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Background

The Western Sugar Cooperative is a grower owned agricultural cooperative with a total of five sugar beet processing/packaging facilities operating in Nebraska, Wyoming, Colorado and Montana. This report was written for the Scottsbluff, NE sugar beet factory. The factory processes beets for six months of the year after harvest, and extracts sugar from ‘thick juice’ for the other six months.

Project Description

The Western Sugar Cooperative is committed to sustainability, and recognizes the environmental and economic benefits of many pollution prevention (P2) opportunities. The main objective of the project was to evaluate the current water treatment and management system at the factory. The intern also evaluated heat loss from process steam/condensate pipes and an optimization opportunity in the packaging and warehouse facility.

Pollution Prevention Benefits

The recommendations vary greatly in terms of capital investment and potential cost savings, though all would reduce the facility’s ecological footprint. An estimate of the benefits associated with implementing the proposed P2 opportunities is provided in Table 1.

Table 1. Pollution Prevention Benefits

P2 Opportunity	Cost Savings (\$/yr.)	GHG Reduction (MTCO₂e/yr.)
Packaging optimization	\$104,000	264
Insulation of key areas	\$3,600	255
Anaerobic digestion	\$200,000	2,200
Total	\$307,600	2,719