



# Regional Solid Waste Management Plan Review

**December 13<sup>th</sup> 2018**

**Advisory Committee Meeting #2**

# Agenda

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- Introductions
  - Key Drivers
  - Guiding Principles
  - Waste Composition
  - Diversion Opportunities
  - Next Steps / Wrap Up
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## Key Drivers

- Expand Diversion at small transfer stations.
- Consider adding supervision at transfers stations.
- Consider adding a full service transfer station in Invermere or Radium
- Incentivize waste reduction (consider User-fees).
- Explore opportunities to divert organic waste.
- Maintain financial sustainability.



# Key Drivers

- **Roundtable:**
  - What issues, opportunities or subjects do you think are critical to consider during this planning process?





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# GUIDING PRINCIPLES

# **Guiding Principles**

- **1. Promote zero waste approaches and support a circular economy**
- **2. Promote the first 3 Rs  
(Reduce, Reuse and Recycle)**
- **3. Maximize beneficial use of waste materials and manage residuals appropriately**
- **4. Support polluter and user-pay approaches and manage incentives to maximize behaviour outcomes**

## **Guiding Principles**

- **5. Prevent organics and recyclables from going into the garbage wherever practical**
- **6. Collaborate with other regional districts wherever practical**
- **7. Develop collaborative partnerships with interested parties to achieve regional targets set in plans**
- **8. Structure the system so that private and public solid waste facilities compete on a level playing field.**

# Visioning

- **Group Discussion (15 mins)**
  - Break into groups of 4-5
  - Describe your vision for Solid Waste in the RDEK for the next 10-20 years
  - Present your ideas to the group





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# WASTE COMPOSITION



# Waste Composition

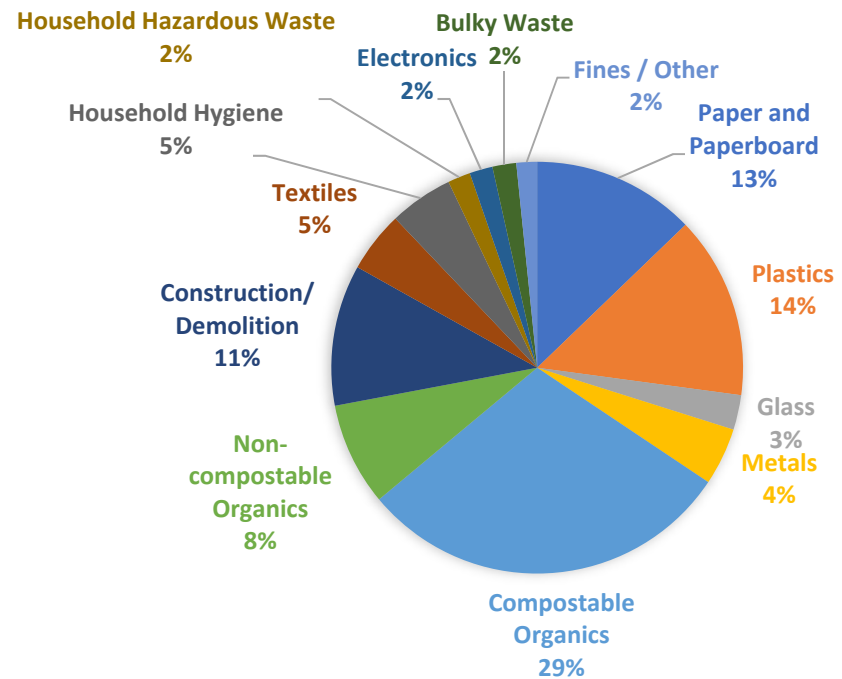


Figure: RDEK Overall Waste Composition



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# Rural Transfer Station





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# Central Attended Transfer





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# Front Load Commercial Mix





# Waste Composition

## Observations and Conclusions:

- Food waste composition similar between all waste generating sectors:
  - 17% Rural, 19% Urban, 17% Commercial
  - Of this, 7% backyard compostable, 11% Kitchen Waste
- Elk Valley had low yard & garden waste(@ 2% composition) vs. Central and Columbia Valley (At 11%)
  - All transfer stations in EV attended and provide diversion for yard & garden
- Wood waste 3 times greater at rural transfer stations vs. urban sites
- Estimated 4,000 to 6,000 refundable bottles/cans
- Up to 19% of waste stream could be diverted in existing single stream recycling program (yellow-bin)



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# DIVERSION OPPORTUNITIES



# Increase Service at Rural Transfer Stations

- **Increase opportunities for diversion**
  - Yard waste, wood waste, scrap metal etc.
  - Stewardship Materials
- **Increase Supervision (Attendant)**
  - Direct users to appropriate disposal / diversion area'
  - Facilitate participation in Recycle BC & collect fees

## Case Study: Cariboo Regional District

- Transitioned from Rural to Attended TS's
- Reduced waste hauled to LF by 36% (by wt)
- Suspected decrease from wood waste diversion



# Extended Producer Responsibility

## 1) Offer EPR Collection at Regional District owned transfer stations

- Transfer stations become “One-stop drop for electronics, small appliances, paint, etc.
- Additional capital and operational costs



## 2) Rely on existing depots for EPR collection

- Encourage use of existing facilities
- Make recyclable materials “regulated” or “banned” and charge fees/fines for disposal



## 3) Combination of 1 & 2



# Consider Implementing User-Pay

- **Tipping Fees**

- Incentivize waste diversion when cost to dispose of garbage is higher than the cost to dispose of recycling
- Fairness – the more you throw-out, the more you pay
- Discourage use from neighbouring Regional Districts (Ex: Yahk / Moyie; CSRD / Brisco)
- Need to consider logistics in current system (attended vs. unattended transfer stations)

# Consider Implementing User-Pay

## Case Study: Thompson-Nicola Regional District

- Closed or converted rural transfer stations and upgraded to attended transfer stations
- Eco-Depots offer increased diversion services including EPR materials
- User-fees implemented for garbage
- Waste reduction of 50% at Rural sites since implementation



## Questions & Comments ?

### **Changes to the Transfer Station System**

- **Conversion from Rural to Attended sites**
- **Increased Service**
- **User-Fees**



# Encourage Recycling & Diversion

## Variable Tipping Fees

- Higher tipping fees on mixed loads that contain recyclable materials

## Waste Audit Kits for ICI Sector

- Encourage businesses to check-in on their waste disposal, and provide information on how to reduce or eliminate waste.

## Disposal Bans

- Enforce bans on divertible wastes such as recyclables, demolition wastes (wood, asphalt shingles, concrete)
- Challenges with current transfer station system!





# Encourage Recycling & Diversion

## Education

- The RDEK has a robust promotion and education program.
  - 1,218 personal contacts in 2017
  - 6 festivals, 14 Farmers Markets, 4 parades, 8 school tours, 3 summer camps
- Continue to update Recycling database
- Continue to employ summer student to support waste reduction education
- Continue to provide education for all ages
- Develop illegal dumping strategy and information campaign in conjunction with any proposed changes to transfer stations or user-fees
- Continue to support community based initiatives for waste reduction and diversion education



**Questions & Comments ?**



# Organic Waste Diversion

## Benefits of Organic Waste Diversion

- Increase life of landfills
- Reduce leachate production at landfills
- Reduce greenhouse gas emissions at landfills
- Reduce attraction of vectors to landfills
- Develop useful end-products (compost)



## RDEK Current Strategies

- Backyard Composting
- Yard Waste Diversion at Attended Sites
- Wood Waste Diversion at select sites
  - Open Burning & Cogeneration
- Compost Pilot Study

# Organic Waste Diversion

## Composting (short-term)

- Continue to Promote Back-yard Composting
  - Sales of Composters and Education Program
- Continue to collect yard & garden waste at transfer stations
- Consider additional yard & garden waste drop-off's

## Wood Waste

- Continue to Divert Wood Waste
- Consider offering additional wood waste drop-off's
- Consider disposal bans on wood waste in the future





# Organic Waste Diversion

## Consider Feasibility of Centralized Composting (Long-term)

### Location(s):

- Facilities in each subregion OR 1 central facility for all RDEK
- Curbside Collection in Municipalities

### Technologies:

- Turned Windrow Composting  
Low Cost, Low Tech
- Aerated Static Pile  
High Cost, Mid-Tech
- In-Vessel Units  
High Cost, High Tech



RDEK currently reviewing opportunities for region

# Organic Waste Diversion

## Educational Opportunities:

- Continue to provide Black bins at Cost & provide education programs
- Community Gardens / Demonstration Gardens
- Promote Food Waste Reduction: Love Food Hate Waste
- Xeriscaping and Gleaning





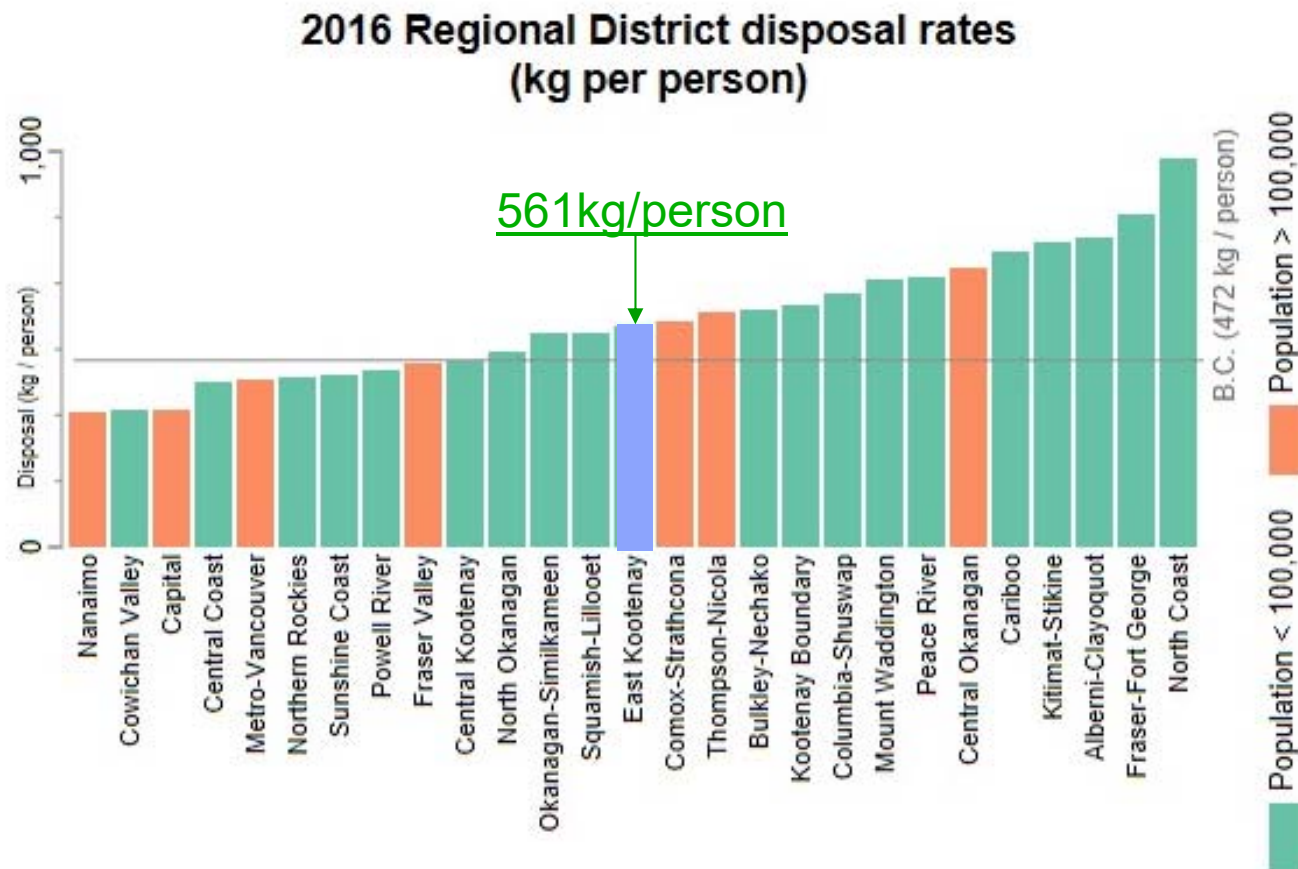
**Questions & Comments ?**



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# DIVERSION POTENTIAL

# 2016 Per Capita Disposal Rate



Provincial Target = 350 kg/person by 2020



# Estimated Diversion Potential

## Estimated Diversion Potential

| Material                                          | Recovery Rate |            |             |
|---------------------------------------------------|---------------|------------|-------------|
|                                                   | Low<br>30%    | Med<br>50% | High<br>70% |
| Compostable Organics                              | 50            | 84         | 117         |
| Paper                                             | 22            | 36         | 51          |
| Plastic                                           | 24            | 41         | 57          |
| Wood Waste (non-compostable)                      | 6             | 10         | 14          |
| Demolition Waste                                  | 19            | 31         | 44          |
| Metals                                            | 8             | 13         | 18          |
| <b>Potential Diversion (Total kg)</b>             | <b>129</b>    | <b>215</b> | <b>301</b>  |
| Current Disposal rate (kg/person/yr)              | 561           | 561        | 561         |
| <b>New Potential Disposal rate (kg/person/yr)</b> | <b>432</b>    | <b>346</b> | <b>260</b>  |



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**NEXT STEPS / WRAP UP**

## Next Steps / Wrap Up

- **Next Meeting:**
  - January 23<sup>rd</sup> 2019 (11am – 2pm)  
Transfer Station System Optimization

**Happy Holidays!**

**THANK YOU!**



***“Engineering Better Solid  
Waste Management Systems  
Today for a Cleaner  
Tomorrow”***

