



Zero Waste Working Group
Environmental Sustainability | 2014



Focus: Zero Waste

Schreiber's formal sustainability journey started in 2006. The initial focus of the program was to analyze, set goals and reduce the sustainability impacts at our own locations. Schreiber developed sustainability sub-teams with an internal focus to improve economic, environmental and social sustainability outcomes. Examples of the sub-teams include energy/carbon footprint, water waste, communications, partner welfare, partner safety and supply chain.

Since our sustainability journey started, we learned the sustainability impacts of our suppliers are significant in the life cycle of the products we produce. Schreiber believes in building strong, secure partnerships with our suppliers. We strive to ensure working conditions in our supply chain are safe, that workers are treated with respect, dignity and fairness, and that manufacturing processes are environmentally and socially responsible. To that end, Schreiber is developing and refining a comprehensive and sustainable supplier program, which includes supplier working groups. We believe integrating sustainability throughout the supplier network requires a collaborative approach. Working groups are agile teams of suppliers and industry leaders who face challenges to reduce costs and impacts while sharing best practices. Members of a working group look for innovative solutions with measurable results within a specific period of time.

Each group takes on a specific, well-identified challenge that members frame at the start. Broad and challenging topics may include reducing energy or water use, measuring and reporting carbon footprint, decreasing costs and impact of transportation, logistics, integrating sustainability into corporate culture, achieving zero waste and more. Time commitments of participants are held to a period needed to resolve a particular challenge. If the challenge is defined too broadly, the group will need to narrow its focus so as to accomplish some level of resolution without taking on too much. Working together with Schreiber, individual working groups set their own agenda, timeline and objectives.

With input from our suppliers, the first working group focused on Transportation and was completed in 2013. This is the second working group and focused on Zero Waste. Schreiber, our customers, and our suppliers work to reduce waste on a constant basis, and we believe there are opportunities within the Schreiber network to share knowledge on resources and technologies for reducing waste and recycling. Reducing waste and re-purposing waste is an important sustainability initiative for all of us.

Our customers expect Schreiber Foods to approach or achieve zero waste to landfill. The principles of zero waste are maximizing recycling and minimizing residual waste. Striving for zero waste to landfill can be a powerful, mobilizing sustainability initiative that can also deliver cost savings, provide a new revenue stream, and reinforce efficient operations. The process of zero waste begins with assessing what is currently going into your garbage dumpsters. Sort your waste into different groups by material type, for example: Metals, Plastics, Paper, Other. Then sort down each of those categories and separate by recyclable and non-recyclable. Measure the volume or weight of each waste stream. Identify alternative outlets for those wastes. Constantly strive to identify outlets for material still going to landfill and/or sustainable options for waste already being repurposed.



Zero Waste Working Group

We, at Schreiber, would like to thank the following companies for participating in the zero waste working group and working with us to identify opportunities and increase efficiencies.



Our Process

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Group members included three Schreiber Foods partners, four suppliers, and one industry leader. Suppliers represented areas in our supply chain such as packaging and ingredients. The group started by identifying all of the waste streams that each company generated. After the group gathered all of the waste streams that were identified, group members were assigned waste streams to research further. They looked for alternative outlets or technologies that could be useful to help reduce, reuse, or recycle each type of waste material. Each member then brought the findings to a collaborative session to present and discuss their findings. The deliverables for the Zero Waste Supplier Working Group were:

1. Tracking Tool Best Practice

The Zero Waste Supplier Working Group found that no company involved had a clear best program that was being used to track their waste streams. The consensus was that each company had their own way of tracking wastes that worked for them. The group found that there are many commercially available programs and systems that are used to track wastes; however, the costs to implement were always greater than the benefits that they would generate.

2. All participants have identified outlets (feasible and non-feasible) that could lead to the facility achieving zero waste.

The group used the Resource Renewal Hierarchy (on page 4) to rank the different methods for landfill diversion. This hierarchy chart was developed in collaboration with the Dairy Innovation Center as part of a working group established to identify process indicators. The hierarchy is based on the EPA's Waste Management and Food Recovery Hierarchies, but combines food wastes and material wastes into a single chart. The pyramid ranks landfill diversion options from least preferred at the bottom to the most preferred at the top. The goal is to work up the chart to obtain a more preferred ranking for each waste stream alternative. Once the group quantified and ranked the waste stream alternatives, it discussed the opportunities and possibilities for each material. The alternatives that scored the highest were those that had the technology or capability to be reused or recycled in some form, based upon the Resource Renewal Hierarchy.



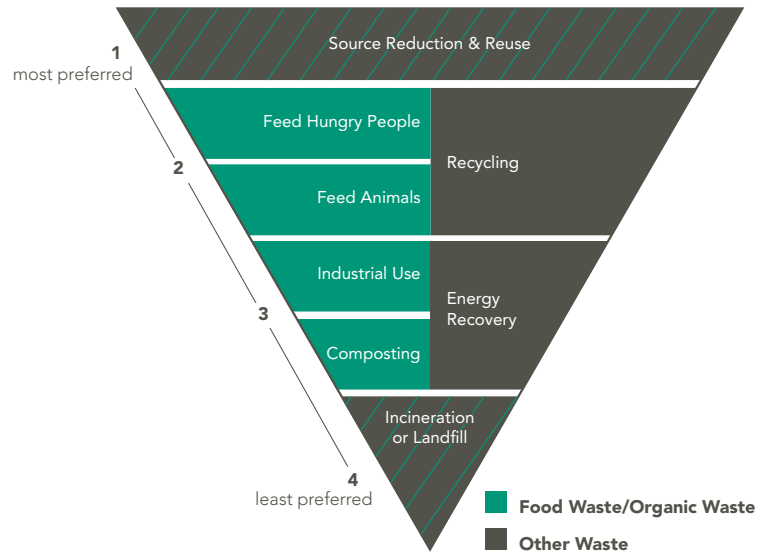
Resource Renewal Hierarchy

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Our Recommendation

The Schreiber Zero Waste Working Group recommends reviewing the list of **Waste Stream Investigations** to identify possible outlets for your current waste streams. Investigate the many websites provided to better understand the opportunities and whether or not this would positively impact your company by reducing waste or re-purposing waste through recycling or reuse. If there are multiple outlets for a specific material, complete a feasibility assessment for each outlet and determine the economic feasibility.

The team suggests using the **Resource Renewal Hierarchy** to determine how an opportunity ranks as a landfill diversion alternative. Develop an action plan to reduce necessary inputs for production and then strive for the highest and best use of the materials recovered by recycling as identified on the pyramid. The Schreiber sustainability working group is dedicated to assisting you in communicating the potential positive impacts within your organization and is prepared to provide you with additional documentation, presentations and analysis to guide you as we continue to strengthen our sustainability partnership together.



Hierarchy Definitions

Source Reduction and Reuse: Reducing waste at its source and preventing before it is ever created; Reusing items rather than disposing of them.

Feeding People: Donating fresh, wholesome food to those in need (e.g. food banks, soup kitchens and shelters).

Feeding Animals: Feeding safe food scraps to animals.

Recycling: The collection of used, reused, or unused items that would otherwise be considered waste; sorting and processing the recyclable products into raw materials; and remanufacturing the recycled raw materials into new products.

Energy Recovery: The conversion of non-recyclable waste materials into useable heat, electricity, or fuel through a variety of processes, including combustion, gasification, pyrolyzation, and landfill gas (LFG) recovery.

Industrial Uses: Rendering fats, oils, and grease and turning it into products or biofuel. Using food scraps for digestion to create renewable energy and a valuable soil amendment.

Composting: Turning food waste and non-food waste (biodegradables & organic materials) into a valuable soil amendment.

Incineration or Landfill: Landfill is a least preferred option, since it does not utilize resources in waste. In addition, landfilled waste can cause contamination of soil and groundwater. Incineration without energy recovery is also least preferred, as it results in the loss of resources or energy content that could otherwise be harvested.



Waste Stream Index

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How to use this guide

For example, if the waste you are trying to remove from landfill is fiber ingredients bags, look up “fiber ingredients bags” in the Index under Waste Stream, shown below, and you will see there are two options available. The first option is for fiber only ingredients bags and the highest diversion option is #2 - recycling. These bags can be recycled at corrugated recycling facilities. If you already have a corrugated recycling program, you can contact your service provider and add these bags. Otherwise, you can contact a local recycler to start a program. The second option is for poly-lined fiber ingredients bags. The highest diversion option for these bags is #3 – Waste to Energy (W2E). You can contact a W2E facility and request a quote to investigate whether or not this is an economically feasible option.

Material	Waste Stream	Landfill Diversion	Hierarchy Ranking	Reference Sites
Corrugated	Cases, sheets	Reuse	1	
		Recycle	2	
	Paperboard sleeves, wraps	Recycle	2	
	Film cores	Recycle	2	
	Fiber drums	Recycle	2	
	Fiber ingredient bags	Recycle	2	
	Fiber ingredient bags-poly lined	W2E	3	
Contaminated	W2E	3		
Polypropylene	Packaging - clean cups, lids, caps	Regrind and reprocess	2	recyclemoreplastic.org
	Packaging - with food	Depkg and repro	2	
		W2E	3	
Banding, strapping	Regrind and reprocess	2		
High impact polystyrene (HIPS)	Yo-cups -rollstock, unused cups	Regrind and reprocess	2	plasticmarkets.org
	Unused cups	W2E	3	
Polyethylene (LLDPE)	Stretch film	Recycle	2	
	Trash bags	Use biodegradable	2	
	Ingredient bags	W2E	3	
Polyester (PET)	Pre forms/bottles	Recycle	2	plasticmarkets.org
High density PE (HDPE)	Drums	Reuse or recycle	1 or 2	plasticmarkets.org
	Bottles	Reuse or recycle	1 or 2	
	Buckets, pails, totes	Reuse or recycle	1 or 2	
	Zipper film cores	Reuse or recycle	1 or 2	
Other plastics	Pallets	Reuse	1	
		Regrind and reprocess	2	
Multi-layer film	Packaging films - clean	Regrind and reprocess	2	
		W2E	3	
	Films w/food residue	W2E	3	
	Ingredient bags	W2E	3	
	Labels	W2E		
	Metallized films	W2E		
Bioplastics (PLA, PET)	Plant bottle	Recycle	2	
	Mylar bags	W2E	3	
Polyvinylchloride (PVC)	Tamper bands		2	vinylinfo.org



Waste Stream Index (continued)

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Material	Waste Stream	Landfill Diversion	Hierarchy Ranking	Reference Sites
Glass	Windows	Recycle	2	
	Bottles	Recycle	2	
Aseptic packaging	Tetra paks	Regrind and recycle	2	
	Juice boxes	Regrind and recycle	2	
Aluminum	Cans	Recycle	2	aluminum.org
Wood	Pallets	Reuse	1	
		Recycle	2	
	Boxes, crates	Reuse	1	
		Recycle	2	
Solid food waste	Scrap cheese	Animal feed	2	
		Digester	3	
	Fruit	Animal feed	2	
		Compost	3	
	Soy fiber feed	Animal feed	2	
	Soy protein powders	Animal feed	2	
	Tea leaves	Animal feed	2	
		Compost	3	
	Yogurt	Animal feed	2	
		Digester	3	
	Cream cheese	Animal feed	2	
Cafeteria wastes	Animal feed	2		
	Compost	3		
Powder products	Animal feed	2		
Liquid food waste	Whey	Animal feed	2	EPA listing of operating anaerobic digester projects: epa.gov/agstar/projects/
		Digester	3	
		Land application	3	
	Syrup	Land application	3	
Ink	Toner cartridges	Recycle	2	
Concrete	Roads, walkways, walls, foundations, etc.	Recycle	2	cdrecycling.org
Styrofoam	EPS, packing peanuts	Reuse	1	epspackaging.org
		Recycle	2	
Bio gas	Burn for steam	W2E	3	
	Landfill gas to generate steam or hot air	Reuse	1	
	Waste water treatment gas to generate steam or hot air	Reuse	1	
Bio mass	Burned for fuel	W2E	2	
	Soy fiber products	Food source	2	
	Soy fiber solids	Animal feed	2	

