

The Northern Recycling Accessibility and Processing Project

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Extended Abstract

The goal of the Northern Recycling Accessibility and Processing Project (NRAPP) was to develop a cost effective, efficient and environmentally conscious way to collect, process and consolidate recyclables in Northern British Columbia (BC). This project was completed in conjunction with the University of Northern BC (UNBC) and Waste Management Inc. This project was selected based on the implementation of future recycling legislation in BC and a current lack of recycling in Northern BC. For the purpose of this project, the Northern BC area includes all regions from Prince Rupert and Kitimat to Prince George and Mackenzie. This region encompasses roughly 127 000 people and 70 000 tonnes of recyclables are produced annually.

In order to accomplish this goal, comprehensive transportation, processing and consolidation models were developed and compounded. To provide the required infrastructure and support, the final location for a central recycling facility was proposed to be in Prince George. A capital cost of purchasing all of the consolidating and processing equipment was determined to be \$7 376 000. In order to operate this equipment and the facility, an annual cost of \$4 250 000 was predicted. Finally, transporting the estimated volumes of recyclables from each individual community to Prince George was calculated and \$1 000 000 were allocated annually. All calculations for annual and capital costs were based on industry standards and regional data.

The greenhouse gas (GHG) emissions produced from transporting the recyclables to Prince George were calculated to be 115 to 236 t CO₂ equivalent (eq) annually based on various likely percentages of backhauling. In addition, the GHGs produced from operating the sorting and recycling facility are expected to be 3 to 80 t CO₂ eq annually. However, the GHG reductions from diverting the anticipated volume of paper products from landfills every year are expected to be 39,000 to 53,000 t of CO₂ eq.

In order to determine the success of this project, social assessments were carried out in the region. Surveys were taken all over the Prince George area and evaluated to outline the likely challenges of implementing NRAPP. It was determined that education will play a major role in the response to recycling in the North and that making participating mandatory could play a major role in the community response.

Finally, it is expected that this project will be paid back in full in four years and that after ten years, NRAPP could produce a \$10 000 000 profit based on the commodity price of recyclables.

References

All of the included information was taken from the Northern Recycling Accessibility and Processing Project produced by Rebecca Blundon, Courtney Brown, Sean P Carlson, Maylee Eisbrenner and Lisa Gardiner for Mr Jay Maybin, Waste Management and Dr Ron Thring, UNBC.