycling or disposal. Through their license, these private facilities have additional financial incentives to recycle material. Whether loads containing clean wood are delivered to Regional Facilities or private licensed facilities for consolidation, those responsible for loads will be encouraged to recycle more.</td>
</tr>
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<td>17</td>
<td>Targeted Materials</td>
<td>Focus Group June 12, 2017</td>
<td>Clarification needed on treated vs. clean wood and whether plywood is included in the ban.</td>
<td>In the 2015 Tipping Fee Bylaw, clean wood will be defined as solid wood, lumber, and pallets that are unpainted, unstained, free of glue, and untreated. The wood may be pierced with nails or other metal fasteners like screws or staples. Plywood is not included in the definition of clean wood.</td>
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<td>18</td>
<td>Targeted Materials</td>
<td>Focus Group June 12, 2018</td>
<td>Interest in Metro Vancouver’s position on sawdust and on pieces of clean wood attached to other materials.</td>
<td>Sawdust will not be banned from disposal, since it may contain particles of treated wood. Only clean wood that is not attached to other materials, like treated wood, will be accepted for recycling and subject to the Disposal Ban. Treated wood is not accepted in the Green Waste area for composting due to BC’s Organic Matter Recycling Regulation.</td>
</tr>
<tr>
<td>19</td>
<td>Enforcement</td>
<td>Focus Group June 12, 2019</td>
<td>Interest in Metro Vancouver’s position on bagged materials from condominium renovations.</td>
<td>Bagged materials from condo renovations are accepted at Regional Facilities. Bulky and sharp contents such as pieces of clean wood often protrude from bags after transportation and handling. Disposal bans are enforced through visual inspection on the tipping floor.</td>
</tr>
<tr>
<td>20</td>
<td>Targeted Materials</td>
<td>On-line Survey</td>
<td>Concern with difficulty and expense involved in separating clean wood from plywood in subflooring. The ban should accommodate loads that contain clean wood attached to treated wood that is very difficult to remove.</td>
<td>Only clean wood that is not attached to other materials, like treated wood, will be accepted for recycling and subject to the Disposal Ban. Treated wood is not accepted in the Green Waste area for composting due to BC’s Organic Matter Recycling Regulation.</td>
</tr>
<tr>
<td>21</td>
<td>End Uses and Products</td>
<td>On-line Survey</td>
<td>Interest in using clean wood as feedstock for waste-to-energy facilities. Given its low moisture content and high energy value.</td>
<td>Metro Vancouver’s ISWRMP promotes end uses of wood that are higher in the hierarchy of waste management, favouring waste reduction, reuse, and recycling. Clean wood is also accepted at private licensed facilities that produce alternative fuel for industrial boilers. Metro Vancouver is exploring ways to increase the amount of reusable wood that can be salvaged at Regional Facilities and sold off-site at used or non-profit building material retailers.</td>
</tr>
<tr>
<td>22</td>
<td>Impacts</td>
<td>On-line Survey</td>
<td>Concern that if clean wood is composted, the quality of compost, which already contains too much carbon and not enough nitrogen, will be further compromised. Local compost is glorified wood chips and sand.</td>
<td>Compost facilities need the wood as a bulking agent to help with aeration. Commercial composting operations are experienced in blending organic materials to obtain optimal carbon-nitrogen ratios. Their business relies on making quality products that meet market specifications. Metro Vancouver is exploring other uses, such as salvage and reuse. Private licensed facilities also recycle clean wood into alternative fuel.</td>
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<td>Issue #</td>
<td>Category</td>
<td>Source</td>
<td>Issue/Comment/Question</td>
<td>Metro Vancouver Response</td>
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<tr>
<td>23</td>
<td>Incentives for Source-Separation</td>
<td>On-line Survey</td>
<td>Noted there has to be an economic advantage to recycling, or it simply inflates prices for customers. Suggest discounts for compliant companies rather than punitive surcharges for those that are in non-compliance.</td>
<td>The tipping fee for recycling clean wood in the Green Waste area at Regional Facilities or through private licensed facilities is lower than the garbage disposal tipping fee. There is an economic advantage to recycle, but not all customers use it. The disposal ban and surcharges create an additional economic incentive to recycle, by expanding the gap between the recycling tipping fee and disposal costs.</td>
</tr>
</tbody>
</table>
To: Zero Waste Committee

From: Sarah Evanetz, Public Involvement Division, Solid Waste Services

Date: September 5, 2014

Meeting Date: September 11, 2014

Subject: Organics Disposal Ban Consultation Summary and Proposed Implementation Strategy

RECOMMENDATION
That the GVS&DD Board approve the proposed implementation strategy as presented with an initial food waste threshold of 25% in 2015 and that these changes be included in the Tipping Fee Bylaw for 2015.

PURPOSE
The purpose of this report is to inform the Board of Organics Disposal Ban consultation activities and findings, and to seek approval of an implementation strategy for the Ban.

BACKGROUND
Metro Vancouver’s Integrated Solid Waste and Resource Management Plan (ISWRMP) calls for a ban on the disposal of organics starting in 2015. As of 2012, businesses and residents in Metro Vancouver recycled about 58 per cent of the garbage generated. About one-third of the waste remaining after recycling is compostable organics (about 450,000 tonnes), including food and food waste. Because organics is such a large portion of the region’s garbage, the Organics Disposal Ban is key to achieving Metro Vancouver’s ambitious recycling targets.

Almost all Member Municipalities are collecting organics from single-family homes, and some are also collecting from multi-family residences. Organics collection from businesses is growing. In addition, some municipalities have implemented bylaws to make organics recycling mandatory, and other municipalities are developing similar bylaws.

Metro Vancouver’s waste flow management bylaw, Bylaw 280, is still under consideration by the Minister of Environment. Without the approval of Bylaw 280, all bans, including the Organics Disposal Ban, would become ineffective. On this basis, approval of Bylaw 280 is critical to the success of the Organics Disposal Ban implementation.

Engagement and Consultation
Metro Vancouver held formal consultation on introducing a disposal ban through the Zero Waste Challenge consultations of 2006 and 2007 and the three phases of ISWRMP consultations between 2008 and 2010. After determining a disposal ban was desirable, it was included in the ISWRMP.

Details of how the ban might be implemented were discussed with stakeholders and in October 2013 the Board approved a consultation program on an Organics Disposal Ban for Metro
Vancouver. In February 2014, a report to the Zero Waste Committee outlined pre-consultation engagement with large organics waste producers (grocers, restaurants and hotels, schools, property managers, health facilities, and small-to-medium enterprises).

Formal consultation on the implementation of a ban took place between February 25 and June 15, 2014 for all stakeholder groups and members of the public. In May 2014, the Board received an update on engagement and consultation activities, and approved finalizing a recommended strategy for implementing the proposed ban.

The 2014 engagement activities included consultation with the commercial and multi-family residential sectors, as well as municipal staff through the Regional Engineers Advisory Committee (REAC), REAC Solid Waste Sub-committee, Waste Reduction Coordinators and municipal communications staff. At the same time, Member Municipalities were seeing progress on organics diversion in the single-family sector.

DISCUSSION
Engagement and Consultation Program
The objectives of the engagement and consultation program were to provide information and receive input on the specifics of the Organics Disposal Ban, including:
- the types and definitions of organic materials to be included;
- potential enforcement mechanisms, thresholds and penalties;
- implementation timelines; and
- transition initiatives to help residents and businesses comply with the disposal ban.

In early February 2014, Metro Vancouver notified a broad range of stakeholders, including: commercial, multi-family residential and institutional organics waste producers; business associations; member municipality elected officials and staff; adjacent regional districts; local First Nations; haulers and processors, non-governmental organizations, academia, and government agencies to engage their participation in upcoming consultation activities.

Three workshops and a corresponding multi-part online survey formed the core of the engagement and consultation program. Metro Vancouver also hosted a food industry sectors meeting on June 10, 2014.

In addition, staff presented and discussed Organics Disposal Ban information at meetings of REAC (2), REAC Solid Waste Sub-committee (5), the Municipal Waste Reduction Coordinators Committee (3) and Municipal Communications Coordinators (1).

Details of all consultation activities and findings can be found in Attachment 1.

The input collected during the consultation period was documented, reviewed and considered by staff in developing a proposed implementation strategy.

Feedback
The key issues raised during the consultation period (including those noted below) and Metro Vancouver’s responses to those issues appear in Attachment 2.
There is a general acceptance and knowledge that the Organics Ban is coming and strong individual support for the Ban, particularly due to benefits related to sustainability, staff engagement, increasing environmental awareness, reduced landfill usage and lower greenhouse gas emissions. Many early adopters and successes were identified and shared with consultation participants.

Concerns related to the Ban were primarily attributed to the implementation challenges in multi-family residences, social housing, restaurants, retail, small-to-medium sized enterprises and food charities. Cost and readiness concerns were frequently noted by these participants. Specific challenges identified included the following:

- Organics diversion in multi-family residences is complicated by the overlapping roles and responsibilities of building managers, strata councils and residents.
- Restaurants identify challenges with front-of-restaurant organics separation and high staff turnover.
- Restaurants and composting facilities are concerned that targeting food-soiled paper will require front-of-restaurant waste that contains much food-soiled paper to be composted even if there is a high risk of contamination from non-compostable single-use foodware and other materials.
- Grocers, other retailers and agricultural operations expressed concern over depackaging requirements, capacity and costs.

Businesses and building managers noted concerns with operational costs for infrastructure and space, separation, additional bins, and hauling that will create a financial burden and exceed any cost savings provided by the Ban. Existing inflexible and long-term contracts with waste service providers were also identified as a challenge.

Other concerns included nuisance issues related to pests and odour, and any related human health impacts, especially in restaurants and multi-family residences. Concern regarding the effort and mess involved in cleaning bins was also raised. The need for an extra truck or collection route to collect organics was identified, creating cost and environmental concerns.

While many participants noted support for source separation and the social and personal responsibility it engenders, others, including some waste management and business representatives expressed interest in the use of mixed waste material recovery facilities to separate organics from the waste stream as an alternative to source separation.

There was industry support for the private sector opportunities created by the Ban, such as increases in demand for organics hauling and processing.

Increasing public awareness of the Ban and its benefits was viewed as important to the success of the Ban. Educational resources were requested for restaurant staff, property managers and multi-family residents (including toolkits, training videos and flyers), in addition to broad education and advertising campaigns. Interest was expressed in Metro Vancouver and Member Municipalities leading Organics Disposal Ban promotion and engendering behavioral change. Also identified was the opportunity for Metro Vancouver to facilitate consistent organics management standards and signage amongst Member Municipalities throughout the region.
With respect to implementation of the Ban, many participants favoured gradual implementation of the Organics Disposal Ban over time to allow for the development of required infrastructure and staff training. Others supported the immediate implementation of the Ban as fairer and less confusing than Ban components (types of banned materials, tolerance threshold, and surcharge) changing over time. Support for decreasing tolerance thresholds over time was expressed, acknowledging that starting with a relatively high threshold would impact large organics generators first. Large waste generators feel they are being asked to shoulder a disproportionate amount of responsibility for the early success of the Ban. Support for lower initial surcharges was noted.

Participants also expressed an interest in how Metro Vancouver will enforce the Ban, emphasizing the need for a fair, consistent, transparent inspection methodology and efficient surcharge dispute resolution mechanisms. Haulers expressed concern with how surcharges will be levied on them for their clients’ non-compliance and the resulting burden placed on haulers to ensure the Ban is a success.

Interest in the end use of recycled organics as compost or biofuel was widely expressed, while the importance of preventing contamination to ensure a viable end product was also raised.

Many participants noted that significant regional and municipal effort is required to change behaviour.

**Proposed Implementation Strategy**

The focus of the proposed strategy is twofold:

1. Ban organics from garbage going to Regional Facilities (Metro Vancouver and City of Vancouver disposal facilities). This regulatory tool sends an important signal to organics generators across the region and provides a financial incentive.

2. Support the transition to organics diversion through focused communications and educational resources that can be leveraged by partners across the region in municipalities, industry and other organizations.

The Board should note that the City of Vancouver, through its *Solid Waste Bylaw*, independently sets Ban requirements at City of Vancouver facilities. Metro Vancouver staff have met on various occasions with City of Vancouver staff to ensure bylaw revisions are done in a collaborative and cooperative manner.

In coordination with this strategy, Metro Vancouver is also promoting opportunities to reduce food waste through the development of Industry Food Donation Guidelines with the BC Centre for Disease Control as well as a Love Food - Hate Waste campaign with food retailers and the public.

A phased approach, as has been done in other jurisdictions with organics disposal bans, is recommended:

- **Banned materials**: The Organics Disposal Ban would focus initially on food waste (raw and cooked vegetables, fruits, baked goods, meats, seafood, dairy products, etc.). Food-soiled papers would be considered for addition to the ban in future years, when front-of-restaurant organics separation, where these materials are prevalent, poses a lower risk of contaminating the compost production process.
• **Allowable threshold:** As of January 1, 2015, disposal loads would be allowed to contain no more than 25% food waste assessed through a visual inspection of the loads. At this threshold, the disposal ban would initially affect the largest and most important producers of organics (e.g., food retailers and large food service businesses). Feedback from the consultation and engagement program supported starting at a 25% threshold and decreasing over time. At a 25% threshold only large generators of organics without effective recycling programs would be subject to surcharges. Currently, loads with more than 25% organics based on visual inspections would represent less than 5% of all loads delivered to Metro Vancouver facilities, given that many large generators of organics have already implemented organics diversion programs. On January 1, 2016, the allowable threshold would decrease to 10% food waste in a disposal load. This would allow time for education and promotion of the Organics Disposal Ban to have increased public awareness of the ban, and for the next largest organics producers to have implemented diversion programs. On January 1, 2017, the threshold would decrease to 5%.

• **Surcharge:** Educational notices would be given for loads exceeding the allowable threshold of organics for the first six months of the disposal ban. As of July 1, 2015, non-compliant loads would receive a 50% surcharge on the disposal tipping fee for the entire load.

• **Applicability of surcharges:** Different types of banned materials would not be added together when determining whether the organics threshold has been exceeded. Only the highest surcharge would apply to any particular load.

To support the organics diversion efforts of partners across the region, Metro Vancouver will lead a regional organics communications and outreach campaign, issue standardized communications tools, toolkits and educational and training resources and continue to convene stakeholders to share experiences and help each other during the transition to organics diversion.

Metro Vancouver will also continue to work closely with commercial, multi-family residential and institutional organics waste producers; business associations; member municipalities; haulers and processors, non-governmental organizations and government agencies as the Organics Disposal Ban strategy is implemented throughout the region.

If the Board approves the Organics Disposal Ban implementation strategy, the changes to the Tipping Fee Bylaw required to enact the strategy will be brought to the Board for consideration in October.

**ALTERNATIVES**
1. That the GVS&DD Board approve the proposed implementation strategy as presented with an initial food waste threshold of 25% in 2015 and that these changes be included in the Tipping Fee Bylaw for 2015.
2. That the GVS&DD Board provide alternate direction to implement the Organics Disposal Ban.

**FINANCIAL IMPLICATIONS**
Costs funded from Solid Waste Services operating budget associated with implementation of the Organics Disposal Ban are expected to be $338,000 in the last quarter of 2014 and $180,000 in
2015. As noted earlier in the report, this funding is for stakeholder engagement and the development of educational and training resources to support the organics diversion efforts of partners across the region. These costs are included in the Solid Waste Services operating budget for 2014 and the proposed budget for 2015.

SUMMARY / CONCLUSION
Metro Vancouver obtained and considered significant and wide ranging input from the various stakeholder groups who will be involved in the implementation of an Organics Disposal Ban. Taking into consideration feedback from the consultation and engagement process, staff recommend that the organics disposal ban be focused on food waste and exclude food-soiled paper at this time. The threshold of allowable food waste before incurring surcharges (50% of the regular tipping fee) should be 25% by volume starting January 1, 2015, with a reduction to a 10% threshold after the first year, and then to 5% the year after that. This phased implementation approach would affect the largest and most important producers of food waste first, but eventually would affect all food waste producers. The enforcement of the disposal ban would be accompanied by an initial six-month educational period where surcharge notices would be written, but no surcharges levied, and continued efforts with Member Municipalities and key stakeholders to undertake educational and outreach initiatives to increase awareness of the new ban. Based on consultation input and direction in the ISWRMP, staff recommends that the GVS&DD Board approve the proposed implementation strategy.

If the Board approves the proposed Organics Disposal Ban implementation strategy, the changes to the Tipping Fee Bylaw required to enact the strategy will be brought to the Board for consideration in October.

Attachments and References:
Attachment 1: Organics Disposal Ban Engagement and Consultation: Activities and Input
Attachment 2: Organics Disposal Ban Key Issues and Metro Vancouver Responses

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Organics Disposal Ban Engagement and Consultation: Activities and Input
February 25 – June 15, 2014

This attachment summarizes key elements of this consultation program, including workshops, surveys, correspondence and communications mechanism.

Workshop No. 1 (February 25, 2014):
- 125 participants
- summarized input gathered from pre-consultation engagement with key business sectors
- presented organics diversion experiences from local businesses and the commercial organics disposal ban by the Regional District of Nanaimo
- presentations are available online at: http://www.metrovancouver.org/services/solidwaste/businesses/OrganicsBan/Documents/Workshop1-Presentation-Feb252014.pdf
- stakeholders from different sectors shared perspectives and provided initial feedback on ban implementation
- Workshop No. 1 summary, including issues summary, is posted on-line at: http://www.metrovancouver.org/services/solidwaste/planning/Engagement/ConsultationDocs/ODBWorkshopNo1Summary-February25-2014.pdf

Workshop No. 2 (April 23, 2014):
- 123 participants
- presented examples of organics waste diversion experiences from local businesses
- presented four potential options for implementing the Ban; presentation available online at: http://www.metrovancouver.org/services/solidwaste/businesses/OrganicsBan/Documents/Workshop2-Presentations-April232014.pdf
- received detailed feedback from participants on the benefits and concerns they identified with each option
- received suggestions for methods of implementing the Organics Disposal Ban in addition to the four options presented
- presented and received feedback on potential ways to support the transition as businesses comply with the Organics Disposal Ban through education and communications
- Workshop No. 2 summary, including issues summary, is posted on-line at: http://www.metrovancouver.org/services/solidwaste/businesses/OrganicsBan/Documents/Workshop2-SummaryApril232014.pdf

Food Industry Sectors Meeting Summary (June 10, 2014):
- 33 participants; 3 feedback forms received
- Invitees included those involved in the food retail, service, production, distribution, and processing sectors
- presented two refined Organics Disposal Ban implementation options
- presented possible transition support initiatives, including communications
- shared challenges common and unique to food sectors
- received input on implementation options and possible transition initiatives
• three completed feedback forms appear in the *Organics Disposal Ban: Report on Engagement and Consultation Activities and Feedback*

**Workshop No. 3 (June 11, 2014):**

- 119 participants, 25 feedback forms received
- presented two refined Organics Disposal Ban implementation options
- presented possible transition initiatives, including communications
- presentations are available on-line at:
  
  [http://www.metrovancouver.org/services/solidwaste/planning/Engagement/ConsultationDocs/WorkshopNo3-Presentations.pdf](http://www.metrovancouver.org/services/solidwaste/planning/Engagement/ConsultationDocs/WorkshopNo3-Presentations.pdf)
- received input on implementation options and possible transition support initiatives
- Workshop No. 3 summary, including issues summary, posted on-line at:
  
- 25 completed feedback forms appear in the *Organics Disposal Ban: Report on Engagement and Consultation Activities and Feedback*

**On-line Survey:**

- A multi-part on-line survey, corresponding to the discussion topics at the workshops, was used to receive additional written feedback regarding ban implementation
- 311 surveys were completed by June 15, 2014
- Survey questions and response data appear in the *Organics Disposal Ban Report on Engagement and Consultation Activities and Feedback*, available on-line at:

  [http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/OrganicsBan.aspx](http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/OrganicsBan.aspx)

**Correspondence:**

- 36 e-mails and letters were received that included substantive input – they appear in the *Organics Disposal Ban Report on Engagement and Consultation Activities and Feedback*, available on-line at:

  [http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/OrganicsBan.aspx](http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/OrganicsBan.aspx)

**Communication Mechanisms:**

- Organics Disposal Ban engagement and consultation webpage:

  [http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/OrganicsBan.aspx](http://www.metrovancouver.org/services/solidwaste/planning/Engagement/Pages/OrganicsBan.aspx)
- Organics Disposal Ban information page:

  [http://www.metrovancouver.org/services/solidwaste/businesses/OrganicsBan/Pages/index.aspx](http://www.metrovancouver.org/services/solidwaste/businesses/OrganicsBan/Pages/index.aspx)
- Social media activity on Twitter (15 tweets February 25 to June 15, 2014) and Facebook (three postings – February 26, June 2 and 10, 2014)
- On-line industry/business association magazines (B.C. Food and Restaurant Association, Building Owner and Managers Association of B.C., Vancouver Board of Trade)
- Notification, invitation and reminder correspondence (letters and emails February to June 2014)
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<th>Issue/Comment/Question</th>
<th>Metro Vancouver Response</th>
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<tr>
<td>1</td>
<td>Benefits</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Survey 2, Advisory Committees Tracy Tobin-City of Burnaby, E-mail: March 27, 2014 Cornelia Dina-Online Input</td>
<td>Strong support for the Ban, particularly due to benefits related to sustainability, increasing environmental awareness, reduced landfill usage and lower GHG emissions. Support noted. These are the same reasons the community expressed its desire for an Organics Disposal Ban during public consultation on the region's 2010 Integrated Solid Waste and Resources Management Plan.</td>
<td>Support noted. These are the same reasons the community expressed its desire for an Organics Disposal Ban during public consultation on the region's 2010 Integrated Solid Waste and Resources Management Plan. Support noted. Metro Vancouver will continue to work with the Waste Management Association of B.C. and member municipalities to support the development of these services.</td>
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<tr>
<td>2</td>
<td>Benefits</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Survey 2, Advisory Committees Tracy Tobin-City of Burnaby, E-mail: March 27, 2014 Debbie Fleming-Township of Langley, E-mail: April 3, 2014 Tess White-Township of Langley, E-mail: April 3, 2014 Douglas McCallum-Restaurants Canada, E-mail: May 29, 2014</td>
<td>Support for the private sector opportunities to increase organics hauling and processing capacity. Support noted.</td>
<td>Support noted. These are the same reasons the community expressed its desire for an Organics Disposal Ban during public consultation on the region's 2010 Integrated Solid Waste and Resources Management Plan. Support noted. Metro Vancouver will continue to work with the Waste Management Association of B.C. and member municipalities to support the development of these services.</td>
</tr>
<tr>
<td>41</td>
<td>Benefits</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Support for source separation and the social and personal responsibility it engenders.</td>
<td>Support noted. This messaging will be emphasized in Metro Vancouver's broad outreach campaign.</td>
</tr>
<tr>
<td>30</td>
<td>Bin cleaning</td>
<td>Workshop 1, Workshop 2, Survey 1</td>
<td>Concern regarding the effort and mess involved with the cleaning of bins.</td>
<td>There will be an ongoing maintenance requirement to minimize odour and pests. Private service providers are available to clean bins - some hauling services also provide this service. Some member municipalities require a tap, hose, and drainage be available in centralized recycling storage areas.</td>
</tr>
<tr>
<td>4</td>
<td>Collection</td>
<td>Workshop 1, Workshop 2, Survey 1</td>
<td>Interest in increased frequency of organics collection.</td>
<td>For ICI businesses, and in multi-family buildings that do not receive municipal organics collection service, the hauling schedule is negotiated with the service provider. Pick-up frequency can be matched to the need.</td>
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| 5       | Collection | Workshop 1  
Workshop 2  
Workshop 3  
Survey 1  
Judy Molnar-Elgin Medical Clinic,  
E-mail: March 5, 2014  
Kevin Hogg-Cactus Restaurants,  
E-mail: April 21, 2014  
Cornelia Dina-Online Input  
Douglas McCallum-CRFA, E-mail:  
March 25, 2013; May 29, 2014  
Antonio Valente-Online Input  
Rodolfo Recio Jr.-Online Input  
Rebekah Favell-Online Input  
Ron Havas-Stantec, E-mail: May 5,  
2014  
Tara Schaufele-Vancouver Aquarium,  
E-mail: Feb. 4, 2014  
Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014 | Support for organics collection from multi-family residences. | Support noted. Member municipalities continue to work with the multi-family sector to develop education and implementation programs, sometimes in partnership with private haulers. Metro Vancouver’s Multi-Family Tool Kit is now available online. |
| 6       | Collection | Workshop 1  
Workshop 2  
Survey 1  
Survey 2 | Interest in convenient organics drop-off locations. | Food scraps drop spots have been incorporated into some City of Vancouver Farmers Markets. http://foodscrapsdropspot.ca/. Metro Vancouver will be offering small quantity food scraps drop off at Metro Vancouver transfer stations, where feasible. |
| 50      | Compost contamination | Workshop 1  
Workshop 2  
Food Industry Sectors Meeting | Potential for compost contamination in restaurants. | Metro Vancouver is working with BCRFA, CRFA, ABLE, BC Hotel Associations to develop sector-specific tools. Metro Vancouver also published the Closing the Loop guide of best waste management practices for the food service industry. Metro Vancouver is continuing to meet with industry associations and, where possible, assist in the development of tools to aid the sector. |
| 33      | Compost contamination | Workshop 1  
Workshop 2  
Survey 1  
Rachel Telling-SFU, E-mail: Feb. 5, 2014  
Tracy Tobin- City of Burnaby, E-mail: March 27, 2014 | Concern regarding contamination during organics separation, rendering organic waste unusable for biofuel or compost. | Metro Vancouver is developing tools to assist businesses with training and education, including sector best management practices and standardization of prompts, such as bin colours and signage. Metro Vancouver is also working with member municipalities, business and waste industry associations to increase awareness. |
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<tr>
<td>8</td>
<td>Consultation</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1 Greg Wilson-Retail Council of Canada, E-mail: Feb. 3, 2014 Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014 Pierre Joe-Capital&amp;Public Works Manager/Indian Registry Administrator St's'ILes, E-mail: March 5, 2014 Charles Fleck-Ivanhoe Cambridge Real Estate, E-mail: March 24, 2014 Lorie Strange-Affordable Housing Societies, E-mail: Feb. 3, 2014 Greg Sadowksi-Wesclean, E-mail: Feb. 26, 2014 Joanne Montgomery-Bentall Kennedy Canada, E-mail: Feb. 3, 2014 Christine Williams-Lookout Emergency Aid Society, E-mail: Feb. 28, 2014 Magdalena Szpala-BC Housing, E-mail: Dec. 16, 2013 Sylvia Jehle-Online Input Chris Underwood-CFIA, E-mail: May 29, 2014</td>
<td>Interest in future consultation opportunities with individual stakeholder groups.</td>
<td>Interest noted. Metro Vancouver will meet with working groups, including but not limited to representatives from the following sectors as part of the transition process: non-profit housing institutions (educational, recreational); health care facilities; food service; food retailers and distributors; residential and commercial property managers.</td>
</tr>
<tr>
<td>9</td>
<td>Cost</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1 Survey 2 Brent Mortensen, E-mail: Feb. 26, 2014 Kevin Hogg-Cactus Restaurants, E-mail: April 21, 2014 Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014 Wayne Smithies-Martello Property Services Inc, E-mail: April 2, 2014 Rachel Telling-SFU, E-mail: Feb. 5, 2014</td>
<td>Concern that costs related to operations, for infrastructure and space, separation, additional bins, and hauling will create a financial burden and exceed any cost savings provided by the Ban.</td>
<td>Any cost saving will be determined by how well waste is managed. Effective waste diversion programs have the potential to create cost savings but will require training, a shift in behaviour, and a commitment by businesses. Businesses may have to be creative in contracting with service providers or may need to look at ways of sharing services with neighbouring businesses. Metro Vancouver is working on case studies with small businesses to assess waste generation and find solutions to prevent waste and reduce costs. Metro Vancouver will share these case studies with other businesses so that they may apply similar practices.</td>
</tr>
<tr>
<td>55</td>
<td>Cost</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1</td>
<td>Interest in Metro Vancouver providing financial assistance to businesses that are introducing organics collection programs.</td>
<td>Metro Vancouver cannot legally provide financial assistance to a private business.</td>
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<tr>
<td>56</td>
<td>Cost</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Concern that large waste generators are being asked to shoulder a disproportionate amount of responsibility for the success of this initiative.</td>
<td>The Ban targets all generators to divert organics from disposal. The proposed implementation strategy starts with a 25% threshold that will affect the larger contributors of food waste who are better prepared to separate food waste for recycling. As the threshold drops over two years, all generators will be included and asked to do their part.</td>
</tr>
<tr>
<td>10</td>
<td>Education/Communication</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Strong support for educational initiatives for restaurant staff, property managers and multi-family residents, including tool kits, training videos, flyers.</td>
<td>Support noted. Transition initiatives are proposed and will continue to evolve. Metro Vancouver’s Closing the Loop guide for food service providers and the multi-family toolkit are available online. As transition resources become available, they will be promoted through Metro Vancouver’s website and shared with the appropriate stakeholder groups.</td>
</tr>
<tr>
<td>11</td>
<td>Education / Communication</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Strong interest in increasing public awareness of the Ban and its benefits through large-scale education and advertising campaigns.</td>
<td>Metro Vancouver will undertake a broad outreach campaign, including an advertising campaign and communications program to increase awareness of the Ban. Information will be developed for haulers to pass along to their clients. Metro Vancouver will also focus on delivering messaging through member municipalities and business and waste industry associations.</td>
</tr>
<tr>
<td>12</td>
<td>Education/Communication</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Interest in clearer and more consistent signage at organics separation locations.</td>
<td>As part of its Ban communications program, Metro Vancouver will look to promote a consistent look for waste diversion initiatives. This could include colour coding, icons and signage, etc. Examples can be downloaded for free from Metro Vancouver’s website.</td>
</tr>
<tr>
<td>13</td>
<td>Education/Communication</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Support for Metro Vancouver’s role to facilitate consistent organics management standards and signage amongst member municipalities.</td>
<td>As part of its Ban communications program, Metro Vancouver will look to promote a consistent look for waste diversion initiatives. This could include colour coding, icons and signage, etc. Examples can be downloaded for free from Metro Vancouver’s website.</td>
</tr>
<tr>
<td>14</td>
<td>Education/Communication</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Support for Metro Vancouver taking the leading role in Ban promotion and engendering behavioural change.</td>
<td>Support noted. Metro Vancouver will undertake a broad outreach campaign, including an advertising campaign and communications program to increase awareness of the Ban and encourage behaviour change.</td>
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<tr>
<td>45</td>
<td>Education/Communication</td>
<td>Workshop 1, Food Industry Sectors Meeting</td>
<td>Support for increased educational initiatives aimed at restaurants, especially those with a language barrier.</td>
<td>Support noted. This will continue to evolve under the Food Services Sector Working Group.</td>
</tr>
<tr>
<td>46</td>
<td>Education/Communication</td>
<td>Food Industry Sectors Meeting</td>
<td>Support for consistent bin labelling, educational initiatives and collection practices for restaurants.</td>
<td>Support noted. Metro Vancouver will continue to promote consistency across the region for signage, bin colours, material consistency, industry best management practices.</td>
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<tr>
<td>47</td>
<td>Education/Communication</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1 Survey 2 Advisory Committees</td>
<td>Confusion regarding messaging about how to deal with food-soiled paper.</td>
<td>Compostable foodware and other types of food-soiled paper will not be included in the proposed or alternative implementation strategies for the Organics Disposal Ban. These materials can be confused with others that are not acceptable at all organics processing facilities in the region, leading to contamination of feedstock and products. Generators will be encouraged to recycle or compost these materials where accepted. Metro Vancouver will undertake a broad outreach campaign including an advertising campaign and communications program to increase awareness of Ban details.</td>
</tr>
<tr>
<td>48</td>
<td>Education/Communication</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1 Survey 2 Advisory Committees</td>
<td>Support for an impactful and broad education and advertising campaign to mitigate potential implementation challenges.</td>
<td>Metro Vancouver will undertake a broad outreach campaign, including an advertising campaign and communications program to increase awareness of the Ban. Information will be developed for haulers to pass along to their clients. Metro Vancouver will also focus on delivering messaging through member municipalities and business and waste industry associations.</td>
</tr>
<tr>
<td>63</td>
<td>Education/Communication</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1 Survey 2 Advisory Committees</td>
<td>Interest in how declining thresholds will be communicated over the course of 2015.</td>
<td>Under the proposed implementation strategy, warnings would be issued to all loads containing organics in excess of the 25% threshold from January 1 to June 30 2015. After July 1, 2015, loads in excess of the 25% threshold would be assessed a surcharge on the tipping fee. Warnings (but no surcharges) may also be issued during 2015 to any loads appearing to be in excess of 10% organics content. Similar warnings would be issued in 2016 to loads appearing to exceed the threshold of 5% that will be implemented in 2017. Warnings would include information about the declining thresholds in future years. Metro Vancouver will undertake an outreach campaign, including an advertising campaign and communications program to encourage all sectors to increase organics diversion.</td>
</tr>
<tr>
<td>7</td>
<td>End use of products</td>
<td>Workshop 1 Workshop 2 Survey 1 Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014 Laura Kwan, E-mail: April 16, 2014</td>
<td>Interest in use of compost on local farms and community gardens.</td>
<td>Private Composting facilities receiving food scraps for processing operate under the provincial Organic Matter Recycling Regulation. Under this regulation, product that meets the requirements of Class A compost can be used for growing food. Local farms and community gardens can check with the private composting facilities to obtain compost that is of suitable quality for agricultural purposes.</td>
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<tr>
<td>15</td>
<td>End use of products</td>
<td>Workshop 1 Workshop 2 Survey 1</td>
<td>Support for increased development of biogas facilities or other energy generation initiatives.</td>
<td>Metro Vancouver’s ISWRMP supports highest and best use of resources in line with the US EPA’s Food Recovery Hierarchy. Even with energy recovery, there remains a significant residual which can be composted for further benefit.</td>
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<tr>
<td>44</td>
<td>Enforcement / Compliance</td>
<td>Workshop 3</td>
<td>Need for fair, consistent inspection methodology.</td>
<td>Metro Vancouver contracts inspection to a third-party contractor. Formal protocols and training procedures are in place and new documentation is being developed. Inspectors are rotated and monitored to ensure consistency. In addition, Metro Vancouver is working with a group of stakeholders to streamline and improve the effectiveness of disposal ban inspections.</td>
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| 16      | Enforcement/Compliance | Workshop 1  
Workshop 2  
Workshop 3  
Survey 1  
Food Sectors Meeting  
Rachel Telling-SFU, E-mail: Feb. 5, 2014  
Debbie Fleming-Township of Langley, E-mail: April 3, 2014 | Interest in how Metro Vancouver will ensure compliance with the Ban. | Compliance will be achieved through a combination of visual inspections of loads at regional facilities, and a broad outreach program, including an advertising campaign and communications program, and other transition initiatives to increase awareness of and compliance with the Bans. |
| 17      | Enforcement/Compliance | Workshop 1  
Workshop 2  
Workshop 3  
Survey 1  
Debbie Fleming-Township of Langley, E-mail: April 3, 2014  
Rachel Telling-SFU, E-mail: Feb. 5, 2014  
Carla Visscher Hensel, E-mail: April 25, 2014 | Interest in how Metro Vancouver will enforce the Ban and concern that it will prove difficult. | Metro Vancouver will enforce the Organics Disposal Ban through visual inspections of loads at regional facilities, as is done for other disposal bans. Metro Vancouver has also convened a stakeholder group that is currently examining possible improvements to make disposal bans more effective. A dispute resolution mechanism is also in place. |
| 18      | Enforcement/Compliance | Workshop 1  
Workshop 2  
Survey 1  
Allan Herman- Mount Seymour, E-mail: March 29, 2014 | Support for utilizing incentives for continued good behaviour with regards to the Ban. | Tipping fees for recycling organics are lower than for disposal. The gap between these fees will continue to increase, providing greater incentive to continue recycling organics. |
| 19      | Enforcement/Compliance | Workshop 1  
Workshop 2  
Survey 1  
Rachel Telling-SFU, E-mail: Feb. 5, 2014  
Amanda Alfonso-Alma CG Consulting, E-mail: April 2, 2014 | Concern with how fines will be levied and the unfair burden placed on haulers to ensure the Ban is a success. | Concern noted. Under the Greater Vancouver Sewerage and Drainage District Act, Metro Vancouver only has the authority to enforce and levy surcharges at the point of disposal at a regional disposal facility, not at the source where material is collected. Therefore the surcharges can only be applied to the company or individual that delivers the material to a regional disposal facility. Disposal ban surcharges are levied with the intention that haulers will either pass the surcharge on to their clients or work with their clients to improve participation in appropriate materials diversion. Metro Vancouver will undertake a broad outreach campaign, including an advertising campaign and communications program to increase compliance with the Ban. Information has been developed for haulers to pass along to their clients. Member municipalities also committed to implementing Mandatory Recycling as part of the region's Integrated Solid Waste and Resource Management Plan. |
<p>| 55      | Enforcement/Compliance | Workshop 2 | Concern that lower surcharges would provide insufficient motivation for businesses and multi-family residences to introduce organics separation programs at source, as they could be absorbed as a business cost. | Concern noted. The proposed implementation strategy includes a 50% surcharge consistent with other banned materials. |
| 59      | Enforcement/Compliance | Advisory Committees | Interest in surcharge dispute resolution mechanisms. | For every infraction, photos will be emailed directly to the hauler who received the violation notice. An independent third-party arbitrator will be added to Metro Vancouver’s current dispute resolution mechanism. |</p>
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<tr>
<td>20</td>
<td>Environment</td>
<td>Workshop 1, Workshop 2, Survey 1, Douglas McCallum-CRFA, E-mail: March 25, 2013</td>
<td>Concern regarding environmental impact (e.g. increased greenhouse gas emissions) of the additional trucks needed for organics collection.</td>
<td>When reporting carbon emissions, local governments would include waste collection and transportation to the processing site under their corporate carbon liability or under their goods and services contracts. Integrated collection will reduce or eliminate any incremental increases in transportation emissions. Processing organics and using recycled products locally instead of transporting garbage or wastewater residuals long distances to their final destination will also reduce the distance that each tonne of material travels and the associated emissions.</td>
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<tr>
<td>21</td>
<td>Exemption</td>
<td>Workshop 1, Workshop 2, Survey 1, Christine Williams-Lookout Emergency Aid Society, E-mail: Feb. 28, 2014</td>
<td>Interest in allowing social housing and non-profit organizations to opt out of participating in the Ban.</td>
<td>Disposal bans apply to all sectors. The solid waste system is funded by tipping fees, supported by a user-pay model. The proposed implementation strategy decreases the tolerance threshold over time, which will allow gradual implementation for low-volume food waste generators. In the mean time, the maturing of services and resulting economies of scale should bring down costs, and the gradual implementation will allow organizations to explore further cost reductions through waste prevention.</td>
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<tr>
<td>23</td>
<td>Health concerns</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Rachel Telling-SFU, E-mail: Feb. 5, 2014</td>
<td>Concern with potential health impacts resulting from pests and contamination.</td>
<td>Metro Vancouver has researched and interviewed other governments across Canada and the U.S. that have implemented organics disposal bans and found the anticipation of health impacts to be much greater generally than the reality when programs are implemented. Metro Vancouver has met with provincial Health Authorities - they are supportive of the ban and are preparing to address the need for some new approaches. This is not new material; it used to be in the garbage, now it’s just moving to a different bin.</td>
</tr>
<tr>
<td>3</td>
<td>Implementation Challenges</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014, Karen Carney-Online Input Dean Cardinol-Online Input Douglas McCallum-CRFA, E-mail: March 25, 2013</td>
<td>Opposition to the Ban primarily attributed to challenges involved with its implementation in multi-family residential, social housing, restaurants, retail, small to medium enterprises (SMEs).</td>
<td>The proposed implementation strategy includes a declining tolerance threshold over time, which will allow gradual implementation for low-volume food waste generators. In the mean time, the maturing of services and resulting economies of scale should bring down costs and the gradual implementation will allow organizations to explore further cost reductions through waste prevention. Metro Vancouver will undertake transition initiatives and will convene working groups with broad sectoral representation.</td>
</tr>
<tr>
<td>32</td>
<td>Implementation Challenges</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Survey 2, Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014</td>
<td>Opposition to source separation and the additional level of effort and associated costs required.</td>
<td>Metro Vancouver’s Integrated Solid Waste and Resource Management Plan advocates for the source-separation of organics because it produces a beneficial and marketable product. As source separation of food waste becomes more common, training is becoming easier and service costs will decline. Generators with high concentrations of food waste are consistently realizing cost neutrality or savings with the introduction of organics diversion programs. Garbage collection can be reduced and organics tipping fees are generally lower than garbage tipping fees.</td>
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<tr>
<td>42</td>
<td>Implementation Challenges</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Advisory Committees</td>
<td>Adoption in multi-family residences will be a challenge as roles and responsibilities of building managers, strata councils, and residents are seldom clear.</td>
<td>The proposed implementation strategy includes a declining tolerance threshold over time, which will allow gradual implementation for low-volume food waste generators. In the mean time, the maturing of services and resulting economies of scale should reduce costs and the gradual implementation will allow sectors to explore further cost reductions through waste prevention. Metro Vancouver will undertake transition initiatives and will convene working groups with multi-family residential representation.</td>
</tr>
<tr>
<td>60</td>
<td>Implementation Challenges</td>
<td>Advisory Committees</td>
<td>Noted that significant regional and municipal effort is required to change behaviour.</td>
<td>Metro Vancouver will undertake a broad outreach campaign, including an advertising campaign and communications program to increase awareness of the Ban. Information will be developed for haulers to pass along to their clients. Metro Vancouver will also focus on delivering messaging through member municipalities and business and waste industry associations.</td>
</tr>
<tr>
<td>22</td>
<td>Implementation Challenges in Institutions</td>
<td>Workshop 1, Workshop 2, Rachel Telling-SFU, E-mail: Feb. 5, 2014, Allan Herman- Mount Seymour, E-mail: April 5, 2014</td>
<td>Significant challenges remain with the establishment of organics programs in institutions.</td>
<td>Institutions are often complex organizations in which it is difficult to implement change. It has proven effective to gather stakeholders in a working group to understand new requirements and contribute to program design. Diversion and waste prevention programs tend to result in cost savings for larger organizations. Metro Vancouver will work with educational and recreational institutions to identify the nature of the challenges and how to overcome them.</td>
</tr>
<tr>
<td>31</td>
<td>Infrastructure/Space</td>
<td>Workshop 1, Workshop 2, Survey 1, Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014, Allan Herman- Mount Seymour, E-mail: March 29, 2014</td>
<td>Interest in building code changes to facilitate on-site organics separation, composting and composting pick-up.</td>
<td>Metro Vancouver’s Board approved technical specifications for the design of centralized recycling storage space and access routes in September 2012. Municipalities have adapted them and introduced them as guidelines in their development permit requirements, as needed. Because of the various land use planning needs to be balanced, it was deemed more effective to introduce storage space and access criteria as guidelines with some flexibility instead of proposing BC Building Code requirements.</td>
</tr>
<tr>
<td>25</td>
<td>Materials</td>
<td>Workshop 1, Workshop 2, Survey 1, Douglas McCallum-Restaurants Canada, E-mail: May 29, 2014</td>
<td>Interest in Metro Vancouver’s expectations regarding packaged organics.</td>
<td>Packaged organics will be included in the proposed and alternative implementation strategies for the Organics Disposal Ban. Depackaging facilities across the region are collectively able to process all types of packaged organics.</td>
</tr>
<tr>
<td>26</td>
<td>Materials</td>
<td>Workshop 2, Workshop 3, Survey 1, Kathy Rye-AL-Pack Enterprises, E-mail: March 10, 2014, Douglas McCallum-Restaurants Canada, E-mail: May 29, 2014</td>
<td>Interest in Metro Vancouver including compostable foodware in its definition of banned materials.</td>
<td>Compostable foodware and other types of food-soiled paper will not be included in the proposed and alternative implementation strategies for the Organics Disposal Ban. These materials can be confused with others that are not acceptable at all organics processing facilities in the region, leading to contamination of feedstock and products. Generators will be encouraged to recycle or compost these materials where accepted.</td>
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<tr>
<td>27</td>
<td>Materials</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1 Brent Mortensen, E-mail: Feb. 26, 2014 Kathy Rye-AL-Pack Enterprises, E-mail: March 10, 2014 Douglas McCallum-Restaurants Canada, E-mail: March 25, 2013 Gwenn Farrell-Online Input Emily Dodge-Lulu Lemon Athletica, E-mail: June 19, 2014 Cheryl Babcock-Online Input</td>
<td>Interest in Metro Vancouver including compostable bags and liners in its definition of banned materials.</td>
<td>Compostable bags, liners, and other types of food-soiled paper will not be included in the proposed and alternative implementation strategies for the Organics Disposal Ban. These materials can be confused with others that are not acceptable at all organics processing facilities in the region, leading to contamination of feedstock and products. However, generators will be encouraged to recycle or compost these materials where accepted.</td>
</tr>
<tr>
<td>61</td>
<td>Materials</td>
<td>Workshop 1 Workshop 2 Workshop 3 Survey 1</td>
<td>Interest in including all organics in initial Ban implementation.</td>
<td>The proposed and alternative implementation strategies will include all food and food waste, including packaged food. Food-soiled paper will not be included as a banned material although it can still be diverted along with the food and food waste, as accepted.</td>
</tr>
<tr>
<td>28</td>
<td>Pests and Odours</td>
<td>Workshop 1 Workshop 2 Workshop 3 Food Industry Sectors Meeting Survey 1 Penny Baird-Tsawwassen First Nation, E-mail: March 19, 2014 Kevin Hogg-Cactus Restaurants, E-mail: April 21, 2014</td>
<td>Repeated concerns regarding pest and odour issues, especially in restaurants and multi-family residences.</td>
<td>The same measures taken with garbage to prevent pest and odour issues can be applied to organics collection, including the frequency of collection and the level of pre-treatment on site. Metro Vancouver conducted a study of on-site organics management options for commercial sources, including storage, pre-treatment, and automated processing.</td>
</tr>
<tr>
<td>29</td>
<td>Pests and Odours</td>
<td>Food Industry Sectors Meeting</td>
<td>Interest in bin characteristics and features (e.g. sturdy, lockable) to deter pests.</td>
<td>The same measures taken with garbage to prevent pest and odour issues can be applied to organics collection, including the frequency of collection and level of pre-treatment on site. Metro Vancouver is completing a study of on-site organics management options for commercial sources, including storage, pre-treatment, and automated processing.</td>
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<tr>
<td>49</td>
<td>Infrastructure/Space</td>
<td>Workshop 1 Workshop 2 Workshop 3 Food Industry Sectors Meeting Survey 1</td>
<td>Concern regarding space required in and outside restaurants for additional bins.</td>
<td>Municipalities have introduced guidelines in their development permit requirements for the design of centralized recycling storage space and access routes to accommodate food waste separation, as needed. For restaurants with limited storage space outside the restaurant, collection frequency can be increased to reduce the need for storage space. Small containers are available for collecting food scraps inside space-constrained restaurants.</td>
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<td>57</td>
<td>Source Separation</td>
<td>Workshop 1 Food Industry Sectors Meeting</td>
<td>Concern with challenges associated with front-of-restaurant organics separation.</td>
<td>The proposed implementation strategy will start with higher thresholds, which will serve to initially target the bulk of material that comes from back-of-house operations. Metro Vancouver recommends the food services sector focus on back-of-house initially. Front-of-house diversion will follow as the Ban extends to loads with lower food waste content, and diversion programs are more widely implemented and expected.</td>
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<tr>
<td>62</td>
<td>Source Separation</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Interest in the use of mixed waste material recovery facilities to separate organics from the waste stream.</td>
<td>Using mixed waste material recovery facilities could be an option to separate the organics remaining in the waste stream after source separation. Metro Vancouver’s Integrated Solid Waste and Resource Management Plan advocates for the source-separation of organics because this practice is more conducive to producing a beneficial and marketable product. It takes much more effort to fully separate the residuals from organics at a mixed waste material recovery facility compared to source-separated organics, which tends to lead to a lower quality product with limited markets.</td>
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<tr>
<td>24</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Douglas McCallum-CRFA, E-mail: March 25, 2013, Rachel Telling-SFU, E-mail: Feb. 5, 2014</td>
<td>Need for additional time to develop infrastructure requirements.</td>
<td>Noted support for phased implementation that provides more time for infrastructure capacity to expand as the amount of feedstock increases. Several facilities have plans to start or expand organics processing in the near future to collectively handle the additional 250,000 tonnes or more of diverted organics.</td>
</tr>
<tr>
<td>34</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Tracy Tobin-City of Burnaby, E-mail: March 27, 2014, Douglas McCallum-Restaurants Canada, E-mail: May 29, 2014, Maria Melan-Surrey Schools, E-mail: April 22, 2014, Suzanne Bycraft-City of Richmond, E-mail: May 1, 2014, Maria Melan-Surrey Schools, E-mail: April 22, 2014</td>
<td>Support for slowing the implementation of the Ban in order to provide time for people to be trained and educated.</td>
<td>Noted support for delayed start or phased implementation that provides more time for educational outreach and behaviour change, which aligns with the proposed implementation strategy that will be presented to Metro Vancouver’s Zero Waste Committee. Metro Vancouver will undertake a broad outreach campaign including an advertising campaign and communications program to increase awareness of the Ban and other transition initiatives, including tool kits and case studies to be shared.</td>
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<td>35</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Survey 1</td>
<td>Support for immediate implementation of the Ban as it is fairer and less confusing than with Ban components (surcharge, threshold) changing over time.</td>
<td>Noted support for immediate implementation. It is being presented to Metro Vancouver’s Zero Waste Committee as an alternative implementation strategy.</td>
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<td>36</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Survey 2</td>
<td>Opposition to immediate full implementation without an education period and the time for commercial and multi-family residential sectors to prepare.</td>
<td>Noted support for phased implementation that provides more time for educational outreach, on-site infrastructure implementation on commercial and multi-family sites, and behaviour change. This will be presented to Metro Vancouver’s Zero Waste Committee as a proposed implementation strategy.</td>
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<td>37</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Support for decreasing threshold over time for tolerable level of organics in loads brought to regional facilities for disposal.</td>
<td>Noted support for phased implementation with decreasing threshold over time. This is a key component of the proposed implementation strategy.</td>
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<td>Tracy Tobin-City of Burnaby, E-mail: March 27, 2014</td>
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<td>Rick Bomhof-City of Langley, E-mail: May 1, 2014</td>
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<td>Amanda Alfonso-Alma CG Consulting, E-mail: April 2, 2014</td>
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<td>38</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Survey 1</td>
<td>Concern with too high an initial threshold.</td>
<td>With the proposed implementation strategy's gradual implementation, the initial threshold level would be set at 25% by visual inspection to capture high-volume organics producers that account for approximately 20% of all food waste disposed in the region. The threshold level would decline to 10% in the next year, which would capture nearly all generators that do not have organics collection in place. By that time, additional organics processing capacity would be in place.</td>
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<td>Rachel Kagan-Food and Consumer Products Canada, E-mail: May 2, 2014</td>
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<td>Bud Fraser-UBC, E-mail: April 4, 2014</td>
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<tr>
<td>39</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Food Industry Sectors Meeting Survey 1</td>
<td>Support for providing time and resources to educate staff and residents.</td>
<td>Noted support for phased implementation that provides more time for educational outreach and behaviour change, as will be presented in the proposed implementation strategy. Metro Vancouver will undertake a broad outreach campaign including an advertising campaign and communications program to increase awareness of the Ban and other transition initiatives, including tool kits and case studies to be shared with different sectors.</td>
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<td></td>
<td></td>
<td>Douglas McCallum-Restaurants Canada, E-mail: March 25, 2013</td>
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<td></td>
<td></td>
<td>Allan Herman-Mount Seymour, E-mail: March 29, 2014</td>
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<td></td>
<td>Suzanne Bycroft-City of Richmond, E-mail: May 1, 2014</td>
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<td>Maria Melan-Surrey Schools, E-mail: April 22, 2014</td>
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<tr>
<td>40</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Support for urgency in facilitating change.</td>
<td>Urgency can be introduced through both the implementation and enforcement schedule, as well as via transition initiatives and educational outreach. Metro Vancouver is working on several transition initiatives with the private sector as well as communications messaging, while municipalities are working on multi-family collection pilot programs. This will facilitate change quickly.</td>
</tr>
<tr>
<td>43</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Concern with phased implementation, as each phase would require retraining inspectors and customers, increasing confusion.</td>
<td>Under the proposed implementation strategy, only the allowable threshold would change with each phase. Disposal ban inspectors are regularly trained on new materials to be inspected for, so the phases would not create extra work. As for customers, introducing well-communicated lower thresholds over time would progressively expose additional customers to the same messaging encouraging them to implement organics separation programs at source.</td>
</tr>
<tr>
<td>Issues #</td>
<td>Category</td>
<td>Source</td>
<td>Issue/Comment/Question</td>
<td>Metro Vancouver Response</td>
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<tr>
<td>51</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1, Food Industry Sectors Meeting</td>
<td>Support for a more relaxed implementation timing, to give businesses time to plan, adjust, and put systems in place.</td>
<td>Noted support for delayed start or phased implementation that provides more time for educational outreach and behaviour change in businesses. A gradual implementation is included in the proposed implementation strategy. Starting with a higher threshold would encourage high-volume organics producers to implement programs first and give more time to businesses that face more challenges to establish programs.</td>
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<td>52</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Opposition to slow implementation.</td>
<td>To accelerate implementation, Metro Vancouver is working on several transition initiatives with the private sector as well as communications messaging, while municipalities are working on multi-family collection pilot programs. This will facilitate change quickly.</td>
</tr>
<tr>
<td>53</td>
<td>Timing and Ban Components</td>
<td>Workshop 1, Workshop 2, Workshop 3, Survey 1</td>
<td>Suggestion to start with lower surcharges initially, and gradually increase.</td>
<td>Other participants expressed concern that lower surcharges would provide insufficient motivation for businesses and multi-family residences to introduce organics separation programs at source, as they could be absorbed as a business cost.</td>
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<tr>
<td>54</td>
<td>Timing and Ban Components</td>
<td>Workshop 2, Workshop 3</td>
<td>Support for a phased approach to avoid a potential public backlash.</td>
<td>Noted support for phased implementation to ease the transition. A gradual implementation is proposed.</td>
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<td>58</td>
<td>Other</td>
<td>Workshop 1, Workshop 2</td>
<td>Interest in the relationship between Bylaw 280 and the Organics Disposal Ban.</td>
<td>Bylaw 280 would require all residential and commercial waste disposed in the region to flow through a regional facility, which would ensure that all residential and commercial sources are subject to the same disposal bans. Without Bylaw 280, waste can and will bypass regional disposal bans in favour of disposal in less-stringent disposal facilities outside of the regional system.</td>
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<td>Infrastructure/Space Advisory Committees</td>
<td>Advisory Committees</td>
<td>The City of Vancouver has placed a moratorium on the addition of waste bins in certain commercial business areas, prohibiting businesses from adding a dedicated organics bin on the street or in alleys.</td>
<td>Metro Vancouver conducted a study to analyze what types of on-site processing may be useful for businesses that have limited on-site storage or collection capacity. The Study is due for completion in October 2014. The results will be shared through business associations and best management practice guides.</td>
</tr>
</tbody>
</table>
To: Zero Waste Committee

From: David Hocking, Corporate Communications Division Manager, External Relations Department

Date: September 3, 2014

Meeting Date: September 11, 2014

Subject: Zero Waste Challenge Organics Campaign: Outreach to Increase Organics Recycling and Support the Organics Disposal Ban

RECOMMENDATION
That the GVS&DD Board receive for information the report dated September 3, 2014 titled “Zero Waste Challenge Organics Campaign: Outreach to Increase Organics Recycling and Support the Organics Disposal Ban”.

PURPOSE
To inform the Zero Waste Committee and GVS&DD Board of the campaign/outreach strategy that has been developed to increase organics recycling and support the Organics Disposal Ban.

BACKGROUND
Metro Vancouver provides region-wide outreach to support the Zero Waste Challenge, and the waste reduction and diversion targets established in the Integrated Solid Waste and Resource Management Plan, in partnership with Member Municipalities. The Zero Waste Challenge communications and outreach strategy outlines two streams of activity:

- broad advertising and social media campaigns, and
- working more directly with key target audiences.

DISCUSSION
The Zero Waste Committee and GVS&DD Board received for information a report titled 2015 Organics Disposal Ban - Pre-consultation Outcomes with the ICI (Industrial, Commercial, Institutional) Sector, dated January 16, 2014. The report summarized engagement work undertaken, prior to the formal consultation period on the Organics Disposal Ban, with the key sectors generating large volumes of organic waste. This early engagement helped confirm assumptions around which sectors are producing high volumes of organic waste, and identify to what extent they are aware of and prepared for the upcoming disposal ban.

Participants included municipal staff, NGOs such as the Recycling Council of BC and MMBC (Multi Material BC), Extended Producer Responsibility agencies, waste hauling service providers, restaurants, food retailers, public health facilities, public education institutions, food producers, and property management companies (including commercial, office and residential space).

Subsequent to this early engagement, efforts continued with key stakeholder groups in the form of workshops and a formal public consultation process that was undertaken between February 25 and June 15, 2014. The results of the public consultation process are captured in the September 11th,
2014 report to Committee titled “Organics Disposal Ban Consultation Summary and Proposed Implementation Strategy”. Included in the report is a recommended implementation strategy. A key component of the strategy is to Support the transition to organics diversion through focused communications and educational resources that can be leveraged by partners across the region in municipalities, industry and other organizations. The importance of a broad regional communications campaign was one of the most common themes during the 2014 Organics Disposal Ban consultations.

In response, a strategy/campaign has been developed in collaboration with Member Municipalities that will support the organics diversion efforts of partners across the region. Key elements include a Metro Vancouver-led regional advertising campaign, the development and sharing of standardized communications tools, toolkits and educational and training resources and the continued convening of stakeholders to share experiences and help each other during the transition to organics diversion.

Metro Vancouver will also work closely with commercial, multi-family residential and institutional sectors, business associations, member municipalities, haulers and processors, non-governmental organizations and government agencies throughout the region.

Implementation of the strategy/campaign will engage a number of tactics (for example, producing a video that demonstrates typical kitchen set-ups, and providing information cards for waste service providers) that were requested during the engagement sessions, and are anticipated by the end-users. Details on some of the tactics are outlined below.

Regional advertising 2014 and 2015

Metro Vancouver is developing, in collaboration with Member Municipalities, a broad advertising campaign to create awareness, provide information, and raise energy around a new social norm – that we are a region that separates food scraps from regular garbage to do something useful with them. A campaign like this is one of the most common asks made during the disposal ban consultations. At a June 2014 Communications workshop with Member Municipalities, municipal staff supported the need for a substantial fall campaign to educate residents on the opportunity to recycle food scraps.

Municipal staff have now reviewed and provided input on a creative brief for the campaign. The campaign will be launched mid-October, running until mid-November 2014 and includes public transit, television commercials, online advertising, social media, large posters at municipal facilities, earned media and local community television. All materials will be shared with Member Municipalities, some of whom will take advantage of their own free advertising space (billboards and transit shelters). The City of Vancouver will increase the campaign’s reach by purchasing additional bus shelter and transit ads.

In addition, the National Zero Waste Council includes a working group on food, with a specific focus on harmonizing myriad government regulations relating to the management of food. The Council is looking at the potential of a national communications campaign on food waste reduction.

Targeted advertising for the industrial, commercial and institutional sectors 2014 and 2015

In addition to a general campaign for residents, the industrial, commercial and institutional (ICI) sector will see advertising, focusing on the disposal ban, in winter 2014 and early 2015. This advertising will be placed in specific ICI journals and industry social media, to highlight the disposal ban.
**Issue standardized communications tools**
Throughout the stakeholder engagement process, business and institutions operating across municipal boundaries (e.g. restaurant and café chains or school districts covering two or three city boundaries) identified the need for consistent recycling images and artwork across the region. This improves diversion rates because end-users make better sorting decisions when visual cues are consistent. While Metro Vancouver cannot regulate the use of standard tools, artwork and colour schemes were developed in consultation with the audiences listed in this report. They are posted on Metro Vancouver’s website and are available to all organizations – a resource that is well utilized.

**Develop and promote toolkits and educational and training resources**
Metro Vancouver is in the process of developing tools such as how-to guides, decision trees, best practices, case studies, information and staff training videos etc. These are designed to meet the requests of the intended audiences, and to be practical and have longevity. They will be shared freely.

**Continue to convene stakeholders to share experiences and help each other during the transition to organics diversion**
Many of the groups convened in the ‘pre-consultation’ period have indicated a desire to be called back, to share their experiences and find cross-business or cross-sector solutions to common challenges. Metro Vancouver will continue to engage various audiences this way, providing meeting space, facilitation and follow-up. This also generates an opportunity to promote and refine existing resources.

**ALTERNATIVES**
This is an information report. No alternatives are presented.

**FINANCIAL IMPLICATIONS**
Outreach campaigns to support the Zero Waste Challenge and the waste reduction and diversion targets established in the *Integrated Solid Waste and Resource Management Plan* are a key component of the External Relations Department work program.

Costs for the organics campaign are estimated at $255,000 in 2014 and $200,000 in 2015. These costs are included in the External Relations budget for 2014 and proposed budget for 2015. Television ads and online assets will be produced in-house.

**SUMMARY / CONCLUSION**
In support of the Zero Waste Challenge, and the upcoming 2015 Organics Disposal Ban, an organics strategy/campaign, is planned to create broad awareness and support for food scraps recycling across the region. The strategy has been developed with input from Member Municipalities and from many of the sectors it will reach, such as NGOs, the Recycling Council of BC, MMBC, Extended Producer Responsibility agencies, waste hauling service providers, restaurants, food retailers, public and extended health facilities, public education institutions, food producers, and property management companies (including commercial, office and residential space).
To: GVS&DD Board of Directors

From: Zero Waste Committee

Date: September 11, 2014

Meeting Date: October 10, 2014

Subject: Comments on StewardChoice Packaging and Printed Paper Plan

ZERO WASTE COMMITTEE RECOMMENDATION


At its September 11, 2014 meeting, the Zero Waste Committee considered the attached report titled “Comments on StewardChoice Packaging and Printed Paper Plan”, dated September 3, 2014. Due to a deadline set for the consultation on the plan (September 12, 2014), the Zero Waste Committee was asked to endorse the comments on the plan. During ensuing discussion, the Committee expressed concern about the lack of detail in the plan and requested that the following statement be included in Metro Vancouver’s comments on the plan:

That an updated detailed draft stewardship plan be provided to stakeholders for additional consultation prior to StewardChoice submitting a final plan to the Ministry of Environment.

Attachment:
To: Zero Waste Committee

From: Andrew Doi, Environmental Planner, Solid Waste Services

Date: September 3, 2014

Meeting Date: September 11, 2014

Subject: Comments on StewardChoice Packaging and Printed Paper Plan

RECOMMENDATION

PURPOSE
The purpose of this report is to provide information regarding a proposed Packaging and Printed Paper Extended Producer Responsibility Program called StewardChoice, and to comment on the proposed program.

BACKGROUND
In 2011, the Provincial Government amended the Recycling Regulation to include Packaging and Printed Paper (PPP) as a new product category, and created an obligation for producers to develop a new Extended Producer Responsibility (EPR) program. The Recycling Regulation does not prescribe how producers organize themselves to meet their obligation, or how many different programs may exist to collect material from a single product category. At this time, the only approved program for PPP is the Multi-Material BC (MMBC) program, which has rolled out PPP collection for residents throughout the province. In addition to the MMBC program, Brewers Distributing Limited has also submitted a draft PPP Plan, and StewardChoice is a new organization that has developed a draft PPP Plan and has commenced consultation on the Plan. Some producers, have not signed on to MMBC, nor do they have an alternative plan in place.

DISCUSSION
Metro Vancouver and member municipal representatives were involved in the planning process for the MMBC program, which produced a program for collecting PPP from residential sources, including single-family curbside, multi-family and depots throughout the Province. MMBC has not yet commenced street-scape collection, but has been working on various pilots to determine how to proceed. The variety of implementation options for local government involvement in the MMBC program has resulted in different approaches being adopted in the region. Some communities accepted the MMBC offer to collect, while others turned collection responsibility over to MMBC and some decided to wait before making a decision about the program and are operating a status quo, municipally operated and funded collection system.
As part of implementing the PPP program, MMBC sought proposals and ultimately selected a single post-collection service provider, Green By Nature EPR, to receive recyclable materials from all collectors in the province. Green By Nature was established by a group of existing recycling service providers.

Some industry stakeholders have suggested that effectively all residential recyclables in the Province being processed by one post-collection service provider creates risk related to competitiveness in the recycling industry. A new stewardship agency would help to reduce any potential impacts on competition. It is important that moving to a competitive model is done in a way that creates a level playing field so as not to undermine the success of the MMBC program.

While the MMBC program has a broad scope, the StewardChoice Plan is proposing to begin implementation with collection from only multi-family units in select communities, which according to StewardChoice is approximately 120,000 households not currently serviced by local government, and that are not receiving service from a MMBC qualified collector. The Recycling Regulation requires that plans for PPP adequately address collection from residential premises and ‘streetscapes’, and it is not immediately clear that the approach proposed in the StewardChoice Plan will fulfill this requirement.

**General Comments**

In general the draft plan lacks detail with respect to how the program is intended to be implemented. For example, the plan is not clear that the program is based on a source separated model rather than on attempting to recover recyclables from garbage. StewardChoice representatives have advised that the model will be a source separated recyclables model, and further reinforced this statement in a recent consultation event, but the plan needs to explicitly state this.

Metro Vancouver and member municipal specific comments include the following:

- The Plan must clarify whether the scope of collection activities includes residential premises and ‘streetscapes’ as defined in the Recycling Regulation, or whether the scope is limited only to multi-family households not already receiving producer-funded or municipally provided PPP collection.
- If the scope is limited to multi-family households only, the Plan needs to describe how the program will contribute to supporting recycling of PPP in these more challenging and higher cost environments, particularly streetscape and rural recycling systems.
- If there is more than one approved plan, there is a need to ensure an overall, stable recycling systems, whether the programs achieve this collaboratively or if it is determined by Ministry of Environment.
- The Plan does not provide sufficient detail on how the program will work to encourage producers to address the design of its products and packaging to avoid the creation of waste in the first place.
- The Plan lacks sufficient detail related to collection options, program oversight, transparency of collector payment or incentive, and reporting requirements.
- If a ‘free-market’ collection system is adopted, building managers and/or strata councils should not have extra fees to participate in the program. In this sense, recycling should be ‘free’ to residents.
- If there is more than one approved plan, performance measures must be reviewed and updated and recovery target reporting must be transparent. Trying to reconcile
performance measures according to ‘producer allocations’ will become confusing for stakeholders.

- Due to the evolutionary construction of multi-family buildings over the decades, some have adequate collection space and ease of access, and other buildings do not. A mechanism must be developed, collaboratively among the programs or determined by the Ministry of Environment, to ensure that each building has the opportunity to participate in a producer-funded program. Allowing any one organization to ‘cherry-pick’ collection sites will negatively impact the other stakeholders.

- Consistent standards for service levels (e.g., a consistent suite of materials collected and specified number of pick-ups) and service coverage are required. StewardChoice representatives have communicated that StewardChoice intends to mirror the collection of materials that have been defined by MMBC. The suite of materials collected and the process for collecting these materials must be detailed in the Plan.

- The Plan refers to “self-compliance” multiple times in the Plan. The Plan does not adequately address how self-compliance will be defined, verified and reported to the Ministry of Environment.

The development of a Stewardship Plan is an evolutionary process, more details are expected to emerge about the StewardChoice PPP Plan as future consultation occurs. At this time, the consultation period on this draft StewardChoice Plan is expected to close on September 12, 2014.

ALTERNATIVES
2. That the Zero Waste Committee provide alternative direction.

FINANCIAL IMPLICATIONS
At this time the financial implications of the proposed StewardChoice program are uncertain. There would not be any initial financial impacts of the program for member municipalities as most member municipalities have agreements in place with MMBC to fund recyclables collection. Longer term implications could be positive or negative depending on how the program is implemented.

SUMMARY / CONCLUSION
In 2011, the Provincial Government amended the Recycling Regulation to include PPP as a new product category, and created an obligation for producers to develop a new EPR program. At this time, MMBC has implemented an approved PPP collection and recycling program for residents throughout the province, Brewers Distributing Limited has submitted a draft PPP Plan, and StewardChoice has developed a draft PPP Plan. At this time, the full scope of the proposed StewardChoice program is uncertain due to the lack of detail in the draft Plan. This report outlines comments on the draft plan which staff wish to submit to StewardChoice and the Ministry of Environment. Creating a competitive product stewardship environment should reduce costs to producers and consumers over the long-term. The competitive market should be created in a way that ensures a level playing field for both producers and product stewards such that the MMBC program is not undermined and service continues to expand and improve.
To: GVS&DD Board of Directors

From: Zero Waste Committee

Date: September 11, 2014   Meeting Date: October 10, 2014

Subject: **Summary of European Delegate Recycling and Solid Waste Management Presentations**

**ZERO WASTE COMMITTEE RECOMMENDATION**
That the GVS&DD Board receive the report dated September 5, 2014 titled “Summary of European Delegate Recycling and Solid Waste Management Presentations” for information and distribute the report to Metro Vancouver member jurisdictions.

At its September 11, 2014 meeting, the Zero Waste Committee considered the attached report titled “Summary of European Delegate Recycling and Solid Waste Management Presentations”, dated September 5, 2014. The Committee subsequently requested that the report be also provided to Metro Vancouver members.

Attachment:

10203648
To: Zero Waste Committee

From: Marcel Pitre, Acting Senior Engineer, Solid Waste Services

Date: September 5, 2014

Subject: Summary of European Delegate Recycling and Solid Waste Management Presentations

RECOMMENDATION
That the GVS&DD Board receive the report dated September 5, 2014 titled “Summary of European Delegate Recycling and Solid Waste Management Presentations” for information.

PURPOSE
The purpose of this report is to summarize key points of discussion and information presented by European delegates to the Zero Waste Committee Meeting on July 22, 2014.

BACKGROUND
On various occasions over the last number of months there has been discussion at the Zero Waste Committee about the European waste management experience. Committee members suggested there would be benefit in hearing directly from European experts on their experience. On July 22, 2014, the Zero Waste Committee heard invited delegations from the Netherlands and the UK to present an international perspective on solid waste management. Board members were also invited to the presentations.

The Zero Waste Committee requested that staff prepare a summary of the presentations from the Netherlands and United Kingdom pertaining to their experience with Solid Waste Management, as presented at its July 22, 2014 meeting.

DISCUSSION
On July 22, the Zero Waste Committee received presentations from three European waste management experts:

- Mr. Herman Huisman, Senior Advisor International Cooperation, Netherlands Ministry of Infrastructure and the Environment
- Phil Conran and Vicki Cooper, Directors of 360 Environmental, a waste management regulatory consulting firm in England.

Herman, Phil and Vicki also presented at a Sustainability Dialogue at the Wosk Centre earlier in the day with approximately 150 people in attendance. Mr. Huisman presented in person, and Mr. Conran and Ms. Cooper presented electronically.
Key points from the presentations have been categorized under major headings and summarized in the list below. The full presentations from the delegates are included as a link to the Metro Vancouver website at the end of this report.

**General Information**
- Focus of solid waste management activities in Europe is very similar to Metro Vancouver: i.e. reduce waste generation and maximize source diversion;
- European jurisdictions are moving towards a circular economy;
- Similar to British Columbia, European jurisdictions have implemented extensive extended producer responsibility programs (e.g. packaging, electronics, batteries);
- Different countries are using different regulatory approaches to reduce disposal, particularly landfilling.
- European experience is that countries with high use of WTE also have high recycling rates; countries with high use of landfilling and low use of WTE have lower recycling rates.

**Regulatory Mechanisms**
- Maximizing diversion through source separation, with new European directives coming into place in 2015 mandating source separation in all sectors;
- Source separated organics are now being widely collected in both UK and Holland with significant development of new anaerobic digestion facilities encouraged with a renewable energy subsidy;
- European Union requirement to reduce organic waste and recyclables going to landfill has been in place for a number of years;
- Recycling in multi-family settings was enhanced through communal below-ground storage containers that overcame the storage capacity issues;
- The Netherlands and UK both utilize landfill taxes that have increased over time. In the UK these taxes are now in the range of $150 per tonne landfilled;
- As the landfill tax increased so did waste diversion.

**Residuals Management**
- The Netherlands manages almost all residual residential garbage using WTE facilities;
- England now processes approximately 20% of residual garbage with 30 WTE facilities and another 30 are in planning. London processes 40% of residual garbage using WTE;
- Several older WTE facilities closed in the UK and the Netherlands in the 1990s due to air emissions from out-of-date technology. Regulatory changes were made that led to stringent emissions standards for facilities. In the Netherlands, environmental groups worked with government and industry to push for high-efficiency standards and low emissions for WTE facilities;
- Various methods have been tried to process residual garbage including Mixed Waste Material Recovery Facilities (MWMRF) / Mechanical Biological Treatment (MBT) facilities. These facilities have been unsuccessful due to the low quality of both recyclables and compost. Now, effectively all products from these facilities are either landfilled or combusted at WTE facilities because end-products do not meet market specifications, in spite of significant investments and high tech equipment. Operators of these facilities
consider them unsustainable. Mixed waste organics from these facilities are prohibited from use in agriculture. These facilities recover in the order of 1% or less of recyclables;

- MBT residual waste from England is shipped to the Netherlands for incineration due to excess capacity in that country;
- The Netherlands overdeveloped WTE capacity in the 2000s due to rapidly increasing waste quantities and lack of central planning;
- There is some concern in Great Britain that offshore processing of MBT residuals will reduce the potential to develop local residuals management infrastructure.

**Environmental Considerations**

- Environmental organizations’ concerns about WTE emissions have been addressed through modern emission control systems;
- Concerns with respect to WTE development in Great Britain are now primarily focused on local neighbourhood issues such as traffic impacts, concerns typical of all large waste management facilities;
- There are some differences between the UK, Netherlands, and Metro Vancouver climate and topography. Nonetheless, experience shows that WTE is a safe, well-regulated industry whose contribution to air pollution is very small compared to other sources such as heavy industry and transportation;
- Various technology solutions are in use and under development that allow the use of bottom ash for various non-landfill based beneficial use applications;
- Statistics show that low cost landfilling, not WTE, impedes recycling.

**Report for Metro Vancouver on UK Waste Developments**

Phil Conran of 360 Environmental Ltd. prepared a report detailing the aspects of waste management in the UK (Attachment 1). The document, entitled *Report for Metro Vancouver on UK Waste Developments*, provides an overview of the regulatory framework, waste diversion measures, extended producer responsibility programs, the facilities for waste treatment and flow control issues in the UK. The report is an assessment of UK waste management developments across both residential and IC&I waste streams. It is based on 360 Environmental’s extensive experience in the waste industry together with information gathered from various UK sources.

Conclusions of the report are similar to that provided at the Zero Waste Committee and Sustainability Dialogue presentations. They include:

- The UK faces many of the same challenges as Metro Vancouver in targeting higher recycling rates, and emphasising waste prevention and the need to move toward a circular economy.
- Throughout the UK there is a focus on maximizing source diversion of both dry recyclables and organics as the key to reducing waste disposal
- There is increasing social pressure to reduce the amount of food waste and generate energy from organics; some regulatory changes are planned or in place, though they vary across the UK.
- Increasing food waste diversion and preferential renewable electricity rates have led to a proliferation of anaerobic digestion facilities to process source separated food waste
- Reductions in waste to landfill have primarily been achieved through increased recycling, with the incrementally increasing landfill tax a key driver in reducing landfilled quantities
- The improvement in recycling rates has flattened over the last five years, and countries throughout the UK are working on ways to continue to increase diversion
• Move towards WTE to manage residuals has not negatively impacted recycling rates.
• Attempts at MWMRFs/MBT facilities designed to take in garbage and separate dry recyclables and organics have been unsuccessful because of the low quality of outputs in spite of significant investments and advanced technology. Output from these facilities are now almost exclusively either burned in mass burn incineration plants or landfilled.
• The predominant waste-to-energy technology approach that is being applied in the UK is mass burn with little success in pyrolysis or gasification.

**ALTERNATIVES**
This is an information report. No alternatives are presented.

**FINANCIAL IMPLICATIONS**
There are no financial implications related to this report.

**SUMMARY / CONCLUSION**
On July 22, 2014, the Zero Waste Committee heard presentations from three European waste management experts. The Zero Waste Committee requested that staff prepare a summary report highlighting the key aspects of the presentations given. All speakers noted the importance of extended producer responsibility, the circular economy, and source separation of recyclable materials to maximize waste diversion.

In the Netherlands and the UK, mixed waste processing through MWMRF/MBT facilities has produced low quality materials that do not meet market specifications, despite significant investment and advanced technology. Consequently, product from mixed waste processing facilities is either burned in WTE plants or landfilled. European countries have introduced various regulatory mechanisms to decrease disposal, such as a landfill tax. These regulations have resulted in more waste diversion. Stringent air quality standards have helped WTE overcome environmental concerns. WTE is widely used for management of residuals in countries that demonstrate the highest recycling rates in the European Union. Additional information on waste developments in the UK have been prepared in a report for Metro Vancouver (Attachment 1).

**Attachments and References:**

Attachment 1: Report by Phil Conran, 360 Environmental Ltd. dated July 2014 titled “Report for Metro Vancouver on UK Waste Developments”.

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1. Introduction

   a. This report is written as an assessment of UK waste management developments across both residential and IC&I waste streams. It is based on extensive experience within the waste industry together with information gathered from various UK sources. Where possible, these are noted.

   b. Much of the report is based on anecdotal information and general knowledge and may therefore vary from the interpretation of others.

2. Overall regulatory framework, ie who is responsible for what and how do they undertake their responsibilities

   a. The UK Regulatory framework is based on policy being applied by central government and regulation being enforced through environmental Agencies. This is complicated by the gradual devolution of power in the UK which has now led to environmental issues being separately addressed in each country.

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<td>Northern Ireland</td>
<td>Department of the Environment Northern Ireland</td>
<td>Northern Ireland Environment Agency</td>
</tr>
</tbody>
</table>

   *Fig. 1 – Relevant bodies in UK countries.*

   b. Environmental policy, regulation and enforcement are now completely devolved although some European Directives and Regulations are still applied on a national basis. Some examples are shown below.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Explanation</th>
<th>How applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Protection Act 1990</td>
<td>This provides the overarching law for UK waste regulation</td>
<td>Applies to England, Wales and Scotland.</td>
</tr>
<tr>
<td>Waste Regulations</td>
<td>Applies the requirements of the revised European Waste Framework Directive including 50% by 2020 requirements.</td>
<td>Scotland and Northern Ireland have own separate versions, England and Wales have combined version.</td>
</tr>
<tr>
<td>WEEE Regulations and Batteries Regulations</td>
<td>Applies EU Directives. Managed by Department of Business, Innovation and Skills (BIS)</td>
<td>One set of Regulations applies to whole UK.</td>
</tr>
<tr>
<td>Environmental Permitting</td>
<td>Applies the requirement for waste handling sites to be licensed.</td>
<td>Scotland and Northern Ireland have own separate versions,</td>
</tr>
<tr>
<td>Regulations.</td>
<td>England and Wales have combined version.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Hazardous Waste Regulations</strong></td>
<td>Applies the process for managing special/hazardous waste.</td>
<td>Scotland and Northern Ireland have own separate versions, England and Wales have combined version.</td>
</tr>
<tr>
<td><strong>Landfill Tax</strong></td>
<td>Sets the amount of tax raised for each tonne of waste landfilled.</td>
<td>UK wide at present although Scotland gets powers to set its own in 2015.</td>
</tr>
</tbody>
</table>

Fig. 2 – *Examples of devolved waste regulation*

c. These examples show the impact of devolution on environmental Regulation as devolved governments have gradually taken control over more localised regulation whilst leaving more strategic regulation largely in the hands of central government.

d. The setting of regulation tends to be a factor of two things:
   - The need to apply European Regulation and Directives.
   - Politics.

e. There are certain European requirements where the UK has no choice but to act. A case in point is the Waste Prevention Plan that was required to be published by Member States by December 2013 under the Waste Framework Directive. This was determined to be a devolved government issue with each part of the UK producing a separate plan and Defra then producing the [WPP for England (Waste Prevention Programme)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255508/waste-stakeholder-letter-131106.pdf). The revised WEEE (Waste Electrical and Electronic Equipment) Directive that had to be transposed by February this year was implemented by BIS (Department for Business, Innovation and Skills) at the end of 2013.

f. However, where there is no EU imperative, the current UK coalition Government has a declared position that they will avoid new regulation if at all possible and have a ‘one in, one out’ policy if not. If new legislation is required, generally it will then be incorporated into amended existing regulations. An example of this is the introduction of new regulations governing clean MRFs (Material Recovery Facilities) processing single stream source separated recyclables that require input and output sampling to be carried out with the results made public. This is an attempt to drive up quality, but rather than new regulation, it has been incorporated into the Environmental Permitting Regulations.

g. The department responsible for environmental policy – Defra – has been one of the hardest hit in budget cuts since the start of the current government. With farming and flooding far higher profile issues in its portfolio of responsibilities, waste tends to have a low profile and indeed, the Minister responsible for waste declared\(^1\) to industry in November 2013 that Defra were ‘stepping back in areas where businesses are better placed to act and there is no clear market failure.’

h. In general terms, new legislation will be preceded by consultation that normally has a 12 week response period although this is increasingly being shortened to 8 weeks.

i. Responses are not generally weighted related to the scale of the representation of the respondents and government departments are then required to publish responses within 12 weeks of the consultation closing.

j. Implementation of regulation will then be determined by the political calendar and available time for reading by the House of Commons and the House of Lords.

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\(^1\) Letter from Minister to industry

k. Legislation relating to waste is very rarely challenged and generally, if it is placed before the two houses, it is approved. However, with the complex devolved government arrangements, all UK-wide and England only law goes through Parliament whilst specific law relating to devolved regions will go through their own Assembly bodies.

l. Once enacted, all law, regardless of which part of the UK it applies to, is placed on a UK legislation website.

m. Enforcement of waste legislation is then carried out by the relevant environmental Agency as shown in Fig. 1 above. Each only has jurisdiction in their own part of the UK and each will therefore create their own guidance on legislation. For UK-wide legislation, the four Agencies will work together to produce common Guidance although even then, there may be differences in interpretation at a lower officer level. The Environment Agency is the largest waste enforcement body in the UK. It has around 11,000 staff although this is undergoing a major reduction to around 9,700. It is a hugely complex structure which manages flood defences, water, farming and waste. From a waste point of view, it operates on an area basis for waste management regulation and on a centralised basis for the enforcement of areas such as producer responsibility.

3. Key waste diversion regulatory measures both EU and within the UK

a. Historically, the UK has relied on the application of recycling targets to Local Authorities to achieve diversion of household waste from landfill with landfill tax providing the main driver for commercial waste.

b. In 1990, the government produced a Waste Strategy for England and Wales which set a household waste recycling rate of 25% by 2000. This was then built on by a revised waste strategy published in 1995 – ‘Making Waste Work’ which also set additional targets such as 40% of households to have home composting and the amount of household, industrial and commercial waste landfilled reducing to 60% from 70% by 2000. At that stage, the household recycling rate was approximately 5-6% with 90% of household waste going to landfill. Waste to energy was an important part of the reduced dependence on landfill and in 1996, only 5 of the 30 incinerators in use in the UK met new stringent EU emissions requirements with the expectation that only 10 would be operational by the end of 1997. There was also a debate at that time about the use of wheeled carts for household waste collection with health and safety considerations driving their wider use, but concerns that households with bins tended to produce more waste than those with sacks.

c. The structure of local government should be considered at this point. The UK is made up of three main types of local authority:
   - A District Council (227 in the UK) provide local services such as housing, planning and waste collection.
   - A County Council (27) manages wider requirements such as roads, education, adult social care and waste disposal and has the authority to dictate to Collection Authorities where their collected waste should go.
   - A Unitary authority (177) is where there is a large conurbation and it is considered more effective that one authority covers the responsibilities of District and County. These will therefore look after waste collection and disposal. London Boroughs and large metropolitan areas such as Manchester are also Unitary authorities.

d. The balance has changed over the years with more and more District/County Councils combining into Unitary Authorities.
e. Government set individual targets for local authorities in 1996 and in a revised Waste Strategy set in 2000, increased the targets requiring Authorities to double their recycling by 2003.

f. In 1996, the government introduced the Landfill Tax as a rate of £7/tonne for general waste containing anything biodegradable and £2/tonne for inert waste. Initially set at a level that was supposed to then be compensated for by a reduction in business National Insurance rates, from 2000, this then slowly increased as a tool to drive waste from landfill.

g. The graph below shows the effectiveness of this which saw an annual increase of £1/tonne from 1999, £3/tonne from 2005 and £8/tonne from 2008 when it was set with a cap of £80/tonne by 2014. In the Spring 2014 budget, the Chancellor announced that this will now be increased by the Retail Price Index (RPI). The rate for inert waste rose to £2.50/tonne in 2008 and will rise to £2.60 from 2015.

![Landfill inputs vs Landfill Tax (£/tonne)](image)

Fig. 3 – UK Landfill inputs related to Landfill Tax rate²

h. UK targets for landfill diversion have been largely driven by Europe. The Landfill Directive of 1999, as well as applying stricter rules as to what could go into landfill, applied targets to Member States for the diversion of biodegradable waste from landfill.

- By 2010 reduce the biodegradable waste landfilled to 75% of that produced in 1995.
- By 2013 reduce the biodegradable waste landfilled to 50% of that produced in 1995.
- By 2020 reduce the biodegradable waste landfilled to 35% of that produced in 1995.

i. To meet these targets, the Government introduced a Landfill Allowance Trading Scheme through the Waste and Emissions Trading Act 2003. These set the total amount of biodegradable municipal waste that could be landfilled and divided that between local authorities in relation to the waste they produced. Local Authorities could then opt to put in place measures to meet the targets or buy any surplus reduction from other local authorities. This had a challenging history as there were difficulties in determining the waste that was affected eg whether it include commercial waste collected by Local Authorities, and was seen as ineffective. It was therefore scrapped in 2013 as part of the current Government’s drive to reduce red tape.

² This includes residential, industrial, commercial, construction/demolition and tax-exempt waste such as inland waterway dredgings.
j. The 2010 and 2013 targets were deemed to have been met relatively easily, but there are concerns as to whether sufficient reductions will be made to achieve the 2020 target. However, at present, the Government believes there is sufficient capacity on stream or planned to achieve this target and has therefore now withdrawn from providing Private Finance Initiative (PFI) support for treatment projects.

k. To help the public sector develop large-scale capital projects, the UK has, since 1991, been using PFI. Effectively, this allowed public sector organisations to use private finance on guaranteed repayments that were then supported by central government funding. This expanded hugely in the late 90’s including into the development of major waste infrastructure projects. Although heavily criticised for the excessive repayment terms, this allowed the development of new waste treatment facilities including waste to energy incinerators, clean MRFs and other technologies such as Anaerobic Digestion along with mixed waste MRF/MBT plants. Defra set up a Waste Implementation Programme in 2003 and developed this into the Waste Infrastructure Delivery Programme in 2006. This funded a programme of technology pilots and also provided greater oversight of the PFI program. However, under the new Government’s austerity programme and with expectations that the UK now has sufficient planned capacity to meet the EU 2020 bio-degradable targets, new PFI spending was halted from 2010 with recent cases of the Government cancelling previous PFI allocation after contract signature between a Local Authority and the infrastructure delivery company with the consequence of huge contractual liabilities.

l. The concept of Producer Responsibility emerged from Europe in the early 90’s with packaging waste being the first targeted material. A 1993 Packaging Waste Directive saw the introduction in 1997 of the UK’s Packaging Waste Regulations that applied obligations to ‘producers’ on a UK-wide basis to meet targets set by the EU for 2001. Whilst other Member States focussed on household packaging waste, the UK regulations were designed to achieve the targets at minimum cost by enabling the ‘low hanging fruit’ of commercial packaging waste to be used. The basic concept of UK implementation of EU Producer Responsibility has been shared responsibility, a process that enables businesses to meet compliance through the performance of others by buying evidence of recycling rather than actually having to recycle themselves. More will be discussed on this in later chapters, but since the Packaging Regulations started, the UK has seen packaging waste recycling rise from less than 3m tonnes in 1998 to over 6.5m tonnes in 2013.

![UK packaging recycling growth](https://example.com/uk-packaging-recycling-growth.png)

Fig. 4 – UK Packaging waste recycling growth
m. However, the EU only set targets up to 2008 and have stuck with those since then to allow new Member States to catch up. Consequently, flat targets have led to a plateauing for the UK which is only just beginning to start rising again, albeit slowly. However, as the graph shows, one of the key consequences of the low cost, shared responsibility approach has been the growth in dependence on exports to meet additional reprocessing demand. The lack of predictable investment support from the PRN3 system had seen limited growth in UK capacity ie the waste has chased the most cost effective recycling route which has generally been emerging markets.

n. Further Producer Responsibility was introduced in 2007 for WEEE and 2010 for batteries on the back of European legislation. For WEEE, the desire by Government not to ‘gold-plate’ has seen little growth in WEEE recycling whilst for Batteries, the desire to keep costs low for businesses has actually seen a decline in the diversion of small portable batteries from landfill.

o. Overall, the UK producer responsibility legislation has been heralded a success as it has minimised the cost burden on UK businesses. But in so doing, it has provided little incentive for growth and many would argue that the growth in packaging waste recycling has tended to be much more a factor of landfill tax and the desire to recycle more than driven by the Packaging Waste Regulations.

p. Underpinning UK waste law are the requirements of the European Waste Framework Directive (WFD). These set the basis under which Member States should control waste to minimise the impact on human health and the environment. A 2008 revision to the WFD has seen the need to implement the changes through new legislation in the UK. This has been done on a national basis with England and Wales having a common regulation and Scotland and Northern Ireland each then applying their own. There are three key measures that have applied fundamental change to UK waste management.

i. The first is a revised waste hierarchy and a requirement for waste producers to state that have applied this to the way their waste is treated though a tick box on waste transfer notes. The waste hierarchy prioritises prevention, reuse, recycling, recovery and landfill at the bottom. This is being overtaken in profile terms by the expression ‘The Circular Economy’, but the focus in the UK now is on reuse and the prevention of wasted resources in the first place.

\[ \text{Fig. 5 – The EU Waste Framework Directive Waste Hierarchy} \]

ii. The second is a requirement for separate collection of four recyclable materials – paper/card, glass, plastic and metals – from 1 January 2015. The onus is on waste collectors – both local authorities and private operators – being required to offer to collect these materials, but there is no requirement on waste producers to accept the offer other than the expectations of the waste hierarchy. There is a get-out through something called TEEP – Technically,

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3 The Packaging Recovery Note is the system of tradable certificates used to demonstrate compliance with packaging waste recycling targets whilst generating additional funding for recycling activity.
Environmentally and Economically Practicable – whereby an operator could state that it would be too expensive to collect plastic film, for instance, from a low volume producer, but at this stage, there is no guidance from the Environment Agency as to how this will be enforced. But the big argument at the moment is whether ‘separate collection’ means single separate material collection or the four materials co-mingled. The England and Wales Regulations do not define this but essentially allow either where the quality of the recyclable material is not degraded. Given that the growth of UK recycling has largely come through the growth in comingled collection into clean Materials Recycling Facilities (MRFs), a prescriptive requirement to collect the materials as individual materials would have been catastrophic for the UK waste management industry as well as created a hugely expensive change to local authority collection practices, but it is expected that this will be legally tested in 2015 as there has been extensive pressure by the reprocessing sector – in particular, paper mills – for collection by separate material. However, another factor that may affect the mix of what is collected is the MRF Code of Practice (see below). Whilst England, Wales and Northern Ireland have left the onus on waste collectors, Scotland has gone two steps further. First, they have applied the legal requirement to producers to place out the recyclable materials – to which they have added source separated food waste – for collection and second, they applied this requirement from 1 January 2014. (See below)

iii. The third measure is a household waste recycling target of 50% by 2020. Whilst parts of the UK are on track to achieve this, English recycling has been flat-lining for the last couple of years which many have put down to the lack of central government leadership. Scotland’s Zero Waste plan set a target of 40% in 2010, 50% in 2013 and 70% by 2025. It missed the 2013 target by some margin at around 41%, but it is currently driving a hard programme of increased collections – including the mandatory source separated collection of food waste – which they believe will enable the 70% target to be met. Wales had set their own target of 52% by 2013 which they achieved and are now aiming for 58% by 2016 and 70% by 2025 as well as a ban on the landfilling of recyclables by 2017. Northern Ireland achieved 45% recycling in 2013 and with their food waste bans to landfill are expected to reach 50% by 2010. Defra is now under significant pressure from industry, the local authority sector and politicians to demonstrate how it intends to reinvigorate English recycling rates with accusations of a lack of leadership and complacency being made as there are widespread concerns that England will not achieve the 50% target.

q. There have been widespread concerns within the reprocessing community – paper mills, glass furnaces – that the proliferation of ‘clean’ Materials Recovery Facilities (MRFs) for single stream waste sorting has led to a significant reduction in the quality of material they are supposed to recycle. This is exacerbated by tightening quality demands from export markets – China in particular – who have been concerned that the poor quality is tantamount to the dumping of waste due to excessive levels of contamination. Pressure on Government for legislation reform has seen the recent (April 2014) introduction of the **MRF Code of Practice** to England and Wales through amendments to the Environmental Permitting Regulations. This doesn’t place prescriptive quality requirements on clean MRF output, but requires clean MRFs to regularly sample inputs of single stream materials from all suppliers and outputs by material. Results have to be submitted on a quarterly basis to the Environment Agency who will then publish these
through a public register. The idea is that the market will then be able to see who is producing poor quality feedstock for the MRFs and which MRFs are producing poor quality output for recycling and that the market should then drive quality improvement. Similar regulations are also in place in Scotland and in theory, this should lead to the collection regime determining a fairly standard approach to what can and can’t be collected comingled (paper, plastic, glass, metal).

r. In addition to the biodegradable targets on central government, there is increasing social pressure on reducing the impact of food waste, both reducing the amount and using it to recover energy. At present, there is no regulatory requirement in England and Wales or Northern Ireland to collect food waste. However, Wales have it as a declared intent in their ‘blueprint’ document for Local Authorities to collect food waste and Northern Ireland has just declared the intention to introduce mandatory source separated food collections starting with large food businesses in 2015 rise to all households and food businesses by 2017 with a ban on collected food waste to landfill.

s. In Scotland, however, they have already introduced a mandatory food waste collection from large food businesses (hospitality sector, food manufacturers) >50kgs/week falling to 5kgs/week in 2016.

t. Increasing numbers of local authorities now collect food waste separately which has led to a proliferation of Anaerobic Digestion plants. This has been helped by increasing demand for food waste treatment by food waste businesses due mainly to landfill tax but also by an increasing trend towards ‘Zero to Landfill’. Indeed it has almost become competitive marketing to be able to claim ‘zero to landfill’ with large food retailers and manufacturers leading the way. It is estimated that the UK now has 73 food waste-fed AD plants with a further 128 under development. Current demand is estimated at 1.45m tpa rising to 5.5m tpa by 2017.

u. Whilst not directly impacting on recycling rates, the European Waste Shipment Regulations prohibit the export of untreated waste for disposal. The landfill disposal of waste has therefore been confined to the UK and all subject to the same rate of landfill tax which has therefore provided the necessary incentive to develop alternatives.

v. The same cannot be said for other treated wastes. The excess capacity in waste to energy facilities in other Member States brought about by high recycling achievements have seen sharp falls in gate fee and a consequent a growth in the shipment of Refuse Derived Fuel out of the UK – expected to be around 2.4m tonnes in 2014 compared to 200k tonnes in 2010 – which has led to increasing concerns about development of waste to energy capacity in the UK being undermined. The latest ‘Circular Economy Package’ (below) has further encouraged cross- boundary movement of treated waste to fill unused capacity.
4. Overview of progress in waste diversion in the UK in both the household and commercial sectors, key accomplishments and next steps, including targets and current diversion success

a. UK waste diversion from landfill has to be seen as a considerable success story. 20 years ago, the UK was seen as ‘the dirty man of Northern Europe’ with a 4% recycling rate for household waste and a 30% recycling rate for packaging. That has now reached a national 43% (with parts of the UK having exceeded 50%) for household waste and 62% for packaging waste.

b. However, whilst the UK has strong statistics for household and waste associated with Producer Responsibility, it has very little statistics on industrial and commercial waste and it is therefore impossible to say what the rates of recycling are for IC&I waste. The Landfill Tax statistics would certainly suggest that there has been strong growth in recycling across IC&I and extrapolating from known municipal statistics, it would suggest that whilst the amount of household waste landfilled has followed a relatively consistent

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**Fig. 6 – Refuse Derived Fuel exports**

w. The ease of shipment of recyclable material has also led to the UK being fairly unique in Europe in its levels of export to meet reprocessing demand for the increase in recyclable collections. Cheap labour, low shipping costs and lax quality controls have allowed sorted clean MRF material to find markets at much lower quality thresholds in the Far East than have been financially viable in the UK.

x. On 2 July, the European Commission published its Circular Economy Package. This is a set of proposals to push Member States up the waste hierarchy with increased targets and landfill bans. Proposals include:

- 70% household waste recycling target by 2030 (up from 50% by 2020).
- 80% packaging waste recycling target by 2030 (up from 60% now) with material recycling increases (compared to now) – 90% glass (60%), 90% metals (50%), 60% plastic (22.5%).
- Ban on landfills recyclable waste including plastic, paper, metals, glass and biowaste by 2025.
- Reduction in food waste of 30% by 2025 from 2017 levels.
- Whilst at this stage, these are proposals that have to be agreed by Member States, they give an indication of challenges for the future and the fundamental shift that will be needed in waste policy in England if it is to achieve them.
decline, the amount of commercial and industrial waste landfilled has declined in relation to the increase in landfill tax rate and the economy.

**Fig. 7 – Comparison of residential and IC&I landfill decline**

c. As previously indicated, the rate of decline of residential waste into landfill has been primarily driven by three factors:
   - In the late 90s and early 2000s, by local authority recycling targets.
   - In the first decade of 2000, by the requirement for bio-degradable reduction and the LATS\(^4\) system.
   - Since 1996 and in particular, the last 10 years, by landfill tax.

d. The residential waste landscape in the UK contains many examples of technology that have struggled to work technologically or financially. The resistance to mass burn waste to energy plants in the late 90s and early 2000s in the face of intense NGO lobbying saw very little construction of large scale facilities following the late-90’s closures that occurred due to European emission controls. The low cost of landfill dis-incentivised alternative disposal routes until the combined price of the landfill gate fee and the landfill tax hit £40-50/tonne in the late 2000s. A New Technologies Demonstrator programme was launched in 2005 providing £30m to fund a variety of pilot schemes. These included Anaerobic Digestion, Pyrolysis, In-vessel composting and gasification but there has been very little progress on any of these other than Anaerobic Digestion, although gasification has started to emerge as an alternative.

e. Statistics for 2012/13 show that the disposal of residential waste is accounted for as follows:

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\(^4\) The Landfill Allowance Trading Scheme enabled poor landfill-diversion performing Local Authorities to buy capacity from over-performing Local Authorities.
Fig. 8 – Disposal routes for English residential waste 2012/13
f. However, the graphs below show that after strong growth in the early 2000s, recycling has tailed off and indeed, it is only a decrease in waste arisings since 2006 that has prevented the recycling rate falling. However, it can also be seen that despite a significant increase in mass burn waste to energy from 2010 in London, it has not negatively affected recycling rates.

Fig. 9 – Residential waste disposal since 2000 – England

Fig. 10 – Residential waste disposal since 2000 – London
So what has caused this reduction in recycling growth? Much of the change can be attributed to politics. The Labour government of 1997 – 2009 saw Local Authorities being much better funded in the early 2000s. The credit crunch in 2008 then saw funding tightening and the new government in 2009 has since applied stringent cuts to the public sector that has heavily impacted on Local Authorities. In addition, the drive to increase recycling in the first part of the decade essentially plucked the low hanging fruit of the dry recyclables – newspapers and magazines, cardboard, cans and glass – leaving the more difficult material requiring more technological solutions.

The targets set in the late 90’s for residential waste recycling demanded a fundamental change in Local Authority practices. By 1997, a Parliamentary Report determined that the UK residential waste recycling rate was approximately 7%. This was primarily through two sources:

- Bring banks for newspapers/magazines and bottles.
- Doorstep collection of newspapers and magazines.

To achieve the 25% recycling targeted for residential waste required focus on both a broader range of materials and on encouraging greater participation. A change in government in 1997 saw pressure eased on local government finances and investment growth in infrastructure projects and staff. Local Authorities employed specialist recycling officers to educate householders and to encourage greater recycling. Early attempts at ‘dirty MRFs’ (Materials Recovery Facilities) which accepted raw garbage and attempted to sort dry recyclables met with concerns over working conditions as well as poor quality recyclables. A scheme in 2001/2 that required residents to separate recyclables into pink bags that were then collected at the same time as residual garbage on compaction vehicles was quickly found to be uneconomic as bags were splitting and being cross-contaminated by garbage. Separate collection of commingled single stream recyclables, source separated organics and garbage emerged as the primary means of collection.

The UK has adopted the ‘single stream collection/clean MRF sorting’ system as the most common form of recyclables collection and currently has approximately 180 operational MRFs throughout the country. These vary in levels of technology and what they can receive and then separate, ranging from just mixed cans and plastic bottles to a full mix of all recyclables – cans, rigid plastics, card, paper, foil and glass. The main attraction for Councils has been threefold:

- Existing vehicle utilisation through adopting alternate weekly collections.
- High participation and yield rates.
- Less complex for residents.
- Relatively low cost.

In parallel with single stream collection growth, there was also a strong view expressed in many areas that only multiple stream collections could ensure the necessary quality. This was also the only option for Councils that were not served by a local single stream MRF. However, multiple stream collections required separate vehicles and significant additional labour as the material had to be hand-sorted at kerbside. Once collected, the materials could then be simply tipped into bays for storage and bulk collection, but generally, this method of collection excluded plastic bottles due to the rapid rate that the vehicles filled up.

Although mainly single stream, the UK now has a mixture of single stream and multiple stream source-separated collections of recyclable materials with a vast variety of different permutations of materials and containers that are serviced.
m. In addition to dry recyclables, there has been a growing demand for food waste collections. European organic waste diversion targets set in 1999 required Member States to reduce the amount of biodegradable waste to landfill relative to 1995 levels. These were set as:
   - By 2010 reduce the biodegradable waste landfilled to 75% of that produced in 1995.
   - By 2013 reduce the biodegradable waste landfilled to 50% of that produced in 1995.

n. By 2020 reduce the biodegradable waste landfilled to 35% of that produced in 1995. England adopted the Landfill Allowance Trading Scheme (LATS) in 2004 (with the rest of the UK using a similar but non-trading scheme) which set specific diversion targets onto each disposal authority. To achieve these targets, local authorities put in place organic waste collections and also encouraged home composting with subsidised home composters provided to residential properties. Initially, the collections were focussed on garden waste which led to concerns that Councils were collecting waste that would otherwise be composted by households thereby increasing the amount of waste collected. However, in early 2000’s, the main form of treatment for organic waste was open windrow composting which was not considered suitable for meat waste and which therefore limited collection to mainly garden waste and fruit and vegetables.

o. The early 2000s saw the import of Mechanical Biological Treatment technology from the continent where it was already in widespread use. An extension of the ‘dirty MRF’ concept, MBT plants were designed to take in raw garbage and separate dry recyclables and organics, but the quality of the output was not sustainable. Instead, these are now primarily in use for treatment of residual waste where source separated collection schemes have already removed the bulk of the dry recyclables. The MBT plants will then separate heavy fragments – stones, glass etc – metals and light fractions such as plastic and paper for recycling, the organic fines for composting through Anaerobic Digestion and the residual waste is then either landfilled or more commonly now, sent for incineration as Refuse Derived Fuel. An example of input and output for an MBT plant receiving 77k tonnes a year (from a total 122k tonnes collected) is shown below. Recovered recyclables represent less than 1% of incoming materials. Organics sent to AD facilities are contaminated to the extent that the product of the AD facilities is only suitable for use as landfill cover. Only a small number of new MBT facilities are under development in the UK.

<table>
<thead>
<tr>
<th>Collections</th>
<th>MBT plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual</td>
<td>Landfill</td>
</tr>
<tr>
<td></td>
<td>64%</td>
</tr>
<tr>
<td>Recycling collection</td>
<td>Organics</td>
</tr>
<tr>
<td></td>
<td>21%</td>
</tr>
<tr>
<td>Recycling bring</td>
<td>Metals</td>
</tr>
<tr>
<td></td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>2.8%</td>
</tr>
<tr>
<td></td>
<td>RDF</td>
</tr>
<tr>
<td></td>
<td>46.3%</td>
</tr>
<tr>
<td></td>
<td>Moisture loss</td>
</tr>
</tbody>
</table>

*Fig. 11 – MBT plant performance*

p. In 2011, it was estimated that 47% of households had access to separate food waste collections although recent estimates suggest that less than 20% of residential food waste is actually collected. Demand for food waste treatment facilities has led to a growth in Anaerobic Digestion treatment capacity with government subsidies to encourage renewable energy since the late 90’s. These initially saw mass burn waste to energy plants supported by the Non Fossil Fuel Obligation that was then replaced in 2003 with the Renewable Obligation Certificate Scheme that saw energy producers able to purchase tradable certificates from green energy producers. More recently, with
binding targets placed on EU countries by the Renewable Energy Directive of 2009, the Government introduced Feed in Tariffs for smaller plants which has seen a proliferation of small-scale AD facilities for food waste, both from agriculture and households. The UK has a target of 15% renewable energy by 2020 from a position of 4% in 2012.

q. It is difficult to portray the average residential property’s waste collection arrangements now in the UK as they are so varied. However, as an example, the author’s house has the following containers and collections:

<table>
<thead>
<tr>
<th>Waste type</th>
<th>Materials</th>
<th>Container type</th>
<th>Collection frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual garbage</td>
<td>Non-recyclable</td>
<td>240 litre wheeled cart –</td>
<td>Fortnightly - 1 grey</td>
</tr>
<tr>
<td>Garden waste</td>
<td>Grass cuttings, plants etc</td>
<td>240 litre wheeled cart –</td>
<td>Fortnightly - 2 green</td>
</tr>
<tr>
<td>Kitchen waste</td>
<td>Meat, bones, veg etc</td>
<td>10 litre ‘caddy’</td>
<td>Weekly</td>
</tr>
<tr>
<td>Dry recyclables</td>
<td>Cans, rigid plastic, glass etc</td>
<td>240 litre wheeled cart –</td>
<td>Fortnightly – 2 blue</td>
</tr>
<tr>
<td>Paper</td>
<td>Newspaper, magazines, cardboard</td>
<td>40 litre box</td>
<td>Fortnightly 2</td>
</tr>
</tbody>
</table>

*Fig. 12 – typical UK household refuse and recycling collection arrangement*

r. Split compaction vehicles are used to collection two streams at once with the waste then taken to a waste transfer station for bulking before being transported to the relevant disposal or treatment facility.

s. Clearly, the increase in container quantities and the complexity of material separation leads to issues with householders with difficulties, in particular, for small houses having sufficient space both to keep waste materials separated in the house and to keep the number and size of containers.

t. There is also ongoing debate about the frequency of food waste and residual garbage collections which has taken a highly political dimension. To make separate collections affordable and encourage public participation, Councils moved form a weekly residual garbage collection supplemented by a fortnightly recyclables collection to alternate weekly collections of each. As food waste started to be collected, this often saw this being added to the fortnightly collection. However, Ministers have tried to persuade Councils that both residual garbage and food waste should be collected weekly and whilst weekly residual garbage collection has been largely ignored – indeed, some Councils now moving to residual garbage only collected every three weeks – it is generally accepted that food waste should be collected weekly.

u. The collection of single stream recyclables – which has seen the gradual increase of glass into the mix as Councils have strived for higher percentages and clean MRFs have offered to accept glass as part of the mix – has recently undergone legal Judicial Review. The European Waste Framework Directive calls for ‘separate collections’ of paper/card, glass, metal and plastic. There has been fierce debate as to the definition of ‘separate collection’ with the reprocessing industry – largely the paper mills – arguing it should mean multiple stream collection. However, the WFD also qualifies it with a statement ‘Member States shall take measures to promote high quality recycling and, to this end, shall set up separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors’ which opponents to single stream collections have taken to mean than unless the same quality can be achieved through single stream, collections
should be multi-stream. This argument has been lost in the UK courts but Councils must be able to justify the use of single stream if that is the method of collection they wish to use. Given the UK’s dependence on single stream and MRF separation, it is expected that most Councils will continue down this route. But there is a strong lobby that believes that where paper is included in the single stream, glass should not and there are indications that where Councils persist using this method, there may be further legal challenges after 1 January 2015 which is when the new requirements apply.

v. This issue also illustrates the increasing divergence of devolved Governments in the UK. Wales has adopted a more stringent test with multi-stream collections being the default whilst Scotland has stated that glass should not be collected in a single stream collection. Across the UK, recent rules\(^5\) for clean MRFs will, by the end of 2014, require sampling of inputs and outputs which will be made public and which will be used to try to drive up quality through commercial pressure.

w. Targets have been imposed under the Waste Framework Directive that must be met by Member States by 2020:
   - For household (residential) ‘and possibly from other origins as far as these waste streams are similar to waste from households’ a target of 50% preparing for reuse or recycling by weight. The UK’s current position is that this should apply only to residential waste, but that is due for review by the end of 2015 and may then include commercial waste. At present, the UK is recycling approximately 43% of household waste.
   - For construction and demolition waste, 70% preparing for reuse or recycling is required. It is estimated that the UK already exceeds this by some margin.

x. However, the Circular Economy Package proposed by the European Commission in July 2014 puts forward further targets.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Current EU target</th>
<th>Proposed EU target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household and similar waste recycling/reuse</td>
<td>50% by 2020</td>
<td>70% reuse and recycling by 2030</td>
</tr>
<tr>
<td>Packaging waste recycling/reuse</td>
<td>55% by 2008</td>
<td>80% by 2030 (including 90% for paper by 2025, 60% plastic and 80% glass and metals by 2030)</td>
</tr>
<tr>
<td>Phasing out landfill of recyclable material (including biowaste)</td>
<td>By 2025</td>
<td></td>
</tr>
<tr>
<td>Reducing food waste levels to 70% of 2017 levels</td>
<td>By 2025</td>
<td></td>
</tr>
</tbody>
</table>

\[Fig. 13 – European Circular Economy proposals 2 July 2014\]

5. Progress with Extended Producer Responsibility

a. Included above are higher packaging recycling and reuse targets. These are part of the producer responsibility regime applied by Europe across all Member States. Apart from End of Life Vehicles which only apply to vehicle manufacturers and importers, three waste types are affected:

b. **Packaging** – commenced in the UK in 1997 with general packaging recycling targets for 2001 and more focussed packaging material targets for 2008. These required an overall recovery rate of 60% and recycling rate of 55% with separate material targets.

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\(^5\) The MRF Code of Practice has been incorporated into the Environmental Permitting Regulations for England and Wales. [http://www.legislation.gov.uk/uksi/2014/255/made](http://www.legislation.gov.uk/uksi/2014/255/made)
• Paper and glass – 60%
• Metals – 50%
• Plastic – 22.5%
• Wood – 15%.

Since the start of the regulations, UK packaging recycling has moved up from around 2.9m tonnes to 6.7m tonnes. The system operates under a shared responsibility process where obligated businesses are able to buy into the recycling carried out by others. If the amount of evidence available to buy is less than the targets, the cost of evidence (Packaging Recovery Notes or PRNs) goes up providing more subsidy to collect additional material. If enough is collected to meet targets, then the subsidy goes down. However, there is a view that whilst the UK’s system tends to be lower cost than the rest of Europe, it does little to drive packaging recycling forward and instead provides a backstop funding mechanism for a tight target year. Given that the majority of packaging recycling growth – other than glass – tends to come from commercial waste, it is generally felt that without the packaging regulations, it is unlikely our packaging recycling performance would have been much different.

![UK Packaging waste recycling by material (tonnes)](image)

*Fig. 14 – Packaging recycling growth since the start of producer responsibility*

The cost of the UK packaging system relates primarily to the requirement for producers to purchase PRNs. It is estimated that producers have paid around £1bn for PRNs since the regulations began but as shown in Fig. 12, the volatility of the PRN system is such that it provides very little basis for investment.
c. **WEEE** – commenced in the UK in 2007 and until now, has simply been about ensuring the collected Waste Electrical and Electronic Equipment is properly treated through appropriate facilities rather than applying any increased collection targets. This has changed for 2014 onwards to include targets related to what has been placed on the market. The EU required 45% collection by 2016 and 65% by 2019. Recycling targets are then applied to what is collected. Currently, the UK is collecting around 43% on a recorded basis.

d. **Batteries** – commenced in the UK in 2010. These regulations were designed to target the diversion of portable batteries from landfill, portable being defined as anything that is not automotive or industrial. In fact, since the regulations started, true portable batteries – alkalines, NiCds, etc – have seen collection rates fall as the Environment Agency has allowed already-collected lead acid batteries to be used. Although it was expected that the regulations would see battery collection points in virtually every shop selling batteries and also possible, see local authorities collecting portable batteries, very little has so far changed. There is a target of 45% collection of portable batteries by 2016 which the UK is on course to meet, but only because of the lead-acid battery evidence.

e. The UK government has had a policy of minimum intervention and leaving target achievement to market forces through the lowest cost route. This has had the result across all three regimes that there has been very little investment in processing capacity other than for WEEE where export restrictions have tended to lead to more localised solutions. However, as can be seen in Fig. 16 below, the increase in packaging recycling has been largely through exports as the volatility of the PRN has not enabled it to be used as an investment tool.
f. Moving forwards, EPR is still very much a key plank in Europe’s drive towards the Circular Economy with ‘preparing for reuse’ now proposed as part of the targets for packaging and for waste in general, for instance. However, as yet, there is no indication that the concept of shared responsibility will shift to individual responsibility and therefore, that Producer Responsibility will affect design. Shared producer responsibility seems set to apply until the end of the decade with the cost of individual responsibility cited as the biggest obstacle.

6. UK waste treatment facilities

a. As previously discussed, UK waste is managed through a variety of disposal solutions. Obtaining accurate data of operational and planned facilities is not simple, but the following is obtained from various sources.

b. From the Eunomia Residual Waste Infrastructure Review May 2014, the UK has:
   - 44 Waste to energy mass burn facilities operational or under construction – approximately 10m tonnes capacity. A list of facilities is shown here.
   - 7 Gasification facilities operational or under construction – approx. 1m tonnes capacity.
   - 31 Pre-treatment facilities operational or under construction – approximately 5m tonnes capacity.
   - 8 cement kilns taking Refuse Derived Fuel.

c. In addition it is estimated there are:
   - 15-20 MBT plants in operation with approximately 3-3.5m tonnes capacity and a further 5 in construction including a £120m plant in Essex.
   - 180 clean Materials Recovery Facilities of which around 100 are primarily for residential single stream. Total capacity is unknown but estimated at approximately 12-15m tonnes. WRAP produced a map which has not been updated since 2010 but which provides details for 94 residential clean single stream MRFs.
   - 73 Anaerobic digestion plants taking residential and IC&I food waste with a further 128 under development. Current capacity of 1.45m tonnes of food waste rising to
5.5m tonnes by 2017. An online map shows the facilities in place related to different waste types.

- The growth in AD plants has been dramatic since the introduction of Feed in Tariffs for smaller facilities. The graph below shows the number of sites constructed in the period shown.

Fig. 17 – Growth in AD sites – from Cogent Market Report March 2013

d. There is now continuous debate as to whether the UK is over or under-supplied with residual waste capacity moving towards the organic waste and dry recycling targets for 2020. Eunomia, a well-respected UK consultancy, maintains that the UK will have a surplus of capacity if all the planned developments take place. However, other reputable organisations conclude that there will only be a surplus if all the currently planned projects are delivered which, in the current market, is unlikely. A recent Government report suggests that if all planned projects are completed, there is a 97% chance of meeting landfill diversion targets with the potential for a 2.7m tonne surplus will emerge and that even where financial support has been withdrawn, there is a 95% likelihood of meeting the 2020 targets.

e. This debate has widened over the last year with the rapid growth in residual waste exports. Waste to energy mass-burn projects demand long term volume feedstock for the life of the project. Northern European countries moved away from landfill to mass burn waste to energy in the 90’s and 2000s but as recycling rates increased, residual waste supply for these facilities fell leaving significant over capacity. This capacity is now being taken up by countries with high landfill dependence and high landfill costs.

f. As previously mentioned in paragraph 3.v, the UK has tapped in to this market extensively with growth from 200k tonnes in 2011 to a predicted 2.4m tonnes in 2014. The Waste to energy plants in these countries are deemed to be recovery operations as they have combined heat and power recovery – as opposed to disposal in most facilities in the UK where there is only energy recovery. The European Waste Shipment Regulations allow cross-border movement for recovery, not disposal, but there is growing concern that the material being exported to these facilities is to all intents and purposes, untreated waste and that the UK is simply exporting its waste for disposal. At present, there are no signs of this trend being challenged from a legal perspective, but

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6 Farmers Weekly article April 2013 http://www.fwi.co.uk/articles/20/04/2014/144216/report-highlights-rapid-growth-of-uk-ad-sector.htm
there are growing calls for some constraint as it is also now affecting the availability of financing for large scale waste to energy mass burn projects in the UK due to the uncertainty of long term feedstock. The RDF exports are driven by two factors:

- Cost – the low gate fees charged by European facilities give a total cost for disposal including haulage and costly administration requirements, significantly less than UK landfill and mass-burn waste to energy.
- Landfill reduction - this helps both IC&I waste producers and local authorities to claim higher rates of landfill diversion.

g. The recent European Commission Circular Economy Package proposals actively encourage the utilisation of European capacity between Member States and it is expected this debate will continue to develop.

h. There are also signs that Anaerobic Digestion capacity may be moving ahead of demand. The graph below shows how capacity for food waste has grown and gate fee index reports suggest that AD gate fees may be slipping below economic levels. The second graph is taken from the WRAP Gate Fee report and shows how Waste to energy gate fees have tracked landfill costs as they have been escalated by the landfill tax whilst AD and composting gate fees have remained largely flat or falling as capacity has grown.

![Figure 2: Installed AD Capacity in the UK](image)

*Source: SLP Consulting*

*Fig. 18 – AD capacity growth*
7. Current and future focus

a. The change in the Waste Framework Directive waste hierarchy (see paragraph 3.p.i) towards the end of the last decade has given greater prominence to reuse. This has been amplified over the last two years through the sudden explosion in the Circular Economy debate. The Ellen MacArthur Foundation was set up in 2010 and is now recognized as one of the leading global organisations in this field with several major UK brands now signed up as participants. It is certainly creating widespread debate and a commercial recognition of the need to move from a linear economy. However, for all the discussion, there is also a recognition that there will not be a sudden sea change in the management of waste or in production and that change will need centralised ambition. This has been accepted by the European Commission although their recently issued Circular Economy Package proposals have been considered to not go far enough by many commentators. For instance, whilst it raises packaging recycling targets under producer responsibility, it does not extend EPR to other materials nor does it push towards individual PR.

b. Whilst, therefore, there is a lot of discussion on circularity, the reality is that products are getting cheaper making their long term value more debatable and for the average consumer, the Circular Economy as an expression is fairly meaningless although the counter to that is that extending product life has become easier than ever through online selling and exchange platforms such as eBay, gumtree etc.

c. In practical terms, the main area of growth has been ‘zero to landfill’ or ‘zero waste’. This dominates waste management thinking with many corporations in the UK now adopting a zero waste to landfill target date. This is also being applied by devolved governments in the UK with both Scotland and Wales adopting ambition landfill reduction targets.

d. It is recognised that the desire to see more reuse is often challenged by waste legislation, in particular the definition of waste, but also the costs associated with complying with waste legislation. This can sometimes make recycling an easier, more
cost effective option and more compliant solution than reuse once a product has been deemed to be waste. As an example, the amount of WEEE reused has fallen since the introduction of the WEEE Regulations as the evidence needed to demonstrate that targets have been met is easier to obtain through recycling than reuse.

e. A previous key priority for the European Union has been the decoupling of waste growth from GDP. This appears to have been largely achieved with UK residential waste quantities falling year on year since 2008 despite a significant population and GDP growth. How much this relates to the economic downturn and how much to cultural changes is difficult to estimate although a recent WRAP report attempts to explain this.

![UK % growth from 2000 Population vs residential waste generation](image)

Fig. 20 – Percentage growth from 2000 of UK population compared to residential waste generation

f. There have been campaigns run by WRAP to encourage the reduction of waste, in particular, food. The ‘Love Food, Hate Waste’ campaign started in 2007 and still runs, getting regularly refreshed with new material. Local Authorities tend to run the campaigns on a local level with a combination of bill board posters, local newspaper adverts, leaflets and other support material. It has gained national recognition through a common brand and is credited with achieving significant results. A Case Study in London states that over a period of 6 months from October 12 to March 13, edible food waste decreased by 14% and that £8 was saved in collection and disposal costs for every £1 spent on the campaign. A two year campaign in Manchester resulted in a doubling of the number of residents who took action to reduce their food waste, from 37% to 75%. The strapline has now become nationally recognised, but whether it has a lasting impact or just an immediate but short term impact has not been analysed.

8. Flow control issues

a. Residential waste collection in the UK has always been treated on the basis of free market development. Controls over the use of Council-employed staff were swept away in labour reforms in the 80’s with Councils then required to demonstrate lowest cost. More recently, this has changed to Best Value allowing Councils more flexibility in selection on criteria beyond simply price. However, collection authorities are then required under the Environmental Protection Act 1990 to dispose of their collected waste under the direction of disposal authorities. There is provision for collection
authorities to determine the disposal route for recyclable waste, but the disposal authority can object if it affects their waste plan. A waste disposal authority therefore has control over the flows of all streams of residential waste. As an incentive for collection authorities to maximise recycling, disposal authorities have been required in the past – although it is now voluntary – to pay recycling credits to collection authorities equivalent to the amount saved by not landfiling.

b. However, for IC&I waste, there are no flow controls other than Transfrontier Shipment Regulations that prevent waste leaving the UK for disposal. This does not prevent the export of waste for recycling and recovery and as previously shown with Refuse Derived Fuel and the use of overseas facilities as a release valve for collection growth has had a clear impact on the development of UK facilities.

c. As previously shown in Fig. 16, the majority of packaging recycling growth has come through exports because of the easy expandability of output and the lower quality requirements.

d. The restriction on the export of waste for landfill and the common UK landfill tax does at least apply a level playing field to UK disposal.

e. The majority of waste treatment facilities are now built on a merchant basis with disposal authorities contracting for capacity and the operator then able to sell spare capacity to other authorities or commercial operators.

9. Management of residual waste

a. Waste management in the UK has tended to be characterised by non-intervention, free market output based requirements other than where European legislation has demanded transposition into UK law. That has generally led to infrastructure being developed on a commercial basis and failures then being attributed to commercial rather than bureaucratic mistakes.

b. There are some notable cases of a lack of legislative enactment or enforcement leading to problems:

- In 2002, the UK delayed the transposition of European requirements for the treatment of CFCs leaving the UK woefully unprepared for the deadline date set by Europe as companies were not prepared to invest without knowing the specific requirements. This led to highly publicised ‘fridge mountains’.
- Loose interpretation by the UK Government of the EU WEEE Directive led to an unfulfilled expectation of a growth in WEEE collection and the rapid over-development of WEEE treatment capacity which has subsequently seen significant commercial failures.
- A change in the interpretation of AD digestate from MBT plants in the mid 2000s led to expensively processed waste that could only be used as landfill cover and not count as recycling.

c. With plentiful supplies of landfill as the backdrop, the UK was slow to develop infrastructure and even now, the waste industry continually expresses concern to Government that a lack of a clear strategy beyond landfill tax limits the potential for commercial long term investment.

d. Alternative technologies for residual waste have been slow to develop despite the known rise in landfill tax. Attempts have been made at gasification and pyrolysis with little success although a large scale pyrolysis plant planned to treat 300k tonnes per year of auto shredder fluff waste is due to be commissioned by the end of the year by EMR, one of the world’s largest – and family owned – scrap metal businesses. Most
technology developments have been focused on specific streams with gasification in particular, focused on waste wood.

e. The key residual waste treatment technologies remain primarily mass burn waste to energy and MBT ‘dirty MRFs’ with the latter now being used primarily to separate organic waste for low quality AD power generation and the dry fraction being used as Refuse Derived Fuel. MBT-derived digestate from the AD facilities is then landfilled. Although MBT plants are still being developed, they are at a much slower rate than mass burn waste to energy and the overall cost and environmental effectiveness is often questioned in relation to mass burn. Mass burn WTE is generally seen as safe, but there is continued local opposition to the development of new facilities due to traffic impacts.
To: GVS&DD Board of Directors
From: Zero Waste Committee
Date: September 11, 2014

Subject: Update on Bylaw 280

ZERO WASTE COMMITTEE RECOMMENDATION
That the GVS&DD Board receive for information the report titled “Update on Bylaw 280”, dated September 11, 2014.

At its September 11, 2014 meeting, the Zero Waste Committee received an update on Bylaw 280 issues; a letter sent on August 14, 2014 by the Metro Vancouver Board Chair to Mary Polak, Minister of Environment, updating the Minister on the matter (attachment 1); and the latest correspondence received in regard to Bylaw 280 (attachment 2). The Committee was informed that waste volumes bypassing Regional Facilities and crossing the border at Abbotsford continue to increase and was presented recent waste flow data (Attachment 3): the first chart demonstrates how one large hauler delivers an estimated two-thirds of all of the waste it collects in the Metro Vancouver region to a transfer station in Abbotsford. The second chart shows monthly waste quantities crossing the Abbotsford border. The quantity of waste crossing the border at Abbotsford in July 2014 was approximately 18,000 tonnes, up approximately 8,000 tonnes from July 2013 and August 2014 was nearly 17,000 tonnes, up from 5,000 tonnes in August 2013. Finally, the third chart highlights that waste quantities crossing the border at Abbotsford are projected to reach 160,000 tonnes in 2014, up from an average of 70,000 tonnes in the years before bypassing began.

The Committee requested that the update be forwarded to the Board for information.

Attachments:
1. Correspondence sent by the Metro Vancouver Board on August 14, 2014 to Mary Polak, Minister of Environment with an update on Bylaw 280 issues
2. Recent correspondence received in regard to Bylaw 280
3. Recent Waste Flow Data
August 14, 2014

The Honourable Mary Polak, Minister
Ministry of Environment
PO Box 9047 Stn Prov Govt
Victoria, BC  V8W 9E2

Dear Minister Polak:

Re:  Metro Vancouver Bylaw 280 – Update

We last wrote to you on May 28, 2014, in response to a B.C. Chambers of Commerce resolution with respect to Bylaw 280. We are writing to update you on matters related to Bylaw 280, and to request a meeting to continue our discussions on this important issue.

Bypassing Waste Quantities

Metro Vancouver now estimates that at least 100,000 tonnes per year of waste is bypassing Regional Facilities, up from 70,000 tonnes in 2013 and 50,000 tonnes in 2012. We estimate that one large hauler is now delivering up to two-thirds of all of the waste it collects in the Metro Vancouver region to a transfer station in Abbotsford. In total, more than 10,000 garbage truck loads per year of waste is unnecessarily being driven from Metro Vancouver to Abbotsford.

Furthermore, we estimate that waste crossing the U.S. border at Abbotsford is at a record high. Our estimate for July 2014 is nearly 18,000 tonnes, up approximately 8,000 tonnes from July 2013. For your information, we have attached our monthly estimates of waste crossing the U.S. border at Abbotsford over the last number of years. As shown in the chart, the waste quantities crossing the border have increased dramatically since Metro Vancouver first identified the waste flow issue, in spite of overall reductions in the amount of total waste generated.

Metro Vancouver data continue to show only a small number of haulers bypassing Regional Facilities; if other haulers begin bypassing, the quantities will further increase.

We understand that waste haulers on Vancouver Island are increasingly bypassing regional district facilities and shipping waste to U.S. landfills. The Nanaimo Regional District in particular is seeing large quantities of waste bypassing their system with consequential negative financial and policy implications.
Waste Management Costs

In 2012, the region’s diversion rate was 58% and approximately one million tonnes of waste were received at Regional Facilities. Metro Vancouver’s projections for future tipping fees are based on achieving 70% diversion by 2015 and 80% by 2020. At 80% diversion, we expect that 700,000 tonnes of garbage will require disposal.

Metro Vancouver operates a financially self-sustaining solid waste system based on a user-pay model with weight-based tipping fees. The tipping fee is annually set by the Board based on the projected cost of the solid waste system divided by the projected total waste tonnage.

Increased recycling and decreased waste volumes do not reduce fixed costs for facility operations and planning; as a result, in order to cover system costs, tipping fees increase with decreasing waste quantities. Tipping fees are therefore projected to increase over the next few years. If, however, waste quantities do not decline to the extent projected, tipping fees will increase less than projected.

The rate of projected increase of the tipping fee is approximately proportional to the decrease in waste volumes; therefore, total disposal costs for an individual business should not increase as long as their waste disposal quantities reduce at the same rate as the rest of the Metro Vancouver region.

Approximately 60% of the waste delivered to Regional Facilities arrives in large commercial vehicles; however, about 80% of the users who rely on Regional Facilities are small businesses and residents, delivering loads in small vehicles, at an average of only 200 kg per load, compared to up to 10,000 kg per load for a commercial hauler. If commercial haulers continue to bypass Regional Facilities, and Metro Vancouver continues to provide waste management services for small business, residential drop-offs, and municipally collected garbage, there will be insufficient revenue to pay for these core waste management services along with waste reduction, recycling and other solid waste planning activities.

In other communities where tipping fees alone do not cover the cost of solid waste management activities, these costs are transferred to property taxes. Therefore, any reduction to garbage disposal fees experienced by individual businesses whose hauler bypasses Regional Facilities could be offset by increased property taxes charged to all businesses and residents in the region.

If Metro Vancouver does not provide waste disposal services in the future, there is significant uncertainty as to how residents and small businesses will access services, creating inconvenience and a risk of increased illegal dumping around the region.

Waste Diversion

Without Bylaw 280, Metro Vancouver’s disposal bans will be rendered ineffective as haulers bypassing Regional Facilities will not be subject to bans. Recycling rates would stall or decrease and the region’s waste diversion targets would not be achieved.

Metro Vancouver is introducing an organics disposal ban in 2015 that will be applied at Regional Facilities. Under Metro Vancouver’s model of charging all users of Regional Facilities the same per
tonne disposal fee, organics processing is less expensive than garbage disposal. Municipalities around the region have been able to keep residential waste management costs flat and in some cases reduce costs by enhancing organics collection and diversion, and reducing garbage collection amount and frequency. In Vancouver, a Recycling Alternative (Bylaw 280 supporter and member of the Recycle First Coalition) pilot project underway at Pacific Centre Mall processes food court organics onsite, resulting in an 80% reduction in quantities of organics required to be sent off-site for processing, and substantial cost savings. If bypassing of Regional Facilities continues, innovative waste reduction solutions such as Recycling Alternative’s pilot are unlikely to succeed.

Waste-to-Energy and Mixed Waste Material Recovery Facilities

Particular stakeholders continue to tie Bylaw 280 to waste-to-energy (WTE) and suggest that rejecting Bylaw 280 will allow for the development of mixed waste material recovery facilities (MRFs) as an alternative to WTE.

As we have communicated previously, the development of WTE for the region has its own consultation and engagement process that will culminate in an environmental assessment process and will ultimately require your approval. We encourage stakeholders to participate in that process.

MRF proponents have suggested that MRFs would operate at marginally lower tipping fees than Regional Facilities. They suggest that their business model would not be impacted by waste being delivered to Abbotsford because they say only a small amount of waste is bypassing Regional Facilities and only from the eastern edge of the Region. It is clear now that large quantities of waste are bypassing Regional Facilities from the majority of the Region with the potential for significant increases if other haulers begin to bypass Regional Facilities. On this basis, if the MRF proponents’ interest was really to recover recyclables from garbage, they would support Bylaw 280 because it prevents low-cost transfer stations. We are not aware of examples anywhere in North America or Europe of MRFs being developed without flow control mechanisms in place given the high cost of mechanically processing garbage.

The provisions in Bylaw 280 with respect to MRFs are reasonable in that they ensure MRFs do not undermine source separation, and that the MRFs do not act as transfer stations for the purpose of bypassing Regional Facilities. The Institute of Scrap Recycling Industries, the US’s largest recycling trade organization, has recently issued a policy position opposing commingling of recyclables with garbage, because of poor-quality end-product recyclables: http://www.isri.org/docs/default-source/policy-position-statements/one-bin-collection-policy.pdf?sfvrsn=4. This position is consistent with the Bylaw 280 approach.

On July 22, 2014, presentations at the Zero Waste Committee and a Sustainability Dialogue by European waste management experts confirmed that in spite of significant investments and state-of-the art technology, European MRFs are failures due to low-quality end-products, and that MRFs in the U.K. and the Netherlands simply preprocess waste for either landfill or WTE disposal. These presentations are available online at: http://www.metrovancouver.org/region/dialogues/Pages/default.aspx
Implications of Bylaw 280 Not Being Approved

In the event Bylaw 280 is not approved in the near future, the following impacts should be expected:

- Increasing quantities of commercial waste collected in Metro Vancouver shipped to U.S. landfills, with similar trends expanding across southern B.C.
- Stalled recycling rates and failure to achieve the waste diversion targets in the Integrated Solid Waste and Resource Management Plan, the region’s approved solid waste management plan.
- Insufficient revenues to fund solid waste functions, including providing core waste disposal services to residents and businesses around the region. This is a particularly important issue as Metro Vancouver plans the 2015 solid waste budget.
- Lost jobs and economic opportunities for small businesses, including small haulers and recycling companies around the region.

Bylaw 280 is consistent with the Province’s 5Rs hierarchy and sustainability principles, and approval of Bylaw 280 will ensure that British Columbia continues to be a North American leader in waste management policy and practices.

Given the importance of Bylaw 280, we would like the opportunity to meet with you to continue our discussions. Metro Vancouver staff will contact your office to schedule a meeting.

Yours truly,

Greg Moore, Chair
Metro Vancouver Board

Malcolm Brodie, Chair
Zero Waste Committee

Attachment: Abbotsford Border Crossing – Municipal Solid Waste
Abbotsford Border Crossing -- Municipal Solid Waste
July 31, 2014

Metro Vancouver Zero Waste Board
4330 Kingsway,
Burnaby, B.C. VSH 4G8

Dear Board Members,

This is a letter of questions for the Metro Vancouver Zero Waste board members:

Are there loop holes in bylaw 280 that allows waste haulers to collect and haul metros organic waste out of the Vancouver metro area?

Will shipping Metro Vancouver's compostable waste out of the metro area as part of your solutions and services for a livable region have negative effects on other regions?

Will the rat problem you have with organic waste in Metro Vancouver travel to other areas where the compostable waste is being transported to?

Why does the metro zero waste board allow the compostable waste to be shipped to an open row composting site that are banned in just about every areas in north America and Europe?

Is the compostable waste checked for fungicides, pesticides, and herbicides that can be purchased and used unregulated in the metro area?

Are there insect/pests (e.g.: apple maggot, Asian longhorn beetle, European chafer, gypsy moth, etc) in the metro area that can be spread to other areas in the waste from the metro area?

Will sending organic waste 250km affect the ground water where it is dumped?

Why do the people in the Botanle valley have to smell the stink created by Metro Vancouver? People from Metro are not be subjected to this obnoxious stink.

Are there human health risks from an open row composting of metro Vancouver waste in the hot and dry environment of the B.C.'s interior?

There are more environmental and moral questions to ask the zero waste board about shipping their waste out of the metro area. If you cannot answer the above questions please forward this letter to the common sense dept.

Sincerely

Ed Roest

CC: Metro Vancouver Board of Directors
From: Paul Henderson  
Sent: Wednesday, July 30, 2014 9:33 AM  
To: Alison Hilkewich  
Subject: Fwd: Bill 280

Info item for September.

Paul Henderson, P.Eng  
General Manager, Solid Waste Services

Begin forwarded message:

From: Peter Ladner <peter@peterladner.ca>  
Date: 30 July, 2014 7:35:24 AM PDT  
To: "env.mail@gov.bc.ca" <env.mail@gov.bc.ca>  
Subject: Bill 280

Dear Minister Polak-  
As someone involved in the Vancouver business community, a former member of the Metro  
Vancouver Waste Committee, and a long-time advocate if more sustainable uses of the earth's  
limited resources, I would like to add my voice to those supporting Bill 280.

I am still undecided about the merits of further incineration, but there's no doubt in my mind  
about the benefits of source separation, extended producer responsibility, job creation from  
increased recycling, and health benefits from in eased diversion, all of which are threatened by  
undermining flows to regionally- controlled waste facilities.

Please approve Bill 280.

Peter Ladner

Sent from my phone
July 16, 2014

The Honourable Mary Polak
Minister of Environment
Parliament Buildings
Victoria, BC V8V 1X4

Dear Minister Polak:

Re: Letter of Support: “Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw No. 280”

Following extensive consultation and engagement, the Metro Vancouver Board has given third reading to the “Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw No. 280”, (Bylaw 280)

We believe that the regulatory framework created through Bylaw 280 is important to achieve the waste diversion goals of the Metro Vancouver region, and important to the success of Extended Producer Responsibility programs in British Columbia. On this basis, we support Bylaw 280, and recommend that you approve it.

Yours truly,

Ginette Vanasse
Executive Director, HPSA
Phone: 613-723-7282
Fax: 613-722-1626
#330-2255 St. Laurent Blvd,
Ottawa, ON K1G 4K3
gvanasse@healthsteward.ca
www.healthsteward.ca

cc: Greg Moore, Chair, Metro Vancouver
The Honourable Mary Polak  
Minister of Environment  
PO Box 9047 Stn Prov Govt  
Victoria BC V8W 9E2

Dear Minister Polak:

RE: METRO VANCOUVER WASTE FLOW MANAGEMENT AND THE GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT RECYCLABLE MATERIAL REGULATORY BYLAW NO. 280

The Capital Regional District (CRD) received a request from Metro Vancouver to support its application for approval of the Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw No. 280, 2013. We are informed that flow management is included in Metro Vancouver’s Solid Waste Management Plan and that their regional district has met the Ministry’s public consultation requirements prior to submitting the bylaw for your approval.

Our Board understands that waste flow management is an important regulatory tool to support the implementation of local governments’ solid waste management plans and regulate the flow of municipal waste and recyclable materials as provided for in the Environmental Management Act. Waste flow management is becoming an important issue for many regional districts in British Columbia. The CRD may review waste flow management and regulatory approaches as part of the development of its new Integrated Solid Waste and Resource Management Plan.

We support the principle that, where the authority has been granted through an approved Solid Waste Management Plan, a regional district may require that municipal solid waste, recyclable and organic materials generated within that jurisdiction be received at designated facilities. We appreciate Metro Vancouver’s work on this emerging issue and support the authority of local government to decide upon this matter.

We will follow this important solid waste issue and your decision with interest.

Yours truly,

Alastair Bryson  
Chair, Capital Regional District Board

cc: Greg Moore, Chair, Metro Vancouver Board  
Malcolm Brodie, Chair, Zero Waste Committee  
Board Members, CRD  
Bob Lapham, Chief Administrative Officer, CRD  
Larisa Hutcheson, General Manager, Parks & Environmental Services, CRD
The honorable Mary Polak, Minister  
Ministry of the Environment  
PO Box 9047 Stn Prov Govt  
Victoria BC V8W 9E2  

Dear Minister Polak

I am writing to add my voice to those who support Metro Vancouver bylaw 280.  

I recently learned that some interests are trying to convince you not to approve bylaw 280; should their efforts be successful, this would be an unfortunate mistake. I am saying this as a voter and taxpayer, but also as the instructor of a course in solid waste management. It is while researching material for this course that this situation has come to my attention.

As a taxpayer, I see the issue mostly as one of fairness. Under the current situation, large waste haulers are taking more and more waste away from the Metro system, to Abbotsford, a trend that has started at least two years ago and is getting worse. This is a problem because it creates a lack of revenue to properly operate the waste management system of the region. As a result, small operators and general taxpayers are left with heftier costs than need be. In my understanding, it is this unfairness that bylaw 280 is designed to prevent and it is clear that it should be fully supported.

Should the bylaw not be approved, it is the full integrity of the recycling system, from source separation, producer responsibility, organics collection, and other initiatives, that would be compromised.

It has been said that large industrial haulers from the private sector would be able to operate more efficiently than the public sector. I see nothing to substantiate this assertion. On the contrary, I can only conclude that the outcomes would be either an increased cost to the taxpayer, or a greatly diminished system with a much worse environmental footprint.

It has also been said that bylaw 280 is designed only as a means to impose incineration as a waste disposal system. Whatever the merits of incineration, again I see nothing to that effect in bylaw 280; on the contrary, the bylaw appears to be designed to have the flexibility to adopt the most efficient and environmentally sound technology, whatever that may be, now or in the future.

As an instructor investigating the issue, I have to conclude that the opposition to bylaw 280 is driven by some members of the private industry that aim their preserve profitability by bypassing the region. In particular, I am concerned that this waste is simply landfilled (with its resulting climate impact); and should the waste be disposed of south of the border, any liability that could occur in the future would remain with the originator – that is, the Province.
There has been much discussion of Mixed Refuse Facilities (MRFs) by opponents to the bylaw, but I don’t see the relevance of this argument. I am not suggesting that proposals such as MRFs have no merit; they may, but since monitored MRFS remain possible under bylaw 280, I conclude that their mention is irrelevant and may be designed, unfortunately, to mislead the public.

In fact, I would stress that a key issue of concern is public perception. Currently, our source separation system works reasonably well because of buy-in on the part of residents. Should a rumour arise that source separation is futile, if waste is hauled away out of region anyways, it will be more difficult to maintain, let alone improve on, our recycling rates. Further, in the context of the Mount Polley mine accident, there is now, most unfortunately, a fairly low trust in the government by the public. Should bylaw 280 not be approved, there is a risk that this would be perceived, rightly or wrongly, as the government rewarding private industry at the expense of good governance. Whether or not this reflects the reality of government decisions is immaterial; public perception is key, and failure to approve bylaw 280 risks fostering a negative impression that the government does not have the public interest foremost in mind. And since public perception is key to any environmental initiative, should this negative perception be created, this would have negative consequences for other environmental regulations, proposed or current, beyond the waste management issue.

Very respectfully, as a member of the public and as someone whose occupation has enabled me to carry out a dispassionate analysis of the situation, I enjoin you to do what is best for the province and the environment, and approve bylaw 280.

Respectfully,

Paul Richard, Ph.D., P.Ag.
2528 6th Avenue East
Vancouver  B.C.  V5M 1R2
ISRI says it opposes one-bin collection

By Bobby Elliott, Resource Recycling

Aug. 5, 2014

The country's largest recycling trade organization has taken a quiet but definite stance against programs that ask residents to commingle trash and recyclables for post-collection sortation.

The Institute of Scrap Recycling Industries (ISRI) issued a two-paragraph position statement on July 23 regarding the collection and recycling method.

"ISRI supports the collection and sortation of recyclable materials in a manner that optimizes the value and utilization of the material as specification grade commodities to be used as a feedstock to manufacture new products," the statement reads. "Since the quality of the recyclables as specification grade commodities is essential, ISRI opposes the commingling of recyclables with solid waste or mixed waste processing in a one-bin system where all solid waste and recyclables are placed together with no separation prior to recycling."

Approved by ISRI's Board of Directors on July 23, the official position comes at a time when various cities are considering the merits of the "one bin" approach. An Aug. 6 vote will decide the fate of a proposed $45 million mixed-material facility by Covanta in Indianapolis — the company and city have argued the operation will be able to effectively recover marketable recyclables from the trash.

Further, the city of Houston is the midst of choosing from a variety of likeminded proposals, while Cleveland is also said to be considering the change.

Many recycled commodity experts argue the relatively new method jeopardizes the quality of recycled materials due to high rates of solid waste-driven contamination.
ISRI ONE-BIN COLLECTION POLICY
As adopted by the ISRI Board of Directors July 23, 2014

ISRI supports the collection and sortation of recyclable materials in a manner that optimizes the value and utilization of the material as specification grade commodities to be used as feedstock to manufacture new products.

Since the quality of the recyclables as specification grade commodities is essential, ISRI opposes the commingling of recyclables with solid waste or mixed waste processing in a one-bin system where all solid waste and recyclables are placed together with no separation prior to recycling.
September 10th, 2014

The Honourable Mary Polak, Minister
Ministry of the Environment
PO Box 9047 Stn Prov Govt
Victoria, B.C., V8W 9E2

Re: Support for Metro Vancouver Bylaw 280

Dear Minister Polak

During a recent APEGBC award function the Honourable Ralph Sultan encouraged me to provide the provincial government with my perspective on the Bylaw 280 issue, hence the letter you are receiving today.

Your decision is not easy. Do you authorize Metro Vancouver the power to control solid waste flows, to increase tipping fees and to restrict export of MSW to massive landfill sites in the U.S., or do you side with the private sector disposal and hauling companies to compete in an uncontrolled market place where low cost is king.

Today it costs $1,000 to unload a 9 tonne packer truck at one of Metro Vancouver’s regional facilities and about $500 to dispose the same waste into an intermodal container bound for Rabanco via Abbotsford. Little wonder that the leakage from the system is turning into a flood of MSW bound for the States.

Each year the 2.3 million people living in Metro Vancouver generate 3.2 million tonnes of solid waste and recyclables, or 1.39 tonnes per person annually. In the not too distant past most of that waste ended up as residuals at Vancouver Landfill, at Cache Creek Landfill and the Burnaby Incinerator, with a resulting system cost of about $65/tonne. Today, people want to see their garbage recycled. In response, Metro Vancouver has implemented an efficient recycling network that is presently diverting 58% of MSW. Waste management costs for municipalities and businesses that adapt efficiently are remaining flat while Metro’s costs are actually decreasing.

Achieving Metro’s goal of 80% diversion by 2020 is achievable, but only if waste flows are controlled and all participants pay their fair share of capital and operating costs. Without flow control, the management of solid waste in B.C. will quickly turn from a race to achieve Zero Waste into a race for cheapest disposal capacity.

Bylaw 280 is not about MSW incineration. Metro’s current plan calls for construction of a waste to energy plant that consumes only 350,000 tonnes, or roughly 11% of the total MSW flow while
more than one million tonnes are already diverted. No, Bylaw 280 is all about ensuring that municipal government is empowered to properly fund waste collection, organic diversion, recycling and disposal programs and to ensure that other necessary tools such as disposal bans can be fairly implemented across the entire system to create a level playing field and promote maximum waste diversion.

As a consulting engineer practicing in B.C.’s solid waste management sector for the past 25 years I have seen time and again that one of the most important cost factors is economy of scale. Simply put, large waste management facilities are much cheaper to operate than small ones. For example, Vancouver Landfill the lowest cost facility in Metro’s system, has been receiving about 600,000 tonnes of MSW annually. Because the tipping fees that commercial haulers are charged by Metro have increased to $108/tonne, the landfill is experiencing an unprecedented revenue drop as incoming tonnage decreases and cross border shipment of MSW increases to an annual rate of more than 200,000 tonnes/year.

The tipping fees collected at the facility have been paying for state-of-the-art progressive closures, landfill gas collection system upgrades and improvements to the leachate management system. Over the past five years the City has spent more than $40 million on environmental improvements. With operating costs that are fixed, declining tonnage across the scale is translating to increased costs for the tax payers in the City of Vancouver and a less efficient system. System leakage is a huge concern.

Managing our solid waste responsibly in B.C. is good for our economy. The tipping fees generate local jobs at transfer stations, at recycling facilities and at processors that transform the solid waste into commodities. The sale of those commodities also contributes to our GDP.

For many years B.C. has been a world leader in environmental sustainability, implementing recycling programs, extended producer responsibility and GHG emission reductions. Bylaw 280 is very necessary to provide municipal government the ability to build on that legacy. As I see it, support of Bylaw 280 is the right thing to do.

Yours truly,

SPERLING HANSEN ASSOCIATES

Dr. Tony Sperling, P.Eng.
President
Waste Quantities At Regional Facilities
For a Large Commercial Hauler

Bypassing of regional facilities observed starting in 2011

*Note: 2014 tonnage projected based on January 1 to June 30 data.
Estimated Waste Quantities Crossing at Abbotsford Border

Monthly Totals

.metric tonnes

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- 2014
Estimated Waste Quantities Crossing at Abbotsford Border

Annual Totals

*Note: 2014 tonnage projected based on January 1 to August 31 data.

Bypassing of regional facilities observed starting in 2011
To: Utilities Committee
From: Jeff Carmichael, Division Manager, Utility Research and Innovation, Liquid Waste Services
Date: August 25, 2014

Subject: Metro Vancouver Sewer Heat Policy

RECOMMENDATION

PURPOSE
To approve the Sewer Heat Policy as presented in Attachment 1 to this report, which has been revised to reflect comments received from the Utilities Committee on July 11, 2014 and corresponding comments received from a municipal member shortly thereafter.

BACKGROUND
On July 27, 2012, the GVS&DD Board approved the Interim Sewer Heat Strategy (“Interim Strategy”) (Attachment 2) and directed staff to develop a longer-term Sewer Heat Policy. The objectives of the Sewer Heat Policy are to enable expedient access to sewer for heat recovery where technically and financially feasible which will contribute to reductions in regional greenhouse gas (GHG) emissions and to Goal 2 of the Integrated Liquid Waste and Resource Management Plan of using liquid waste as a resource, while maintaining Metro Vancouver’s ability to convey and treat wastewater. Using results from technical studies and consultation with member municipal staff, a Sewer Heat Policy has been developed for the GVS&DD Board’s consideration. The Policy is the first of its kind in North America and will enable implementation of viable sewer heat projects in the region.

DISCUSSION
As fully described in the July 11, 2014 report to Utilities Committee, sewer heat is a viable, low-carbon source of energy that can be used to provide hot water heating, space heating and cooling in buildings, help reduce GHG emissions, and contribute to GVRD Board policy directives. Technical review indicated that there is a significant amount of recoverable heat from Metro Vancouver’s sewer collection systems which can be extracted with minimal technical risk to utility infrastructure and operations. Municipalities were consulted throughout the process of developing both the GVS&DD Board-approved Interim Strategy in 2012 and the new Sewer Heat Policy. Overall, municipal staff are in agreement with policy issues and the proposed direction. The Sewer Heat Policy was reviewed and endorsed by the Regional Engineering Advisory Committee at their June 13, 2014 meeting.

Revisions in Consideration of Utility Committee Comments
The proposed Sewer Heat Policy includes seven policy issues which for the most part mirror the Board-approved Interim Strategy. Three of these have been amended in response to comments: rate setting, project approval criteria, and greenhouse gas benefits and costs.
Rate setting language has been revised to explicitly make clear that contracts established under the proposed policy will guarantee the provision of sewage at a price of $0 per unit of sewage. The policy was also revised to state clearly that this price will be re-evaluated each time the policy is reviewed. Contracts established after the price is changed would reflect the new price. These changes are consistent with the guiding principle for this policy issue. The rate setting section was also amended to explicitly state Metro Vancouver’s understanding that GVS&DD owns and is responsible for sewage received in its collection system and treatment plants, including any resources such as heat. It was suggested that the charge of a nominal rate for “sewage flows used” be struck entirely from the policy, but this would provide less rather than more certainty to the policy provision. Therefore, the charge of a nominal rate in the policy, which was endorsed by the Regional Engineers Advisory Committee, has been retained.

Project approval criteria language was amended to remove the requirement that the project proponent share evidence of financial viability with GVS&DD, due to privacy concerns. This is acceptable as it poses no risk to GVS&DD.

Greenhouse gas benefits and costs language was amended to explicitly state that cost allocation would be guided by the financial costs and risks incurred by the parties involved, which is consistent with the original intent. It was suggested that benefits be explicitly allocated to the sewer heat recovery project owner; however, this would not allow consideration for more complex ownership models, so the amendment above was made to address the concern raised.

**ALTERNATIVES**
1. That the GVS&DD Board endorse the Sewer Heat Policy as presented.
2. That the GVS&DD Board provide other direction.

**FINANCIAL IMPLICATIONS**
If the GVS&DD Board approves Alternative 1, there will be no direct cost implications to the GVS&DD associated with enabling sewer heat projects. The costs associated with constructing the tie-in to the Metro Vancouver sewer will be entirely recovered from the sewer heat project owner.

Indirect costs will include GVS&DD staff resources used to evaluate the feasibility and administer the implementation of each project, subject to GVS&DD Board approval.

The rates for use of sewer heat and the need for cost recovery of indirect costs will be re-evaluated as part of the overall policy review to be undertaken every three to five years in consultation with member municipalities.

**SUMMARY / CONCLUSION**
Sewer heat is a viable, low-carbon source of energy that can be used to provide hot water heating, space heating and cooling in buildings, help reduce GHG emissions, and contribute to GVRD Board policy directives. A technical review completed by staff indicated that there is sufficient amount of recoverable heat from Metro Vancouver’s sewer collection systems to heat approximately 700 high rise buildings without negatively impacting treatment processes at the wastewater treatment plants.
The proposed Sewer Heat Policy provides clear direction on managing the technical and governance implications of sewer heat recovery projects and will facilitate the introduction of worthwhile projects while not compromising on the delivery of high quality and dependable liquid waste management in the region. Staff recommend that the GVS&DD Board approve Alternative 1.

**Attachments and References:**
1. Board Policy - *Sewer Heat Policy*
2. Utilities Committee report received July 11, 2014 titled *Metro Vancouver Sewer Heat Policy*
Policy Title: SEWER HEAT POLICY
Effective Date:
Approved By:

PURPOSE
The purpose of the policy is to enable technically and financially viable sewer heat projects while not compromising on the delivery of core liquid waste service objectives. This policy applies to parties interested in accessing sewage from GVS&DD sewers for heat recovery purposes as well as to Metro Vancouver staff involved in reviewing technical and financial implications of such projects.

DEFINITIONS
Sewer Heat Project
A sewer heat project diverts sewage from GVS&DD sewer system to a project site for heat recovery by a project owner, then returns the sewage to GVS&DD’s sewer system. The recovered heat is typically used in a district energy system to heat nearby buildings instead of using other sources of heat, such as natural gas.

POLICY OBJECTIVES
1. **Contribute to reduction in regional greenhouse gas emissions.** Using sewer heat as a source of energy avoids greenhouse emissions associated with burning natural gas therefore contributing to regional and corporate climate change objectives. The Greater Vancouver Regional District Board has adopted the target of reducing regional greenhouse gas emissions by 15 % by 2015 and 30 % by 2030 from 2010 levels, and of achieving corporate carbon neutrality by 2015.

2. **Contribute to the Greater Vancouver Sewerage and Drainage District (GVS&DD) Integrated Liquid Waste and Resource Management Plan goal of using waste as a resource.** Sewer heat is a viable, low-carbon energy source that can be recovered and used to provide domestic hot water heating, space heating, and cooling to buildings.

3. **Maintain GVS&DD’s ability to convey and treat wastewater and meet related core service objectives.** Recovering heat from sewage could have technical implications on the wastewater conveyance and treatment systems. The Sewer Heat Policy mitigates potential problems and ensures that sewer heat recovery projects do not impair GVS&DD’s ability to convey and treat wastewater and meet requirements under provincially issued Operating Certificates at the wastewater treatment plants.

4. **Enable expedient access to sewer for heat recovery where technically and financially feasible.** The Sewer Heat Policy provides clear and simple guidelines to assist project proponents in evaluating and obtaining approval for viable sewer heat recovery projects.
POLICY

1. GVS&DD’s Role
   GVS&DD will only be involved with allocating access to sewage from its own infrastructure and in these cases, sewer heat recovery project requests must be approved by GVS&DD. Projects that access heat from municipal sewers will not require approval from GVS&DD because municipalities are best suited to work with developers on opportunities to access heat from the municipality’s infrastructure. GVS&DD will use existing municipal coordination bodies (such as Regional Engineers Advisory Committees) to provide updates and information on upcoming sewer heat projects biannually, and will continue to play a lead role in mapping energy capacity in each sewerage area. To keep this information current, municipalities will need to inform GVS&DD of projects under development and of any expansion of existing projects.

2. Allocation of heat
   Sewer heat in the GVS&DD system is available on a first-come first-served basis subject to acceptable levels of impacts to the region’s wastewater treatment plants and on immediate neighbours. Acceptability will be evaluated by GVS&DD upon receipt of project application. If there is an established sewer heat recovery system already in place or in development that could be impacted by the new project proposal, the existing project’s heating and/or cooling requirements will have priority. This policy supports the rapid implementation of viable sewer heat recovery projects and the realization of the financial and environmental benefits of these systems.

3. Sewer heat users
   Agreements must be negotiated between GVS&DD and the project owner. Member municipalities and other public entities can apply directly to GVS&DD for access to sewage for heat recovery purposes. In the case of a private entity applicant, a letter of support from the host municipality must be provided indicating support and cooperation with allowance for works within municipal rights of way. In addition, competitive processes will be followed to ensure fairness and transparency for other potentially interested private or public entities.
4. Rate Setting
GVS&DD will charge sewer heat project owners for the cost recovery of the tie-in and diversion structures. On-going operations and maintenance costs associated with the tie-in, which are expected to be small, will be recovered via the current sewer levy process for each sewerage area. GVS&DD owns and is responsible for sewage received in its collection system and treatment plants, including any resources such as heat. GVS&DD will charge a nominal rate for “sewage flows used” based on the near-term value of sewage. In the current proposed policy, the nominal value of sewage is $0 per unit of sewage, and contracts established under this policy will guarantee this for the life of the contract. The value of sewage will be re-evaluated each time the Policy is reviewed, and contracts established after any change in policy will reflect this.

5. Boundaries of Responsibility
The boundaries of responsibility are tied primarily to property. In the case where GVS&DD owns the sewer heat recovery system, GVS&DD’s responsibilities are more extensive than when GVS&DD’s property is the tie-in to the regional sewer. The boundary of responsibility between GVS&DD and the sewer heat recovery project owner will be clearly defined in a contract and arrangements will be between GVS&DD and the sewer heat project owner. GVS&DD will be responsible for a portion of the tie-in up to and including a shut-off valve on both the diversion and return lines for a tie-in arrangement. GVS&DD will consider in-line heat recovery systems built directly in GVS&DD’s sewer so long as GVS&DD’s access and operations are not impaired.

6. Project Approval Criteria
GVS&DD will only allocate heat to projects that meet technical project requirements and have acceptable impacts on neighbouring sewer heat recovery systems. Examples of technical project requirements include odour control, grit removal and management plans, approval of design for tie-in and sewage diversion, routing, maintenance and access plan, and decommissioning plan. Additional technical requirements may be needed on a case-by-case basis depending on the involved parties, project type, scale and location. For district cooling applications (where returned sewage is warmer than diverted sewage) maximum return temperatures will be determined using the GVS&DD Sewer Use Bylaw as a guideline. Interested parties will work directly with Metro Vancouver staff on requests for access to sewer heat. Technical criteria must be met in order to establish any agreements for sewer heat projects.

7. Greenhouse Gas Benefits and Costs
Greenhouse gas benefits and costs will be allocated on a case-by-case basis, in accordance with the financial costs and risks incurred by the parties involved.

The Sewer Heat Policy will be reviewed and potentially revised every three to five years, in consultation with member municipalities. Existing agreement contracts with sewer heat project owners will continue. When agreement contracts come up for renewal, terms of the new agreement contracts will reflect the current Sewer Heat Policy. Sewage will be diverted to sewer heat project owners without guarantees to its condition: GVS&DD cannot provide guarantees of temperature, flow rates, or other sewage characteristics such as grit or fats, oils, and greases.
concentrations. If flows are disrupted due to temporary maintenance, operational requirements, or changes in upstream loadings, sewer heat project owners are responsible for having a back-up energy supply (typically, natural gas fired boilers). GVS&DD can attempt to coordinate maintenance and access with project owners to avoid and manage unexpected disruptions to flow.

APPROVALS

Potential sewer heat projects that use sewage taken from and returned to the GVS&DD sewer system and that meet technical and financial criteria must also receive GVS&DD Board approval to proceed.
5.1

To: Utilities Committee

From: Jeff Carmichael, Division Manager, Utility Research and Innovation, Liquid Waste Services

Date: June 16, 2014  
Meeting Date: July 10, 2014

Subject: Metro Vancouver Sewer Heat Policy

RECOMMENDATION
That the GVS&DD Board endorse the Sewer Heat Policy as presented.

PURPOSE
To approve the Sewer Heat Policy as presented in Attachment 1 to this report.

BACKGROUND
On July 27, 2012, the GVS&DD Board approved the Interim Sewer Heat Strategy ("Interim Strategy") (Attachment 2) and directed staff to develop a longer-term Sewer Heat Policy. The objectives of the Sewer Heat Policy are to enable expedient access to sewer for heat recovery where technically and financially feasible which will contribute to reductions in regional greenhouse gas (GHG) emissions and to Goal 2 of the Integrated Liquid Waste and Resource Management Plan of using liquid waste as a resource, while maintaining Metro Vancouver’s ability to convey and treat wastewater. Using results from technical studies and consultation with member municipal staff, a Sewer Heat Policy has been developed for the GVS&DD Board’s consideration. The Policy is the first of its kind in North America and will enable implementation of viable sewer heat projects in the region.

DISCUSSION
Sewer heat is a viable, low-carbon source of energy that can be used to provide hot water heating, space heating and cooling in buildings, help reduce GHG emissions, and contribute to GVRD Board policy directives¹. In addition to the benefits achieved in support of GVRD policy, there are technical and environmental benefits of sewer heat recovery to the GVS&DD. The potential benefits include reduced effluent temperatures to better match receiving water body environment and decreased formation of hydrogen sulfide (which contributes to corrosion and odour in the conveyance system). Recovering or adding heat from/to sewers may change downstream sewer temperatures. Therefore, Metro Vancouver staff completed a technical review of the implications of changing sewer temperatures on the conveyance and treatment systems.

Technical Review
The technical review showed that there is a significant amount of recoverable heat from Metro Vancouver’s sewer collection systems; enough to heat approximately 700 high rise buildings without negatively impacting treatment processes at the wastewater treatment plants. Thus, the

¹ Minutes of the Regular Meeting of the GVRD Board of Directors held on Friday, February 29, 2008. The Board endorsed, in support of provincial objectives and a basis for development of regional and corporate plans, regional GHG reduction targets of 33% below 2007 levels by the years 2020 and 80% below 2050.
technical risks of extracting heat to supply 700 high rise buildings to wastewater conveyance and treatment processes are low. Furthermore, sewer heat is unevenly distributed throughout each sewerage area with the highest concentrations of heat generally located close to WWTPs where sewer flow rates are the highest. The full technical review included producing a literature review, Technical Reference Document, WWTP Sewage Heat Balance, Sewer Heat Model, and accompanying Heat Capacity Report. The Sewer Heat Model project titled Heat-Seeking Sewer Model – Find Waste Heat in Sewers and Match it to Opportunities, Now and in the Future was awarded this year’s Association of Consulting Engineering Companies BC Award of Excellence in the Soft Engineering category. In addition to this work, a two-year sewage temperature monitoring program was completed which collected baseline sewage temperature data at 20 sewage pump stations from across the region.

**Municipal Consultation**

Municipalities were consulted throughout the process of developing both the GVS&DD Board-approved Interim Strategy in 2012 and the new Sewer Heat Policy. Using results from the technical review and the Interim Strategy, a new set of proposed policy issues was presented to municipal staff for feedback at a half day workshop in October 2013. Key input from municipalities included suggestions such as private applications for sewer heat projects (beyond just municipally owned sewer heat projects) be considered for the Policy, as well as ensuring that rates agreed to in contracts be secured for the full length of the contract, and not be affected by rate changes that may or may not occur with policy revisions over time. With these input, the Policy was re-drafted and circulated to municipal staff for final input in January 2014. Both the Regional Engineering Advisory Climate Protection and Liquid Waste Sub-Committees were also consulted during the process of developing the Policy. Overall, municipal staff are in general agreement with policy issues and the proposed direction. The Sewer Heat Policy was reviewed and endorsed by the Regional Engineering Advisory Committee at their June 13, 2014 meeting.

The proposed Sewer Heat Policy includes seven policy issues which for the most part mirror the Board-approved Interim Strategy. Metro Vancouver will only be involved with allocating access to sewage from its own infrastructure. In these cases, sewer heat recovery project requests must be approved by Metro Vancouver. Heat capacity is more than sufficient to meet expected demand for many years to come. Therefore, the Sewer Heat Policy uses a first-come, first-served approach rather than a complex allocation process for heat. The Sewer Heat Policy will be reviewed and potentially revised every three to five years in consultation with member municipalities, to respond to changing market or other conditions. Public and private entities can apply for access to sewer heat from Metro Vancouver. In the case of a private application, competitive processes will be followed to ensure fairness and transparency, and support from the host municipality will be required. Metro Vancouver will charge sewer heat project owners for the cost recovery of Metro Vancouver infrastructure. No charge will be assessed in the near-term for sewage flows used, reflecting current market conditions.

**ALTERNATIVES**

1. That the GVS&DD Board endorse the Sewer Heat Policy as presented.
2. That the GVS&DD Board receive the report for information and take no further action.
FINANCIAL IMPLICATIONS

If the GVS&DD Board approves Alternative 1, there will be no direct cost implications to the GVS&DD associated with enabling sewer heat projects. The costs associated with constructing the tie-in to the Metro Vancouver sewer will be entirely recovered from the sewer heat project owner.

Indirect costs will include GVS&DD staff resources used to evaluate the feasibility and administer the implementation of each project, subject to GVS&DD Board approval.

The rates for use of sewer heat and the need for cost recovery of indirect costs will be re-evaluated as part of the overall policy review to be undertaken every three to five years in consultation with member municipalities.

SUMMARY / CONCLUSION

Sewer heat is a viable, low-carbon source of energy that can be used to provide hot water heating, space heating and cooling in buildings, help reduce GHG emissions, and contribute to GVRD Board policy directives. A technical review completed by staff indicated that there is sufficient amount of recoverable heat from Metro Vancouver’s sewer collection systems to heat approximately 700 high rise buildings without negatively impacting treatment processes at the wastewater treatment plants.

The proposed Sewer Heat Policy provides clear direction on managing the technical and governance implications of sewer heat recovery projects and will facilitate the introduction of worthwhile projects while not compromising on the delivery of high quality and dependable liquid waste management in the region. Staff recommend that the GVS&DD Board approve Alternative 1.

Attachments:
1. Board Policy – Sewer Heat Policy
Policy Title: SEWER HEAT POLICY

PURPOSE
The purpose of the policy is to enable technically and financially viable sewer heat projects while not compromising on the delivery of core liquid waste service objectives. Policy objectives are to:

1. Contribute to reduction in regional greenhouse gas emissions. Using sewer heat as a source of energy avoids greenhouse emissions associated with burning natural gas therefore contributing to regional and corporate climate change objectives. The Greater Vancouver Regional District Board has adopted the target of reducing regional greenhouse gas emissions by 15% by 2015 and 30% by 2030 from 2010 levels, and of achieving corporate carbon neutrality by 2015.

2. Contribute to the Greater Vancouver Sewerage and Drainage District (GVS&DD) Integrated Liquid Waste and Resource Management Plan goal of using waste as a resource. Sewer heat is a viable, low-carbon energy source that can be recovered and used to provide domestic hot water heating, space heating, and cooling to buildings.

3. Maintain GVS&DD’s ability to convey and treat wastewater and meet related core service objectives. Recovering heat from sewage could have technical implications on the wastewater conveyance and treatment systems. The Sewer Heat Policy mitigates potential problems and ensures that sewer heat recovery projects do not impair GVS&DD’s ability to convey and treat wastewater and meet requirements under provincially issued Operating Certificates at the wastewater treatment plants.

4. Enable expeditious access to sewer for heat recovery where technically and financially feasible. The Sewer Heat Policy provides clear and simple guidelines to assist project proponents in evaluating and obtaining approval for viable sewer heat recovery projects.

APPLICATION
This policy applies to parties interested in accessing sewage from GVS&DD sewers for heat recovery purposes as well as to Metro Vancouver staff involved in reviewing technical and financial implications of such projects.

DEFINITIONS

Sewer Heat Project
A sewer heat project diverts sewage from GVS&DD sewer system to a project site for heat recovery by a project owner, then returns the sewage to GVS&DD’s sewer system. The recovered heat is
typically used in a district energy system to heat nearby buildings instead of using other sources of heat, such as natural gas.

POLICY

1. GVS&DD’s Role
   GVS&DD will only be involved with allocating access to sewage from its own infrastructure and in these cases, sewer heat recovery project requests must be approved by GVS&DD. Projects that access heat from municipal sewers will not require approval from GVS&DD because municipalities are best suited to work with developers on opportunities to access heat from the municipality’s infrastructure. GVS&DD will use existing municipal coordination bodies (such as Regional Engineers Advisory Committees) to provide updates and information on upcoming sewer heat projects biannually, and will continue to play a lead role in mapping energy capacity in each sewerage area. To keep this information current, municipalities will need to inform GVS&DD of projects under development and of any expansion of existing projects.

2. Allocation of heat
   Sewer heat in the GVS&DD system is available on a first-come first-served basis subject to acceptable levels of impacts to the region’s wastewater treatment plants and on immediate neighbours. Acceptability will be evaluated by GVS&DD upon receipt of project application. If there is an established sewer heat recovery system already in place or in development that could be impacted by the new project proposal, the existing project’s heating and/or cooling requirements will have priority. This policy supports the rapid implementation of viable sewer heat recovery projects and the realization of the financial and environmental benefits of these systems.

3. Sewer heat users
   Agreements must be negotiated between GVS&DD and the project owner. Member municipalities and other public entities can apply directly to GVS&DD for access to sewage for heat recovery purposes. In the case of a private entity applicant, a letter of support from the host municipality must be provided indicating support and cooperation with allowance for works within municipal rights of way. In addition, competitive processes will be followed to ensure fairness and transparency for other potentially interested private or public entities.

4. Rate setting
   GVS&DD will charge sewer heat project owners for the cost recovery of the tie-in and diversion structures plus a nominal rate for “sewage flows used” based on the near-term value of sewage. On-going operations and maintenance costs associated with the tie-in, which are expected to be small, will be recovered via the current sewer levy process for each sewerage area. In the current proposed policy, the near-term value of sewage is $0 per unit of sewage. The value of sewage will be re-evaluated each time the Policy is reviewed.

5. Boundaries of responsibility
   The boundaries of responsibility are tied primarily to property. In the case where GVS&DD owns the sewer heat recovery system, GVS&DD’s responsibilities are more extensive than when
GVS&DD’s property is the tie-in to the regional sewer. The boundary of responsibility between GVS&DD and the sewer heat recovery project owner will be clearly defined in a contract and arrangements will be between GVS&DD and the sewer heat project owner. GVS&DD will be responsible for a portion of the tie-in up to and including a shut-off valve on both the diversion and return lines for a tie-in arrangement. GVS&DD will consider in-line heat recovery systems built directly in GVS&DD’s sewer so long as GVS&DD’s access and operations are not impaired.

6. Project Approval Criteria

GVS&DD will only allocate heat to projects that meet technical project requirements and have acceptable impacts on neighbouring sewer heat recovery systems. Examples of technical project requirements include odour control, grit removal and management plans, approval of design for tie-in and sewage diversion, routing, maintenance and access plan, and decommissioning plan. Additional technical requirements may be needed on a case-by-case basis depending on the involved parties, project type, scale and location. For district cooling applications (where returned sewage is warmer than diverted sewage) maximum return temperatures will be determined using the GVS&DD Sewer Use Bylaw as a guideline. A requirement also exists to inform GVS&DD of financial viability by providing copies of financial business case analysis performed on the project.

7. Greenhouse Gas Benefits and Costs

Greenhouse gas benefits and costs will be allocated on a case-by-case basis to determine if benefits and costs will be fully allocated to the sewer heat recovery project owner, fully allocated to GVS&DD, or split.

The Sewer Heat Policy will be reviewed and potentially revised every three to five years, in consultation with member municipalities. Existing agreement contracts with sewer heat project owners will continue. When agreement contracts come up for renewal, terms of the new agreement contracts will reflect the current Sewer Heat Policy. Sewage will be diverted to sewer heat project owners without guarantees to its condition: GVS&DD cannot provide guarantees of temperature, flow rates, or other sewage characteristics such as grit or fats, oils, and greases concentrations. If flows are disrupted due to temporary maintenance, operational requirements, or changes in upstream loadings, sewer heat project owners are responsible for having a back-up energy supply (typically, natural gas fired boilers). GVS&DD can attempt to coordinate maintenance and access with project owners to avoid and manage unexpected disruptions to flow.

PROCEDURE

Interested parties will work directly with Metro Vancouver staff on requests for access to sewer heat. Technical and financial criteria must be met in order to establish any agreements for sewer heat projects.
APPROVALS

Potential sewer heat projects that use sewage taken from and returned to the GVS&DD sewer system and that meet technical and financial criteria must also receive GVS&DD Board approval to proceed.

FEES

GVS&DD will charge sewer heat project owners for the cost recovery of the tie-in and diversion structures plus a nominal rate for “sewage flows used” based on the near-term value of sewage. On-going operations and maintenance costs associated with the tie-in, which are expected to be small, will be recovered via the current sewer levy process for each sewerage area. In the current proposed policy, the near-term value of sewage is $0 per unit of sewage. The value of sewage will be re-evaluated each time the Policy is reviewed.
To: Utilities Committee

From: Jeff Carmichael, Division Manager, Utility Research & Innovation
       Genevieve Tokgoz, Project Engineer, Utility Research & Innovation

Date: June 28, 2012

Subject: Interim Strategy for Addressing Sewage Heat Opportunities

Recommendation:

That the GVS&DD Board approve the Interim Strategy and direct staff to develop a long-term sewage heat policy framework, as outlined in the report dated June 28, 2012, titled "Interim Strategy for Addressing Sewage Heat Opportunities".

1. PURPOSE

To request that the Board direct staff to develop a long-term sewage heat policy framework in consultation with municipalities, and to seek approval to use the Interim Strategy, as described in this report, to prevent near-term opportunities from being missed while the long-term policy framework is developed. The Interim Strategy will enable implementation of demonstration sewage heat recovery projects. It has been endorsed by the Regional Engineers Advisory Committee (REAC).

2. CONTEXT

Over the past few years and with increasing frequency, member municipalities and the private sector have expressed interest in using sewage heat from Metro Vancouver sewers for district energy systems (DES). Although Europe and Asia have been using sewage heat as a source for DES, the only known system currently in operation in North America is the Neighbourhood Energy Utility in Southeast False Creek in the City of Vancouver. Although local understanding of technical and governance issues associated with sewer heat extraction is limited, project results and preliminary evaluation indicate that sewage heat recovery can be both financially and technically viable. A limited number of demonstration projects will assist in understanding the system better while not adversely affecting the Metro Vancouver sewer system (see Attachment 1).

Technical issues that need to be further explored include the capabilities and limitations of sewage heat recovery technologies, assessment of the seasonal variability of energy content of sewage, and the impacts of multiple sewage heat extraction projects on wastewater treatment plant processes. Governance-related issues include ownership and transfer of heat rights and the need for cooperative rules for coordinating requests for use of sewage for such projects.

It is expected that interest in sewage heat recovery projects will continue to grow in the region and that, as potential projects emerge, these impacts will need to be fully identified and evaluated in order to confirm viability and to allow project implementation. The proposed long-
term approach to examine these impacts is to complete research, modeling and analysis and to work with internal and external groups to create a long-term policy framework.

In the short-term, however, a strategy to address current sewage heat opportunities is needed to enable near-term viable opportunities. The proposed Interim Strategy, which has been endorsed by REAC, enables sewage heat recovery projects that do not impair sewage operations by allowing access to sewage at a nominal charge so that heat can be recovered. The Interim Strategy does not propose that Metro Vancouver seek out opportunities to own and operate sewage heat recovery systems, rather it is a responsive approach that authorizes sewage diversion for such opportunities as they are presented. Each interim opportunity would be evaluated on a case-by-case basis while a long-term sewage heat policy framework is developed.

Why is an Interim Strategy necessary?

- Growing interest in sewage heat projects
  Interest in using heat extracted from raw sewage in Metro Vancouver is growing rapidly, driven by interest in environmental improvements associated with green energy. Interest ranges from general inquiries regarding Metro Vancouver’s intent to enable access to sewage for sewage heat recovery to formal requests from municipalities and developers interested in tying into Metro Vancouver’s sewer mains to access sewage flow in DES projects. Currently, no policy framework or approval criteria exist for allocating sewage heat for such projects.

- To support viable current opportunities
  Metro Vancouver is aware of four proposed developments in the region where DES using sewage heat is currently being considered. Pre-feasibility studies initiated by member municipalities and developers have identified sewage heat as a potentially viable source of energy. Metro Vancouver’s involvement to date has been primarily as the source of data on sewage flows and temperature (both parameters are needed to evaluate energy capacity of sewage). Implementation of any of these projects will require support and approval from Metro Vancouver. The Interim Strategy, outlined below, can be used to evaluate the feasibility of enabling access to sewage at these sites.

- Avoid missing more viable opportunities
  Some developers have indicated that although their DES pre-feasibility studies have concluded that sewage heat is a financially viable option, concerns that Metro Vancouver lacks a process to enable access has resulted in elimination of sewage heat as an option. The proposed Interim Strategy intends to provide clear messaging on Metro Vancouver’s intent to work to enable access to sewage for heat recovery purposes, as long as criteria are met.

- There is municipal support for the Interim Strategy and long-term sewage heat policy
  Consultation with Municipal staff, Metro Vancouver staff and with REAC and the REAC Liquid Waste and Climate Change Committees has taken place. All parties have endorsed the Interim Strategy, and have expressed interest in a long-term policy framework to address further technical implications and to set up governance and process frameworks.

- Sewage heat recovery aligns with Metro Vancouver and municipal goals
  The implementation of sewage heat systems to supply energy could significantly contribute to Metro Vancouver’s SRI Framework energy and greenhouse gas reduction targets. Sewage heat recovery contributes to meeting Goal 2 of the Integrated Liquid Waste and
Resource management Plan of using liquid waste as a resource and also supports municipal district energy goals and strategies such as the City of Richmond's Climate Prepared City 2020 Goal and the City of Vancouver's Greenhouse Gas Reduction targets in the Greenest City Action Plan.

**Proposed Interim Strategy**

The Interim Strategy provides clear direction on Metro Vancouver's intent to enable access to sewage heat while a long-term policy framework is developed. Metro Vancouver will support and enable requests for access to sewage for demonstration sewage heat recovery projects on a case-by-case basis, evaluating, using the following requirements for approval:

- Any agreement allowing access to sewage for heat recovery must be set up directly between Metro Vancouver and the municipality.
- Economic and technical viability must be proven by a feasibility study.
- Approval for tie-ins only. Metro Vancouver will not consider owning sewage heat recovery systems until a long-term policy framework has been developed and ownership models have been fully evaluated.
- Financial arrangement will be based on benefits, value, and cost recovery for the tie-in.
- Owners/operators of sewage heat recovery system will incur most of the costs.
- Metro Vancouver will retain greenhouse gas offsets for projects as determined on a case-by-case basis.
- System operations and wastewater treatment plant requirements are met and risks are managed.

Each contract between Metro Vancouver and a member municipality will address issues including sewage flows, state of sewage and cost recovery plus nominal charges based on the near-term value of sewage. Agreement terms will be set to ensure financial viability of projects. Agreement renewals will take place according to the terms of the long-term policy framework.

**Long-term Sewage Heat Policy Framework**

A long-term policy framework is needed to address further technical implications and to set up governance and process frameworks. While some technical analysis has already taken place, more is needed. Sewage management is shared between Metro Vancouver and its municipalities, but ownership and transfer of heat rights and associated greenhouse gas reductions are currently unclear. These and other issues, such as liabilities and rate setting, must be resolved. This will require input from Metro’s municipal Sewerage and Drainage District members.

3. **ALTERNATIVES**

The Board may:

a) approve the Interim Strategy for Addressing Sewage Heat Opportunities and direct staff to develop a long-term sewage heat policy framework, or

b) direct staff to develop a long-term sewage heat policy framework, without approval of the Interim Strategy, or

c) provide an alternative recommendation.
Alternative a) is recommended.

4. CONCLUSION

The Interim Strategy is needed to allow Metro Vancouver to enable sewage heat opportunities while a long-term policy framework is being developed. The Interim Strategy has been endorsed by REAC and will prevent missing near-term opportunities that comply with Metro Vancouver criteria. The long-term policy framework will be developed in consultation with Metro Vancouver's municipal Sewerage and Drainage District members.

ATTACHMENT:
Preliminary Heat Capacity Analysis Using Sewage Heat Model (6283232)
Preliminary Heat Capacity Analysis Using Sewage Heat Model

The proposed Interim Strategy is based on preliminary heat capacity analysis that indicates that sewage heat is likely not a source resource in the Metro Vancouver system and that cumulative impacts on future downstream projects and the impact at Wastewater Treatment Plants (WWTP) need not be significant, especially in the near-term. In fact there appears to be significant excess sewage heat, enough to supply tens of thousands of homes with heating in the region.

Preliminary review

Preliminary review of energy capacity using the sewage heat model indicates that there is enough energy available to provide heating, cooling, and domestic hot water to thousands of homes without changing the influent temperatures at WWTPs by more than 1 or 2 degrees Celsius. Figure 1 below illustrates the marginal impact from extracting heat upstream of Annacis Island WWTP. The graph depicts the impact of extracting 9 MW of heat (equivalent of approximately three South East False Creek sewage heat recovery plants) on Annacis Island WWTP influent temperature. On average, the change in influent temperature from extracting 9 MW of heat upstream is 0.3 degrees Celsius. This small change in temperature can be managed by WWTPs which currently handle temperature swings of more than 10 degrees Celsius between winter and summer seasons. Note that flow characteristics and volumes for each WWTP catchment differ. The full energy capacity study will take this into consideration.

![Figure 1. Annacis Island WWTP Modeled Influent Temperature](image)
**Sewage Heat Model**

Over the past few years, Metro Vancouver has received requests for information from external parties interested in installing sewage heat recovery (SHR) systems in Metro Vancouver’s sewage collection system. To date a system-wide analysis of heat availability in the sewage collection system has not been undertaken; thus, the heat available for extraction and the downstream impacts from additional heat loads are not fully understood. Work on developing a sewage heat model was initiated in 2011. The model will help evaluate the impacts of potential SHR projects on the sewage collection and treatment system.

**Model function**

The platform for the sewage heat model is Microsoft Excel and uses Visual Basic programming. The model inputs sewage flow and temperature data and will be capable of:

- Assessing cumulative impacts of multiple SHR projects in each of the five sewage collection catchments on downstream sewage temperatures (temperature is related to energy)
- Showing seasonal variation in energy capacity
- Identifying areas in the sewage collection system with highest energy capacity (based on current and future flow projections)
- Providing outputs that can be used in pre-feasibility and scoping of SHR projects

The model includes all of Metro Vancouver’s sewer lines, pump stations and WWTPs. Control buttons, placed over pump stations and WWTPs will prompt the user to input hypothetical loads (representing future district energy systems and SHR projects). The model will compute downstream changes in sewage temperature based on the load. As the model is developed further, capabilities such as adding municipal trunk lines can be considered. Since the accuracy of the model is based on the quality of input data, collection of real sewage temperature data was identified as a key next step in improving the model. The model is still in the development phase and next phases of development will include calibration.

**Data collection program**

Sewage flow data was compiled by the Utility Analysis Division in Utility Planning and the Flow Monitoring Division in Operations & Maintenance. The model uses measured average dry weather flow in the calculation of energy capacity.

Some sewage temperature data was available from one-off studies and the WWTPs. However, to complete a system-wide energy capacity study, a full year’s worth of temperature data that captures the seasonal variation in flow and temperatures is required. To address this data gap a temperature sensor installation program was implemented in the summer of 2011 to collect sewage temperature data over a full year at approximately 20 locations throughout the sewage collection system.
To: Utilities Committee

From: Jeff Carmichael, Division Manager, Utility Research & Innovation  
Genevieve Tokgoz, Project Engineer, Utility Research & Innovation

Date: June 26, 2012

Subject: Interim Strategy for Addressing Sewage Heat Opportunities

Recommendation:

That the GVSDDD Board approve the Interim Strategy and direct staff to develop a long-term sewage heat policy framework, as outlined in the report dated June 28, 2012, titled "Interim Strategy for Addressing Sewage Heat Opportunities".

1. PURPOSE

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It is expected that interest in sewage heat recovery projects will continue to grow in the region and that, as potential projects emerge, these impacts will need to be fully identified and
evaluated in order to confirm viability and to allow project implementation. The proposed long-term approach to examine these impacts is to complete research, modeling and analysis and to work with internal and external groups to create a long-term policy framework.

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Why is an Interim Strategy necessary?

➢ Growing interest in sewage heat projects
  Interest in using heat extracted from raw sewage in Metro Vancouver is growing rapidly, driven by interest in environmental improvements associated with green energy. Interest ranges from general inquiries regarding Metro Vancouver’s intent to enable access to sewage for sewage heat recovery to formal requests from municipalities and developers interested in tying into Metro Vancouver’s sewer mains to access sewage flow in DES projects. Currently, no policy framework or approval criteria exist for allocating sewage heat for such projects.

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The Board may:

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To: Utilities Committee

From: Fred Nenninger, Director, Utility Planning and WWTP Upgrades, Liquid Waste Services

Date: August 20, 2014

Meeting Date: September 11, 2014

Subject: Development of a Liquid Waste Outreach Strategy

RECOMMENDATION
That the GVS&DD Board receive for information the report titled Development of a Liquid Waste Outreach Strategy dated August 20, 2014.

PURPOSE
To advise the Board on current efforts to develop targeted liquid waste outreach initiatives that support Metro Vancouver’s Integrated Liquid Waste and Resource Management Plan.

BACKGROUND
Metro Vancouver’s Integrated Liquid Waste and Resource Management Plan, approved by the Minister of Environment in 2011, as well as the Liquid Waste strategic direction in the Board Strategic Plan, requires the development and implementation of targeted outreach plans to support liquid waste source control programs for the protection of the environment and human health. Metro Vancouver is proposing to commence new outreach efforts by initially focusing on substances that significantly impact the operation of Metro Vancouver infrastructure namely the discharge of fats, oils and grease as well as woven materials into sewers.

DISCUSSION
Metro Vancouver is in the process of developing a social marketing approach to drive behavioural changes associated with materials that are significantly impacting municipal and regional sewer operations. The structured outreach strategy will allow Metro Vancouver to make informed decisions about what audiences to target, what their specific needs are, and how to meet those needs. The development of programs or products to effectively change behavior can be accomplished by better understanding our audience, including how they are using the sewer systems and what specific barriers there are to change their behaviour.

Metro Vancouver is focusing on both grease and woven fabrics, which do increase the risk of sanitary sewer overflows associated with accumulated blockages caused by these discharges. Grease, from both residential and commercial sources, accumulated within the collection system significantly reduces the carrying capacity of the sewers to convey sewage to the treatment plants. To maintain and clean these sewers, over $2 million per year is spent by Metro Vancouver and its member municipalities to remove built-up grease from the collection system.
In 2012, Metro Vancouver adopted Greater Vancouver Sewerage and Drainage District Food Sector Grease Interceptor Bylaw No. 268, 2012. The bylaw regulates the discharge of wastewater from food sector establishments that contains or may be contaminated with fats, oils and grease. Metro Vancouver has been working with restaurants and municipal staff regarding the requirements of the bylaw. The proposed strategy will focus on education and behaviours within the restaurant sector to minimize the amount of grease and food wastes that are discharged to sewer and to ensure that the grease interceptors operate efficiently.

In addition, Metro Vancouver is targeting households to reduce the amount of grease discharged to sanitary sewer. Households can account for approximately 50 percent of the fats, oils and grease discharged to sewer through the disposal of cooking fats and oils and food waste high in fat. The outreach strategy will be coordinated with the solid waste utility to ensure that the messaging is harmonized with the Integrated Solid Waste and Resource Management Plan.

Disposal of many woven materials, such as feminine hygiene products and “flushable” wipes, can have a detrimental effect on sewer collection systems. These materials tend to remain intact in the sewer and bind with other materials to produce a mass that can cause clogging or damage to pumps in pump stations and treatment plants. Consequently, this could lead to costly repairs and sewer overflows to the environment from pump stations as well as upstream facilities. In recent years, “flushable” wipes have been heavily marketed and, as a result, North American sales of these products are estimated at $6 billion and growing by 6% annually. Metro Vancouver experiences operational problems associated with woven materials on a regular basis at our pump stations. It has been estimated that Canadian utilities spend about $250 million dollars annually to deal with maintenance problems related to flushing of woven materials down the toilets.

**ALTERNATIVES**
This is an information report; no alternatives are presented.

**FINANCIAL IMPLICATIONS**
Currently, Metro Vancouver has engaged a consultant to conduct preliminary research required for the development of an outreach strategy. In addition, approximately $200,000 will be identified in the 2015 GVS&DD budget to begin implementation of this strategy.

**SUMMARY / CONCLUSION**
Metro Vancouver’s Integrated Liquid Waste and Resource Management Plan and the Board’s Strategic Plan requires the development and implementation of targeted outreach plans to support liquid waste source control programs for the protection of the environment and human health. Staff is proposing to focus the outreach for 2015 on the discharge of fats, oils and grease as well as woven materials that significantly impact the operation of Metro Vancouver’s sewer collection system and treatment plants.

Metro Vancouver will be using a social marketing approach to drive behavioural changes associated with materials that are significantly impacting sewer operations. This approach will be used to create behaviour change for both residential and commercial dischargers.