



MORRISON HERSHFIELD

# Waste to Energy Assessment

Presented to the Union of British Columbia Municipalities  
Thursday, September 26, 2019

# Presentation Overview

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- 1. WTE Overview**
- 2. Intro to Comox Strathcona Waste Services (CSWM)**
- 3. WTE Study Results**
- 4. Questions**

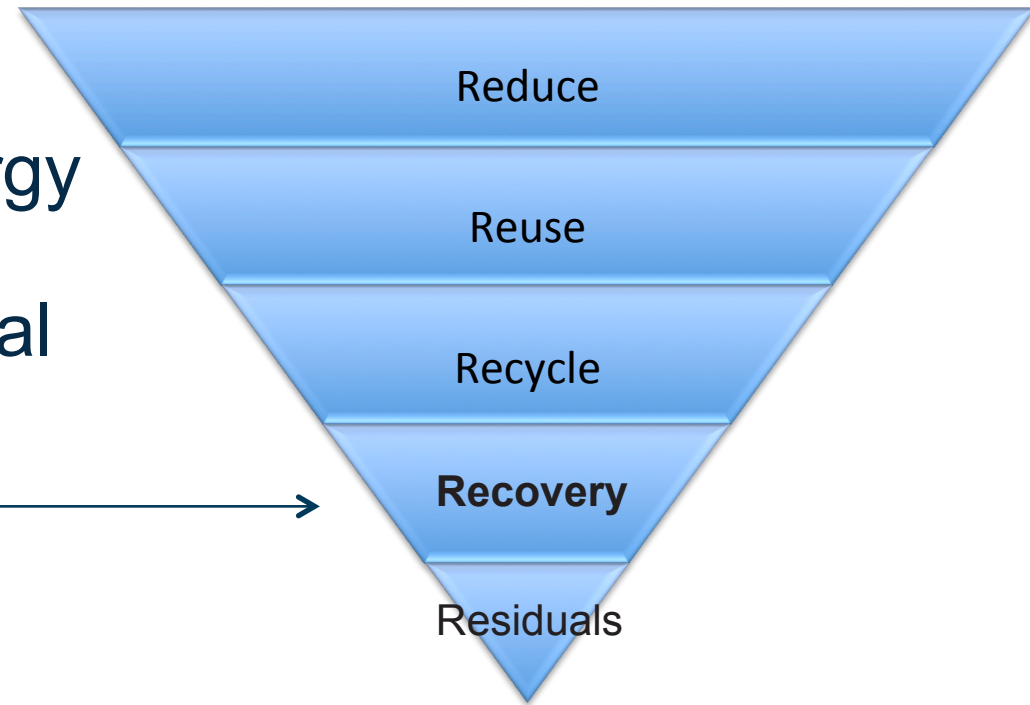
# What is WTE?

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- Technologies offer different ways of releasing the energy in the waste
- Conventional WTE systems
  - Essentially power plants using waste as fuel instead of natural gas, coal or wood
- Advanced WTE systems
  - Use heat to convert the energy in the waste into a gas that can be burned for power, or converted to fuel (for burning)

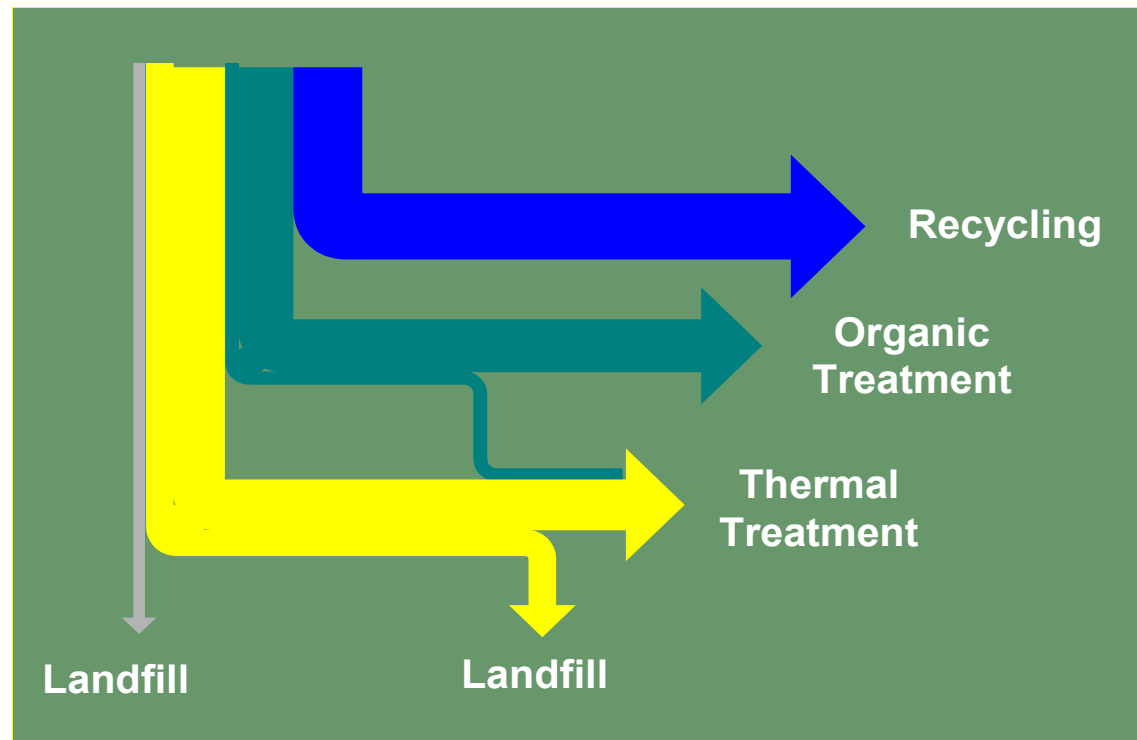
# Where does WTE fit in?

- 4<sup>th</sup> R - Recovery of energy and materials after the first 3Rs, prior to disposal



# The role of WTE in an Integrated System

- With recycling and organics treatment:





# Metro Vancouver WTE Facility

- Operational since 1988
- 250,000 tonnes per year
- Numerous upgrades
- Meets all air emission standards



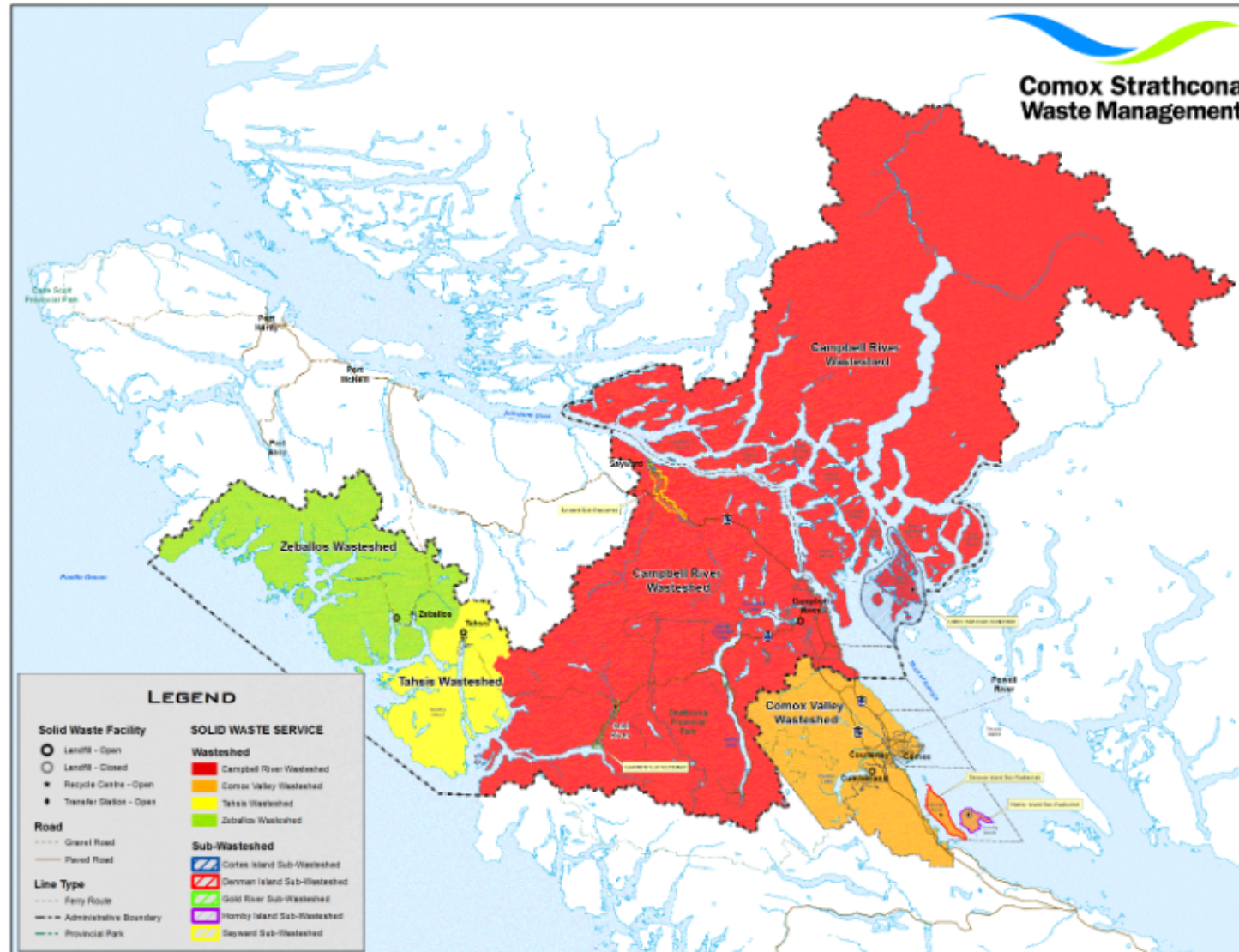
# York Durham WTE

- Newest WTE plant in Canada. Started operations 2016
- Mass burn technology
- Capacity 140,000 tonnes per year, upgrading to 160,000
- Ultimate capacity 400,000 tonnes per year





# Intro to CSWM





# WTE Study Results

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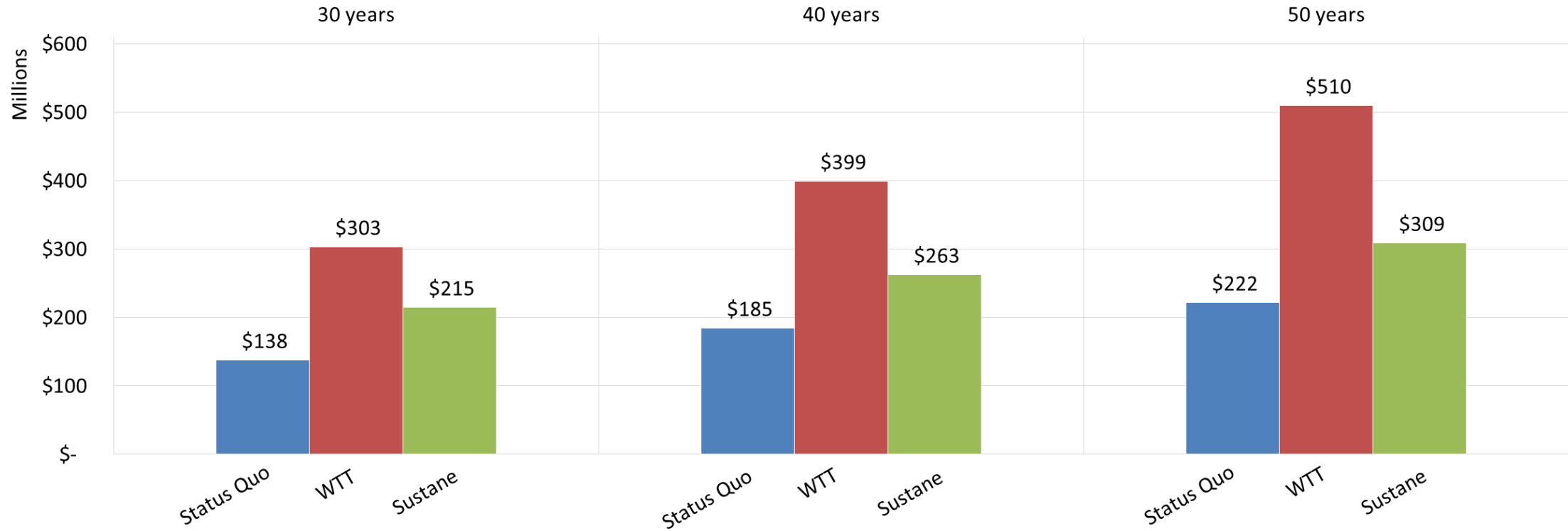
- Study objectives – update 2011 study of overall system costs and greenhouse gas emissions
- Assess current technologies and market
- Three potential locations reviewed
- Estimated system costs:
  - Transfer station construction and operation
  - Landfill operation, closure and post closure
  - WTE facility construction and operation
- Estimated GHG emissions for each system
- RFI – two vendors shortlisted

# Average Disposal Cost per Tonne

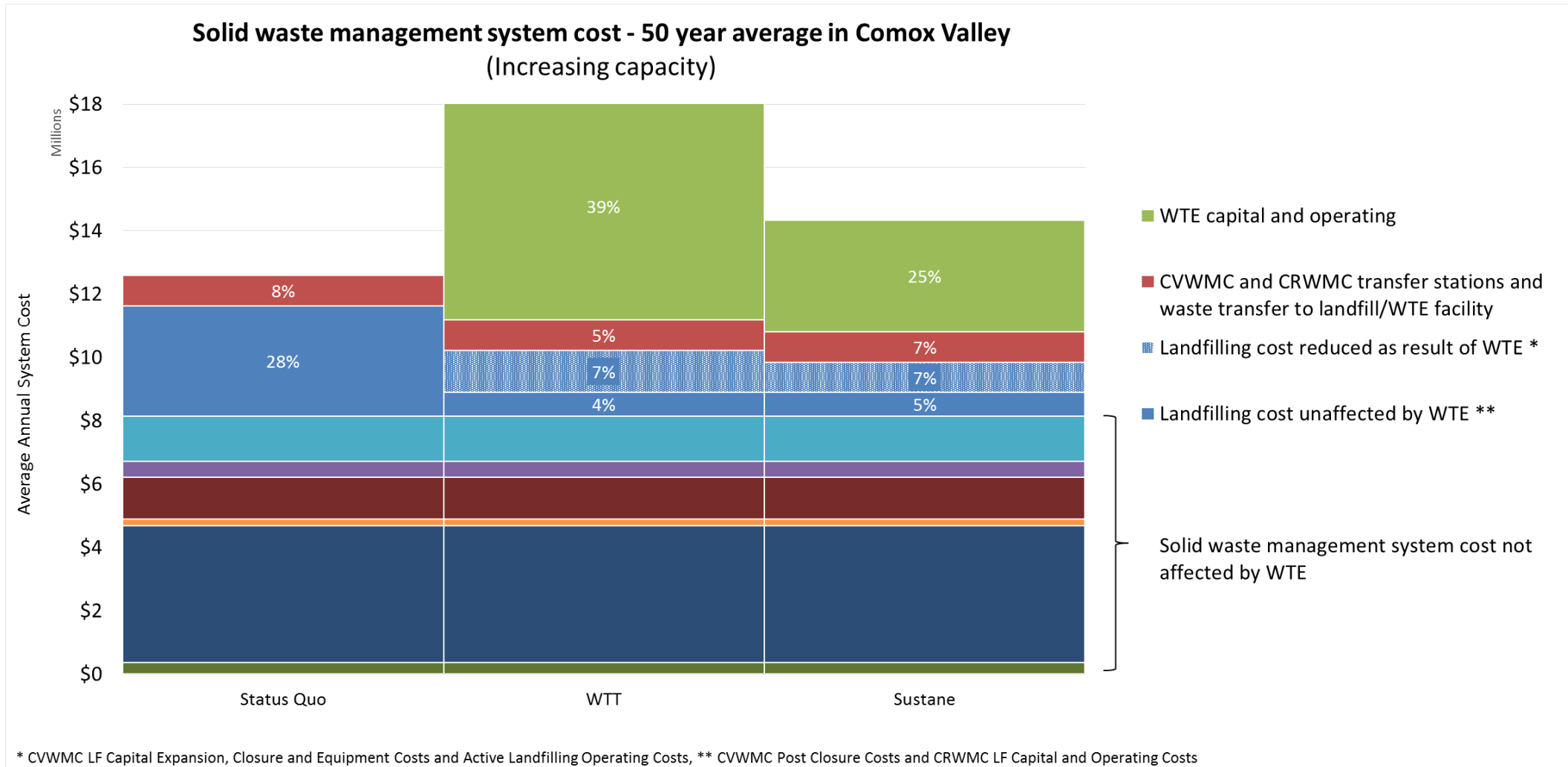
Increasing capacity - Estimated average disposal cost per tonne		
Option		Over 40 years
0	Status Quo	\$75
1(a)	WTT in Comox Valley	\$163
3(a)	Sustane in Comox Valley	\$107

# Total Disposal Costs

Total disposal cost in Comox Valley



# System Cost Breakdown





# THANK YOU

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