

SHEARER'S FOODS, INC

BURLINGTON



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COMPANY PROFILE

Shearer's Foods Inc. is a privately owned manufacturer of potato chips, pretzels, pork rinds, salsa con queso, tortilla chips, whole grain brown rice crisps, wire cut cookies, sandwich cookies, and saltine crackers. The West Burlington facility, recently purchased from Snyder's Lance, operates three shifts, 24-hours per day, five days per week and employs more than 800 people who help manufacture private-branded saltine crackers, wire-cut cookies and sandwich cookies.

PROJECT BACKGROUND

On each of the ten production lines, an oven bakes the product to certain product specifications. The estimated rate of energy leaving the facility through the 53 exhaust stacks is 180.5 therms per hour. Capturing this thermal energy could provide opportunities to reduce natural gas usage in other areas of the plant such as heating water and intake air and help achieve a closer air balance in the plant.

INCENTIVES TO CHANGE

Shearer's Foods Inc. strives to reduce the environmental impact of both its processes and facilities. This emphasis on sustainability will have positive economic and environmental implications for the West Burlington facility. Decreased dependency on natural gas will help the plant to significantly reduce its emissions and greenhouse gases, while also reducing utility costs.

RESULTS

Air to Water Economizers: The addition of four air to water economizers would have noteworthy economic and environmental impacts for the West Burlington Shearer's Foods Inc. These air to water systems could heat water using the thermal energy currently leaving the facility via exhaust stacks. Four new economizers could supply the energy required by the boilers and water heaters, reducing natural gas use by 127,860 therms and cutting natural gas costs by \$120,188 annually.

Air to Air Heat Exchangers - Roof top Heaters: Current operations at the West Burlington facility involve roof top heaters to heat air entering the building, which consume approximately 2.1 percent of the plant's annual natural gas use. With the installation of seven air to air heat exchangers, the facility could use 58,820 therms recovered from flues to warm incoming air. The installation of the air to air heat exchangers could save the company \$55,290 annually.

Air to Air Heat Exchangers - Oven Heat: After implementation of the first two recommendations, heat captured from the exhaust stacks could supply an additional 790,188 therms to be utilized via air to air recovery units to heat intake air for the production ovens. The total therms required annually to heat production ovens is 2,643,045. Incorporating an air to air heat exchanger could save approximately \$742,776 per year in utility costs.



Intake Air Vents

Exterior mounted intake air vents were moved into the building some time ago to alleviate maintenance issues caused by exposure to the environment. The indoor intake vents are now creating a negative air pressure. Negative air pressure can increase the heating and cooling load as air is drawn from outside the building. Moving the intake air vents back outside to an area protected from the elements could achieve a closer air balance in the plant and reduced costs.



CONVENTIONAL AIR POLLUTANTS AND GREENHOUSE GASES DIVERTED IN METRIC TONS

From Recommendations in Recommended Status

TOTAL FOR ALL SECTORS								
CO ₂	SO ₂	CH ₄	N ₂ O	CFC	NO _x	VOC	PM ₁₀	MTCO ₂ e
767.66	2.11	1,267.19	4.59	10.10	2.30	4.87	0.18	2,047.71

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
AIR TO WATER ECONOMIZERS	\$120,188	127,860 THERMS	RECOMMENDED
AIR TO AIR HEAT EXCHANGERS (ROOF TOP HEATERS)	\$55,290	58,820 THERMS	RECOMMENDED
AIR TO AIR HEAT EXCHANGERS (OVEN HEAT)	\$742,776	790,188 THERMS	RECOMMENDED
INTAKE AIR VENTS	NOT QUANTIFIED	NOT QUANTIFIED	RECOMMENDED

