

Project Overview

Industrial Placement: Firststar Fiber

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Major: Biological-Systems Engineering

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Company Background

Firststar Fiber was founded in 1997 with the goal of expanding Nebraska’s recycling infrastructure and pushing the state toward sustainability goals. Firststar serves residential Omaha with curbside recycling pickup as well as working with commercial businesses to handle their recycling. Additionally, Firststar works with many communities and businesses in expanding their recycling programs through education on proper recycling training and assisting with grant writing for equipment and facility improvements.

Project Description

The focus of this project was to evaluate recycling programs of communities near Omaha and provide suggestions for improvement. The capture rate, or percent of recyclable material, was determined for each community. A 50% capture rate was determined to be a reasonable target goal for each community to achieve. The target goal was used to show the benefits of an increased capture rate. The assessment of each community was limited to residential recycling and did not include local businesses or other sources of recycling.

Pollution Prevention Benefits

Table 1 shows each location analyzed and the potential annual benefits to these communities in terms of increased revenue and reduced solid waste being sent to the landfill if a 50% capture rate of recyclable material is achieved. Each location received specific recommendations to work toward achieving this goal. The current capture rate, as well as increased savings and revenue, tons of waste diverted from landfill, and MTCO₂eq prevented by achieving the target goal are shown below.

Table 1. Annual Benefits if 50% Capture Rate is Achieved

Location	Current Capture Rate	Increased Revenue/Savings with 50% Capture Rate	Solid Waste Diverted with 50% Capture Rate	GHG Prevented with 50% Capture Rate (MCO ₂ eq)
Seward, NE	30%	\$36,000	392 tons	660 tons
Wisner, NE	25%	\$25,000	120 tons	200 tons
David City, NE	25%	\$16,000	200 tons	340 tons
Oakland, NE	40%	\$5,000	50 tons	85 tons
Total		\$74,000	762 tons	1,285 tons