SIVYER STEEL CORPORATION

BETTENDORF

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COMPANY PROFILE

Sivyer Steel Corporation was established in 1909 as one of the first large steel foundries in the United States. The company develops custom steel castings and components for military, mining, energy, construction, railroad, perimeter security, and wear part use. Safety and quality are Sivyer Steel's priorities, with a mission to continually improve products and services to meet the customer's needs. Sivyer Steel operates its Bettendorf, Iowa, plant 24 hours a day, 5 days per week, utilizing 300 employees.

PROJECT BACKGROUND

Metal casting is a complex process that includes several stages. Significant waste is generated throughout the process, including sand, slag, baghouse dust, wood, cardboard, shrink wrap, super sacks, dried paint, and oily water. As a corporate steward, Sivyer Steel Corporation has committed to the long-term goal of adopting Zero-Landfill initiatives. Through the development of waste reduction and recycling strategies, the company will significantly decrease annual spending.

INCENTIVES TO CHANGE

Sivyer Steel has a strong commitment to reducing its carbon footprint, promising to be a safe and environmentally friendly facility for both its employees and for the community. As part of these commitments, a waste management assessment identified areas for improvement. With the goal of a 50 percent decrease in annual waste disposal expenses, a comprehensive waste management plan would include source reduction and reuse strategies. Such a plan would reduce waste disposal costs and environmental impacts by diverting waste from the landfill, along with providing a new revenue stream from the sale of reusable refuse.

RESULTS

Wood Recycling: Wood waste at Sivyer Steel's facility is primarily wooden pallets. Although wood waste at the plant is currently recycled, an audit revealed mixed waste streams. To boost the success of wood recycling, employee training sessions were conducted in tandem with the installation of signage in both English and Spanish to reinforce the policy. A successful wood-recycling program will divert 73 tons of wood from the landfill each year.

Single-Stream Recycling: Although a single-stream recycling program is in place at Sivyer Steel, an audit revealed large volumes of recyclable materials sent to the landfill. Employee training sessions on single-stream recycling were conducted, supported by recycling reference sheets to highlight acceptable materials and recycling bin locations. In order to make the policy convenient for employees, additional recycling bins were installed, and all bins were given a fixed location.

Cardboard, Shrink Wrap, and Super Sack Recycling: Sivyer Steel uses silica, olivine, and chromite sands in their molding process, along with insulating and exothermic sleeves. These materials arrive at the plant with much packaging, including super sacks, shrink-wrap, and cardboard. With the aid of bailers, these materials could be recycled, diverting more than 200 tons of waste from the landfill. Furthermore, this stream, once considered waste, has the potential to be transformed into a revenue stream.

Nylon Banding: Steel bands wrap much of Sivyer Steel's incoming and outgoing materials. To ensure a safe work environment, steel banding should be phased out of use at the facility. Nylon banding could be used in place of steel, reducing safety hazards. Following the transition away from steel banding, a nylon banding recycling program, assisted by a banding chopper, could create profits from a previous waste stream.

Utilization of WTE System: A neighboring facility utilizes a waste-to-energy system in which the solid waste from surrounding industries is incinerated for heat energy. Sivyer Steel's long-term goal of adopting Zero-Landfill initiatives means even unrecyclable items must find a home. Contributing to the WTE system at the neighboring facility could be a more sustainable waste disposal method for personal protective equipment such as dust masks, gloves, and welding jackets.

CONVENTIONAL AIR POLLUTANTS AND GREENHOUSE GASES DIVERTED IN METRIC TONS

From **Implemented** and In **Progress** recommendations

TOTAL FOR ALL SECTORS								
CO_2	SO_2	CH_4	N_2O	CFC	NO_X	VOC	PM_{10}	$MTCO_2e$
								461.00

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
WOOD RECYCLING	$12,854	73 TONS	IMPLEMENTED
SINGLE-STREAM RECYCLING	$747	7 TONS	IMPLEMENTED
CARDBOARD RECYCLING	$16,130	72 TONS	IN PROGRESS
SHRINK WRAP RECYCLING	$1,624	6 TONS	IN PROGRESS
SUPER SACK RECYCLING	$3,487	13 TONS	IN PROGRESS
NYLON BANDING	$2,684	7 TONS	IN PROGRESS
UTILIZATION OF WTE SYSTEM	$3,830	29 TONS	RECOMMENDED