



# C&D Waste Diversion in Other Jurisdictions

Maria Kelleher  
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# Best Practices

The background of the slide is a photograph of a building under construction. The structure is made of light-colored wood framing, with several floors visible. The sky is a clear, bright blue. In the foreground, there is a large pile of construction materials, including what looks like insulation or drywall, and some wooden beams. The overall scene is bright and clear.

- Research to look at what others are doing is underway
- Focus on active drivers not passive ones, such as voluntary guidelines, protocols and P&E
- At end of presentation, we would like to know:
  - What would work in Calgary?
  - What should we forget about?
  - What should the next steps be?

# C&D Approaches in Canadian and US Cities

The background image shows a construction site. In the foreground, there is a large, messy pile of construction debris, including wood, metal, and other materials. In the middle ground, a multi-story building is under construction, with its wooden frame visible. The sky is clear and blue.

- **Front End Policies**
  - New construction and demolition projects
  - Procurement specifications, fast track permits, diversion deposits, etc
- **Back End Policies and Practices**
  - Recycling opportunities
  - Landfill bans
  - Differential tipping fees

# What Provinces Are Doing

- Most provinces do not have specific C&D policies
- Provincial policies/legislation in place:
  - British Columbia – local material bans and facility permits
  - Ontario – 3Rs regs on the books since 1994
  - Nova Scotia – paid \$20/tonne for diverted material, some bans
  - Quebec – goal of 60% C&D waste recovery 2008

# Ontario 3Rs Regs

- Construction and demolition sites >2,000 sq.m.
- Reg. 102/94
  - Develop Waste Reduction Action Plan (WRAP) to reduce, reuse and recycle C&D waste (no targets established)
- Reg. 103/94
  - Source separate concrete, cardboard, drywall, steel and wood
  - Generator must make “reasonable effort” to recycle
- Until recently, regs have not been enforced
- MOE is now enforcing
- Lesson: enforcement is essential!

# Nova Scotia

- Municipalities are paid \$20/tonne for material diverted from landfill
- C&D material must be processed to qualify for rebate
- Limitations on what can be used for landfill cover
- Brought in 20% limit on ADC (alternative daily cover)

# Municipal Survey to Identify Best Practices

- Canadian cities: Victoria, Vancouver, Whistler, Nanaimo, Saskatoon, Winnipeg, Toronto, Guelph, Hamilton, Mississauga, Ottawa, Montreal, Halifax, Lunenburg, St. John's.
- Alberta communities: Edmonton, Lethbridge, Red Deer, Medicine Hat, Grand Prairie
- US cities: San Jose, San Diego, Oakland, Portland, Seattle, San Francisco, Los Angeles, Chicago, New York, Minneapolis/St. Paul

# Many Cities Not Engaged

- Landfill crisis (therefore leaving it to the private sector to manage)
- Private sector issue (not our problem)
- No landfill crisis (therefore no need to manage C&D waste)
- Not on their radar yet (last frontier)





# Front End Policies To Minimize Waste

- Procurement specs stipulate % diversion required (i.e. Greater Toronto Airport Authority, ON)
- Diversion Deposit Policy (i.e. City of Langley, BC; San Jose, CA; San Diego, CA)
- Source Separation requirements (i.e. Portland, OR)
- Waste diversion plan requirements (i.e. Oakland, CA; GVRD, BC)
- LEED requirements



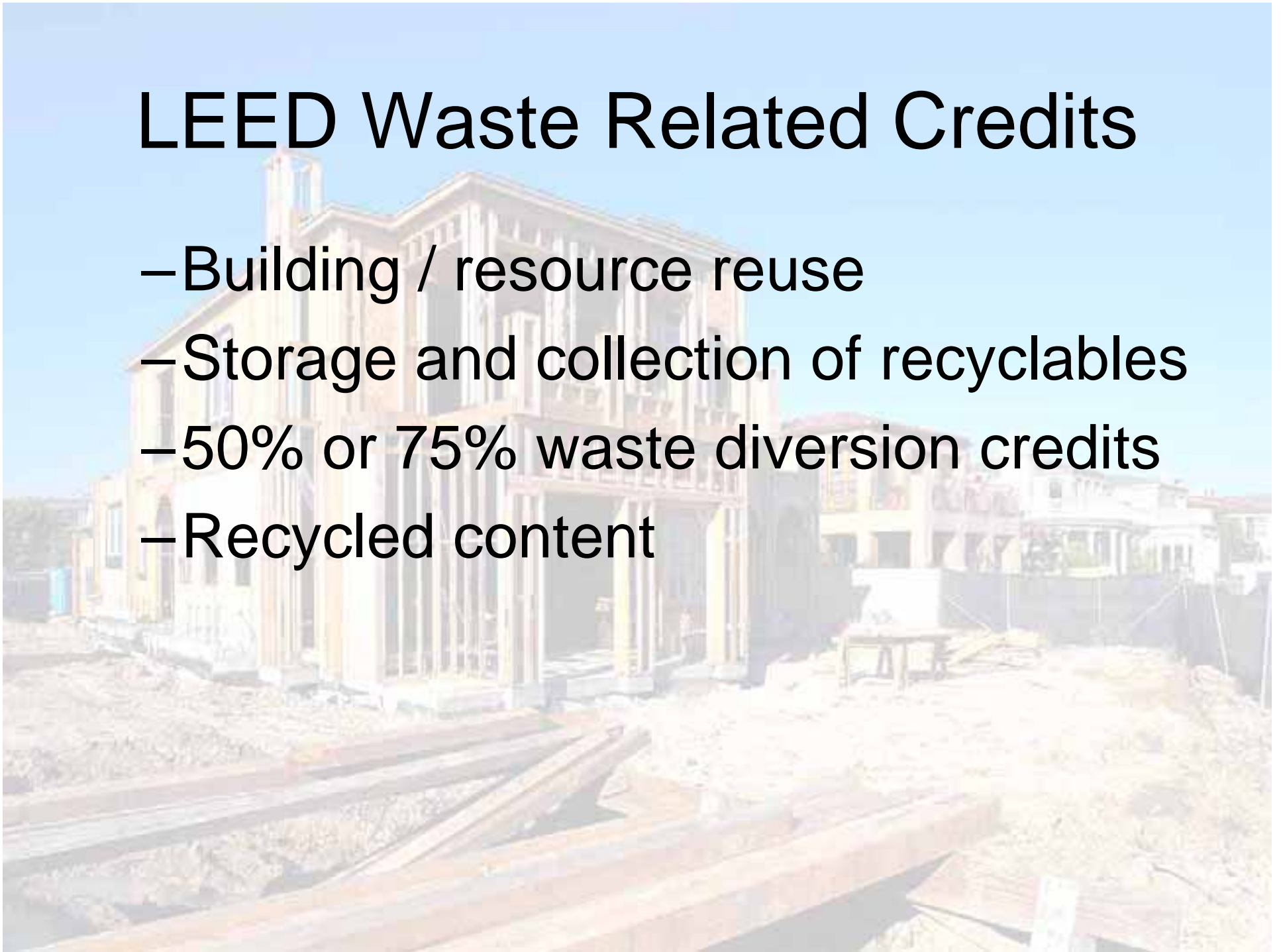
# LEED

(Leadership in Energy and Environmental Design)

- LEED Green Building Rating System®
  - Standard for developing high performance, sustainable buildings.
- Points in six categories:
  - Sustainable Sites,
  - Water Efficiency,
  - Energy and Atmosphere,
  - Materials and Resources,
  - Indoor Air Quality, and
  - Innovation and Design Process.
- Four ratings: certified, silver, gold, platinum

# LEED Waste Related Credits

- Building / resource reuse
- Storage and collection of recyclables
- 50% or 75% waste diversion credits
- Recycled content



# LEED Requirements in Leading Edge Cities

- For government buildings
  - Vancouver, BC;
  - Calgary, AB;
  - Santa Monica, CA,
  - numerous others
- Higher density for multi-unit developments that meet LEED (Arlington VA)



# Diversion Deposit Programs

- City of Langley, B.C.
  - Contractors post \$5,000 bond prior to building demolition.
  - Bond is returned when receipts show material taken to gypsum recycling facility
- San Jose, CA –
  - deposit based on type of construction, project size and value.
  - Full refund if achieve 50% diversion of C&D waste and partial refund for less.
  - Applies to all projects requiring a building permit.

# Back End Policies – After Waste Generated

- Landfill bans (i.e. CRD, BC; GVRD, BC)
- Differential tipping fees (i.e. GVRD, BC; Central Okanagan, BC)
- Incentives for clean loads and disincentives for contaminated loads (i.e. Orillia, ON)
- Waste to licensed C&D recyclers (Halifax, NS; GVRD, BC)
- Reuse stores (i.e. Grand Prairie, AB; Baltimore, ML)

# Landfill Bans and Facility Permits

- Capital Regional District (CRD) BC
  - bans aggregate, asphalt, concrete, and rubble
  - restricts the amount of drywall entering their landfill.
  - Zero tolerance policy
  - By-law officers at landfill empowered with ability to issue fines of \$200 for each infraction

# Halifax Regional Municipality (HRM)

- Encourages private sector involvement (2 facilities)
- C&D licensing by-law establishes recovery rate of 75% beginning 2006 for all C&D materials entering the licensed processing facilities
- C&D licensing by-law
  - bans C&D materials
  - prohibits export outside region



# Greater Vancouver Regional District (GVRD)

- Bans drywall waste and OCC from disposal
  - Two local operations accept gypsum
  - Lots of markets for wood
- Issues and monitors private sector facility licenses (e.g. drywall, concrete, asphalt, wood, metal)
- Brings in a landfill ban when recycling facilities established (by private sector)
- C&D waste must be sent to a licensed facility
- Measure impact of their policies through audits
- 703,000 tonnes diverted in 2004 (67%)

# GVRD

- 2004 – LEED Gold for new City buildings
- BuildSmart- provides job site technical assistance to show how to recycle materials



# City of Saskatoon

The background image shows a demolition site under a clear blue sky. A large, multi-story building is being dismantled, with its steel frame and concrete structure exposed. Debris, including wooden planks and metal beams, is scattered on the ground in the foreground. The scene is brightly lit, suggesting a sunny day.

- Demolition companies complete “Declaration of Intent” showing how material will be recycled (since 2004)
- Attach to demolition permit
- \$3 million set aside for Construction and Demolition Waste Management Centre

# Central Okanagan Construction Pilot Program (Kelowna Landfill)

- Test variable tip fees on material diversion
- Tip fees
  - \$10/tonne for source separated
  - \$105/tonne mixed recyclables
  - \$145/tonne gypsum
  - \$160/tonne mixed waste
- 6 construction and 1 roofing company
- Achieved 86% diversion
- 21% to 35% cost savings by participants

# Other Policy Ideas Being Explored

- Whistler, BC – recycling targets for designated materials (i.e. 50% wood, 75% OCC)
- Halifax, NS – pre-demolition inventories
- Toronto, ON - tax relief on development charges, property tax relief, fast track applications

# Questions and Feedback

- We want to hear what you think about what you have heard on best practices in other jurisdictions
  - What would work in Calgary?
  - What would not work in Calgary?
  - Next steps to move forward
- Take 5 minutes to discuss these questions at your table
  - We will discuss as a large group

# Front End Policies

- FE1: Procurement specs – require 90% (or other amount) diversion on demolition projects
- FE2: Procurement specs – require specified diversion % on new construction
- FE3: LEED requirements for government or government funded buildings
- FE4: LEED requirements for all buildings
- FE5: Fast track permits for projects which meet LEED
- FE6: Allow increased density for buildings which meet LEED

# Front End Policies

- FE7: Diversion deposits (e.g. Langley for drywall, San Jose for all)
- FE8: Source separation requirements for construction projects > 2,000 sq m
- FE9: Source separation requirements for demolition projects > 2,000 sq m
- FE10: Diversion plan for Construction and Demolition projects > 2,000 sq. m



# Front End Policies and Incentives

- FE11: Diversion credit for C&D waste reused (Nova Scotia)



# Back End Policies

- BE1: Landfill bans on specific materials (e.g. gypsum in Vancouver)
- BE2: Differential tip fees (half price for clean loads, Orillia)
- BE3: All C&D waste to licenced facilities (Halifax)
- BE4: Reuse stores
- BE5: Technical job site assistance (GVRD)

# Back End Policies

- BE6: Demolition waste assessment with demolition plan (Saskatoon)
- BE7: Recycling targets for specific materials (wood, concrete, e.g. Whistler considering)



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