

Project Overview



Company Background:

McCain Foods at Grand Island, Nebraska is a medium-scale producer of various food products based in Grand Island, Nebraska for restaurants and fast-food chains. McCain Foods specializes in the production of onion rings and various other appetizers. McCain Foods produces about 265,000 pounds of packaged onion rings every day while also producing corn nuggets, cheese sticks, French toast sticks, jalapeño poppers, and fried pickles.

Project Description:

McCain Foods has recently started looking for ways to reduce their material waste, energy waste, and pollution output to become an even more sustainable operation. The goals of the summer P3 projects are to reduce solid, water, energy, and greenhouse gas waste from production while improving, or not interfering with, profit margins from production and minimizing production costs.

Pollution Prevention Benefits:

Over the summer of 2021, P3 summer intern Ethan Bowles collected data to analyze McCain Food's energy and utility input and output as well as financial profit and cost of operations. Below in **Table 1-1** is a summary of pollution prevention benefits and cost savings from each recommendation made for McCain Foods.

Table 1-1: Summary of Cost Savings and Pollution Prevention Benefits

RECOMMENDATION	ANNUAL COST SAVINGS (\$/YEAR)	ANNUAL CARBON EMISSIONS REDUCED (MTCO ₂ E/YEAR)	ANNUAL POLLUTANTS REDUCED (POUNDS/YEAR)	PAYBACK PERIOD
DRY CLEANUP	\$3,400	1.81	13,500lbs food waste	Instant
CHECK AND REPAIR AIR COMPRESSION SYSTEM LEAKS	\$24,700	275.35	N/A	54 days
INSTALL 150°F RATED LED LIGHTS	\$22,400	0.403	N/A	4.91 years
INCREASE POLYMER SYSTEM TEMPERATURE	\$3,000	N/A	340lbs coagulant & polymer	Instant
INSTALL NEW WATER NOZZLES	\$22,900	63.71	34,500lbs BOD & TSS	7.67 months
TOTAL	\$76,400	341.27	48,340	1.70 years