



Regional Board Report

TO: Regional Board

FROM: David Komaïke
Director of Engineering Services

DATE: December 6, 2021

SUBJECT: Biomass Inventory Summary Report

Voting Entitlement: *All Directors – Unweighted Corporate Vote – Simple Majority – LGA 208*

Purpose:

To present the Regional Board with the Biomass Inventory Study for the Okanagan region as completed by Associated Environmental Consultants.

Executive Summary:

The Okanagan region generates significant quantities of biomass waste from the growing agriculture, food and beverage, and forestry industries, as well as construction and municipal wastes. The Regional District of Central Okanagan (RDCO) has partnered with the Okanagan Sustainability Leadership Council (OSLC) to study the current management practices of biomass waste. The goal of the study was to determine if there was sufficient biomass available to support the reduction of greenhouse gas emissions by beneficially using biomass waste for the generation of carbon-neutral energy and other bioproducts.

Associated Environmental Consultants Inc. (AE) were hired in May 2021, to undertake this task. The results from the study indicate that the Okanagan valley generates an estimate of 1,527,010 wet tonnes of biomass per year.

RECOMMENDATION:

THAT the Regional Board receive the update on the RDCO Biomass Inventory study, dated December 6th, 2021 for information.

Respectfully Submitted:

A handwritten signature in black ink, appearing to read "DK", is written over a light blue horizontal line.

David Komaïke, P.Eng.
Director of Engineering Services

Approved for Board Consideration

A handwritten signature in black ink, appearing to read "Brian Reardon", is written over a light blue horizontal line.

Brian Reardon, CAO

Prepared by: Divya Gupta, Senior Energy Specialist

Attachment(s):

1. AE_Biomass Inventory Summary Report
2. Biomass Inventory presentation powerpoint

Implications of Recommendation:

Strategic Plan:	The Biomass Inventory Study aligns with Environmental strategic priority outlined by the board in 2019.
Organizational:	Continuous improvement in our waste collection and waste management practices.
Financial:	Budget Amendments to be made according to future needs of pursuing a Waste to Energy facility.
Policy:	Regional Strategic priority 2019-22

Background:

The Regional District of Central Okanagan (RDCO) and the Okanagan Sustainability Leadership Council (OSLC) retained Associated Environmental Consultants Inc. (Associated) to develop a biomass inventory for the Okanagan Region. The goal of study is to develop a better understanding of the available biomass quantity and current management practices. It provides valuable information which should lead to improved management of biomass waste in the region. The result is a dataset that identifies the information sources, composition, estimated quantity and current management practices of the biomass waste in the north, central, and south Okanagan Valley. Improved management of biomass is a step towards increased renewable gas content in the natural gas system.

The following table contains biomass waste streams or categories of biomass that were identified, and the amount of biomass generated for each category.

Category	Estimated Volume (wet tonnes/year)	Current Management
Animal waste	145,900	Composted and used on farm
Wastewater residuals	45,891	Composted and marketed to private users and the public
Plant residuals	57,664	Composted and used on farm
Food waste	63,533	Landfilled or composted at private facility
Paper	33,832	Recycled
White wood	74,445	Landfilled
Leaf and yard waste	110,048	Composted and supplied to the public
Clean wood - mill	556,526*	Managed onsite, supplied to other facilities, used in cogeneration or made into pellets
Clean wood – roadside	439,171	Left/managed onsite
Total	1,527,010	

A high-level Biomass fuel conversion matrix is also included in the report as Appendix 'A'. Not all biomass is destined for use through combustion. This is a high-level matrix and further research would be required to pursue any of these technologies.

Possible Future Steps –

- Further refinement and analysis of the Biomass Study to determine if the Okanagan Valley meets the criteria to achieve a Bioeconomic zone designation. (Through ECOSTRAT)
- Continue to work with FortisBC to investigate the possibility of a RNG production plant within our region.
- Continue to support the completion of additional studies to estimate the economics of roadside wood waste collection within our valley (Currently underway).

Financial Considerations:

- The current project was jointly funded by RDCO and OSLC ~ \$47,677.50.

Organizational Issues:

- Waste and Environmental services will continue to work towards optimizing waste management techniques and continue to provide waste and recycling education.
- Engineering services will investigate viable options for supporting the development of a waste to energy facility within the Regional District as per Board direction.

Considerations not applicable to this report:

- Legal/Statutory authority
- General

APPENDIX 'A'

