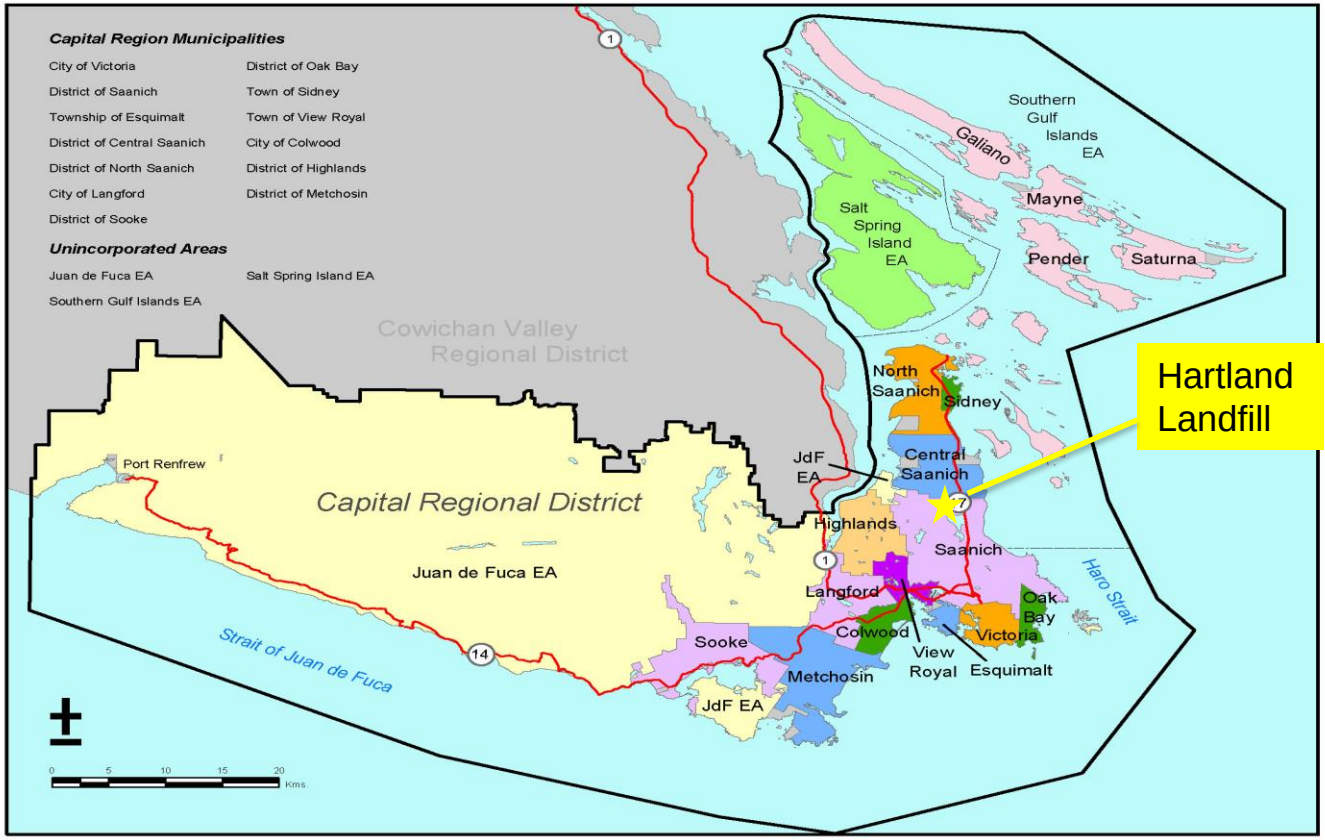
Regional Government Update - Capital Regional District

February 27, 2020

Waste Management Association of British Columbia Annual Conference

Capital Regional District

13 Municipalities and 3 Electoral Areas



Key 2020 Initiatives

- Complete New Solid Waste Management Plan

- Move forward with Renewable Natural Gas at landfill

Solid Waste Management Plan

Stage 1 – Initiate the Process

- ✓ **Regional Board Resolution**
  - 2011 and 2017
- ✓ **Stakeholder Notification**
  - Notifications to recruit for SWAC (2017)
- ✓ **Establish planning team and committees**
  - SWAC members appointed (2018)
- ✓ **Develop the budget**
  - Funding in ERM budget
- ✓ **Design the consultation process framework**

Stage 2 - Set the Plan Direction

2012-2014

- ✓ **Prepare background information**
  - 2012 Existing System Report
  - 2012 survey
  - Issues Memo
  - 7 technical memos
  - 2014 Steering Committee workshop

2018

- ✓ **Assess the current solid waste system**
  - 2018 Existing System Report (May 2018)
- ✓ **Consider trends**
  - (May 2018)
- ✓ **Identify principles, goals and targets**
  - In progress
- ✓ **Develop consultation strategy**
- ✓ **Consult the public**
  - As per consultation strategy (inform)

Stage 3 - Evaluate Options

2019

- ✓ **Develop potential strategy options**
  - Long list of options
  - Short list of options
- ✓ **Assess the financial and administrative impacts**
- **Consult the public on the strategy options**
- **Review consultation results and receive direction to proceed with preparing draft plan**

Stage 4 - Prepare & Adopt the Plan

2020

- **Prepare draft plan**
- **Consult the public on the draft plan**
- **Prepare plan for submission**
- **Submit plan to Minister for approval**
- **Ministry review and approval**
- **CRD Board adoption of Revision 3 of the Solid Waste Management Plan**

Process

Solid Waste Management Planning

- It's time to update our Solid Waste Management Plan.
- BC's *Environmental Management Act* requires regional districts to develop plans for the management of municipal solid waste and recyclable materials.
- The Capital Regional District has prepared principles, goals and objectives for a new plan, together with draft strategies and actions for review and input.
- Tell us what you think — your input will help us to develop the draft plan.

Per Capita Rates

- 2018 provincial per capita disposal rate: 380kg per person
- 2020/2021 provincial target: 350kg per person

Proposed Strategies

Proposed Strategies

Goals

Have informed citizens who participate effectively in proper waste management practices	Surpass the provincial per capita waste disposal target	Extend the life of Hartland Landfill to 2100 plus	Ensure that the CRD's solid waste services are financially sustainable

Strategies

REDUCTION & REUSE	RECYCLING	RECOVERY & RESIDUALS MANAGEMENT
1. Continue and Enhance Education Programs	7. Increase Residential Diversion	14. Optimize Landfill Gas Management
2. Encourage Waste Prevention	8. Increase Multi-Family Diversion	15. Enhance Hartland Disposal Capacity
3. Support Reduction of Avoidable Food Waste	9. Increase Industrial, Commercial and Institutional Diversion	
4. Support Reuse Activities in the Region	10. Support Existing and New Extended Producer Responsibility Programs	
5. Support Local Governments in Working Towards Zero Waste and a Circular Economy	11. Increase Organics Diversion and Processing Capacity	
6. Continue and Enhance Policy Development	12. Increase Construction, Renovation, and Demolition Material Diversion	
	13. Encourage Proper Public Space Waste Management Activities	

Residual Management

Hartland 2100 Design Concept

Hartland 2100 is a long-term design concept to extend the capacity of the landfill from the current 2045 design to 2100 and beyond.

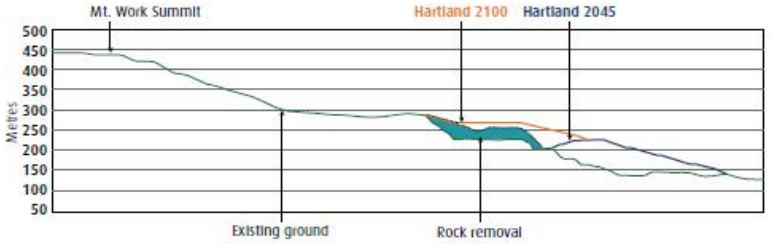
Hartland 2100 Design Concept Plan Map

This concept proposes to:

- Expand the disposal area both horizontally and vertically within the existing property boundary (this will affect some mountain biking trails within the landfill boundary)
- Continue rock extraction to create landfill space; store the rock for onsite uses and remove excess rock as needed
- Transition access for larger trucks to Willis Point Road

Planning for Hartland 2100 needs to start now to ensure the most effective design.

Hartland 2100 Design Concept Profile



Current Landfill Gas Utilization

- Gas collection started 1995
- Power generation started 2004
- Produces green electricity for 1,100 homes
- Current Gas Collection - 200,000 GJ/year
- Power Plant utilizes 100,000 GJ/year
- Excess gas flared

Gas Utilization Alternatives

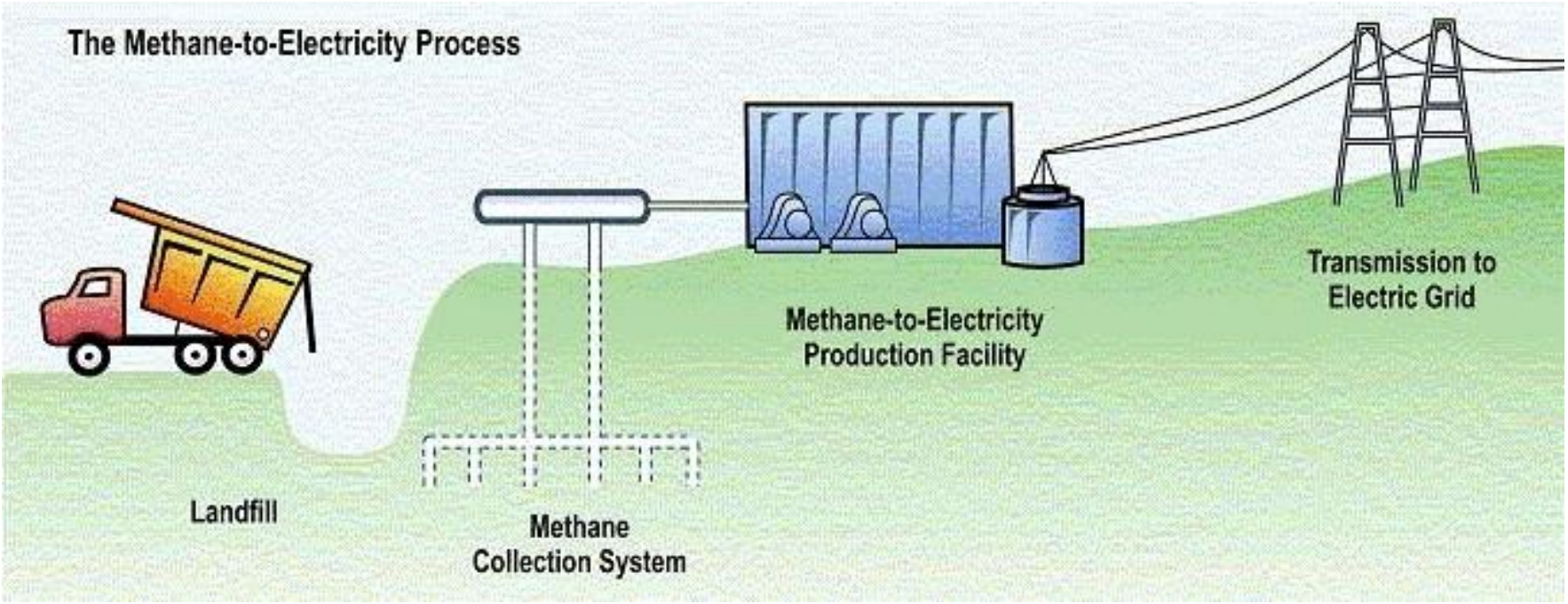
Green Electricity

- Twin power production infrastructure and sell more electricity

Renewable Natural Gas (RNG)

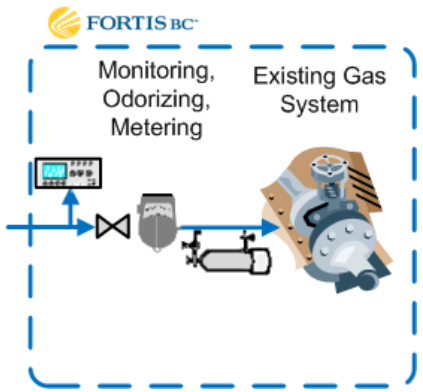
- Install landfill gas cleaning technology to produce pipeline quality RNG and inject into Fortis system

Green Electricity



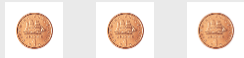
Renewable Natural Gas

Solid & organic waste landfilled → Landfill Gas Capture → Landfill Gas Treatment → Pipeline Extension to Landfill → Green Gas to FortisBC → Fossil fuel displacement & GHG reduction

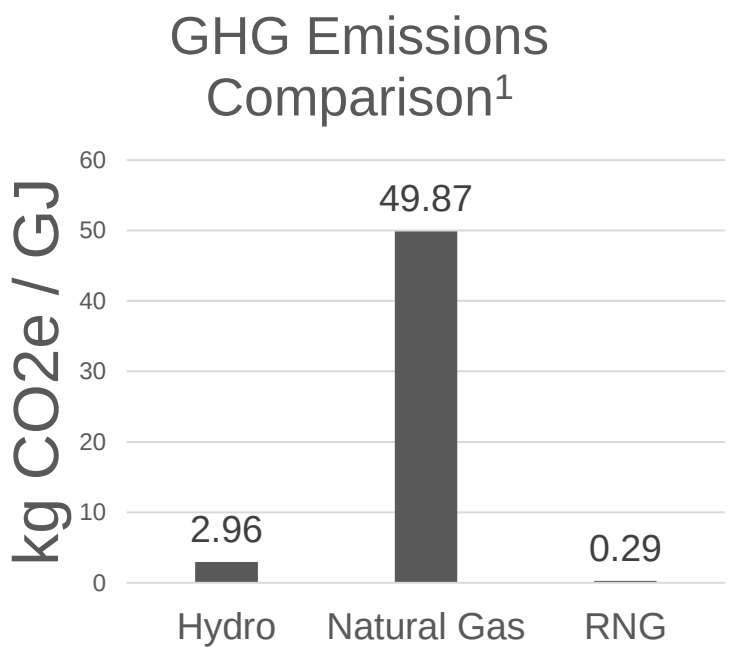


Preliminary Business Case

Green Electricity vs. Renewable Natural Gas

	Green Power	Renewable Natural Gas
Investment		
Financial Return		
Environmental Benefit		

Greenhouse Gas Emissions



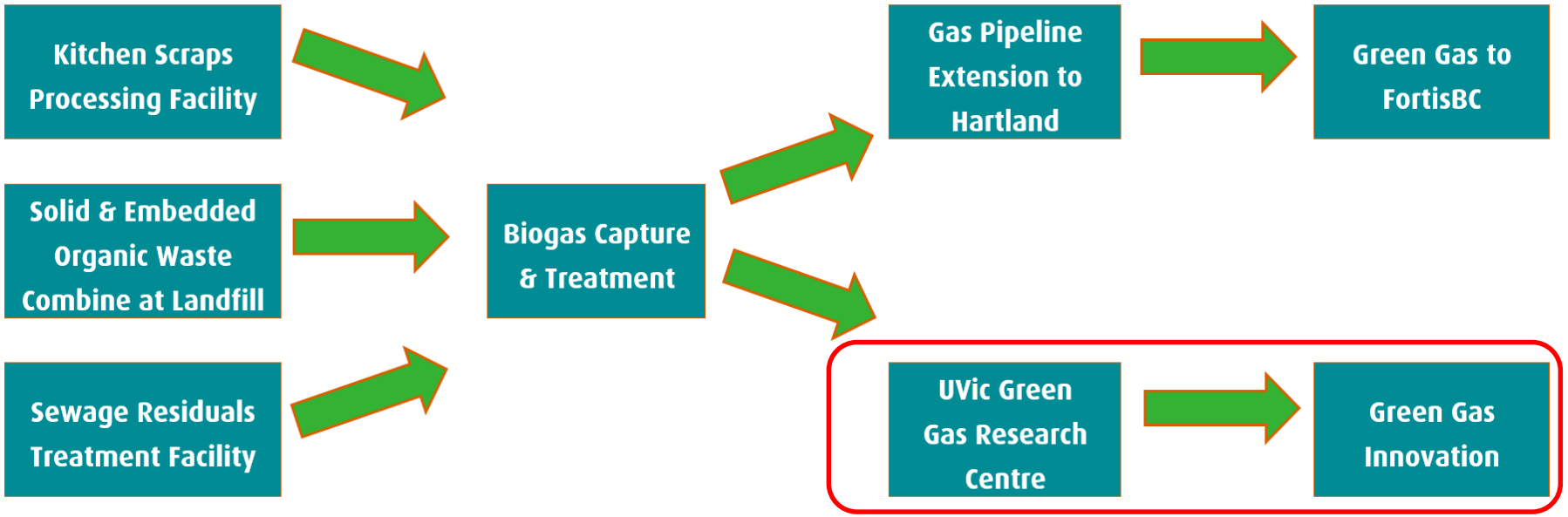
[1] Based on 2016 MOE best practices calculation methodology.

RNG produced has the potential to avoid annual emissions[2] equivalent to:

- 10% of all natural gas emissions in CRD homes
- More than 500% of all emissions from CRD corporate operations

[2] Based on 2012 CEEI data.

Potential Enhancements



RNG Next Steps

Winter 2019

- Present Green Electricity vs RNG Revised Business Case
  - Financial Return, GHG Impacts
  - Enhancement Opportunities

Spring 2020

- Move forward with Hartland renewable natural gas initiative

Questions?

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