2015 24–WEEK PROJECT

WINNEBAGO INDUSTRIES

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COMPANY PROFILE

Winnebago Industries is a leading manufacturer of recreational vehicles (RVs) in the country. The company is headquartered in Forest City, Iowa, with a workforce of more than 2,400 people. The production facility in Forest City covers more than 200 acres, which makes it the largest production facility of RVs in the world. Winnebago Industries also has production facilities in Charles City, Iowa, Lake Mills, Iowa, and Middlebury, Indiana. Winnebago differs from several other RV manufacturers because the bulk of the components used in the RVs are produced at Winnebago's main facility in Forest City.

PROJECT BACKGROUND

Winnebago Industries has long been committed to improving their environmental impact. This is the fifth year that Winnebago has participated in the Pollution Prevention Intern Program in order to help with their sustainability efforts. The company's current environmental project is to divert solid waste from the landfill. Winnebago currently diverts nearly 70 percent of their solid waste from the landfill, and the goal of the intern's project is to increase the amount diverted.

INCENTIVES TO CHANGE

RVs are built for people to enjoy the outdoors, and Winnebago is committed to helping their customers enjoy the environment by practicing sustainability and conservation in its manufacturing operations. Winnebago continues to strive towards a goal of Zero Landfill and grows closer each year. The company also recognizes the economic benefits of Zero Landfill. With landfill fees increasing across the state, there is more opportunity for cost savings.

RESULTS

Wood Waste Recycling: Winnebago generates wood waste from broken pallets, packaging, and scrap material from their cabinet production area. Currently all of the wood that Winnebago discards is put into separate containers and is delivered to the landfill. A wood waste recycling company has agreed to take all of the wood waste that Winnebago generates and grind it into mulch and animal bedding. An exterior concrete pad will be constructed to store and separate the wood into various grades, which can then be loaded onto trucks. Recycling their wood waste using this new method could generate significant cost savings for Winnebago.

Stitchcraft Recycling: Stitchcraft is responsible for the upholstery and carpeting in all of the RVs. Kraft paper is used as the backing on certain fabrics to protect it from the conveyer belts. There are also cardboard tubes that the fabric and kraft paper are rolled on. Both the kraft paper and the tubes can be incorporated with the cardboard that is baled at the waste sort facility. By recycling these materials, Winnebago can divert material heading to the landfill and increase their cost savings.

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
WOOD WASTE RECYCLING	$15,000	1,375 tons	RECOMMENDED
STITCHCRAFT RECYCLING	$3,230	28 tons	IMPLEMENTED
BERTHA PLASTIC RECYCLING	$16,200	190 tons	IMPLEMENTED
UPGRADE OIL SEPARATORS	N/A	To be verified	IN PROGRESS

Bertha Plastic Recycling: A waste stream analysis shows that 15 percent of the solid waste exiting the motor home assembly plant was in the form of clear plastics that could be recovered and recycled. The production lines have a process in place for collecting polystyrene generated along the lines, and this process could be extended to the recovery of clear plastics as well. After collection, the clear plastics could be sent to the company's materials recovery facility to be baled along with other plastics collected across the Winnebago campus. Collection and recycling of the clear plastic material from the assembly plant could divert 190 tons of material from the landfill and generate significant cost savings for Winnebago.

Upgrade Oil Separators: The Plastics Building uses 10 vacuum pumps for a number of production operations. The exhaust lines for these pumps are interconnected and lead outside to be discharged. Liquid-gas separators are used to remove oil from the exhaust before it exits the building and the oil is disposed of separately. After analysis, it was determined that these separators are not performing optimally. Separators with a higher performance rating have been ordered and, once installed, will operate more efficiently and capture more of the oil. The environmental savings will be documented when the new separators are operable and the results can be substantiated.