

Visions of Sustainable Materials Management

By Jesse Kerns

Amongst whirling conveyor belts and machinery, like something from the world of Dr. Seuss, the tour group approaches a star screen. Made up of axels of rapidly spinning disks, the screen struggles to surf pieces of cardboard along its surface while allowing bottles and other 3-dimensional objects to fall to conveyors below. Wrapped around the discs and flapping like grotesque tumble weeds suspended in space are films (e.g., plastic bags): the bane of most materials recovery facilities (MRFs). Here the tour guide explains to the group that the entire MRF must be shut down multiple times per day so employees can climb down to cut away the accumulation. This puts employees in potentially dangerous situations, stresses the mechanical equipment, and diminishes the throughput capacity of the facility.

This is but one of many challenges that sustainable materials management (SMM) facilities face, and this summer



Quasar Anaerobic Digestion System in Buffalo

the final product. Reuse stores struggle to maintain adequate storage space due to the prodigious volumes produced by deconstruction, residential donation, retail overstock, and manufacturing seconds.

Food banks face similar challenges. In addition to transportation and storage limitations, they are often offered large quantities of food with low nutritional value (e.g., candy). Not only does this compound storage challenges, but it fails to provide those in need with what they need most: fresh, nutritious produce.

The overall picture was not all negative, however. Indeed, not by a long shot.

Facilities visited during the tour series exemplified and demonstrated how numerous varieties and vast quantities of materials can be successfully diverted from the waste stream and given a second, useful life. Traditional recyclables such as plastics, paper, cardboard, aluminum, tin, and more are captured by MRFs and are then sorted, baled, and shipped to manufacturers to be made into new goods. Organic materials including food scraps, yard waste, woody debris, and

other once-living matter are transformed at composting facilities into valuable soil additives, revered by gardeners as “black gold”. And, reuse stores which receive donations of furniture, appliances, building materials, textiles, and other household goods – some of it brand new – provide a discount market for their reintroduction as value-worthy materials, away from the clutches of the hungry landfill.

Seeing these operations first-hand is emboldening, energizing, and inspirational. The inner workings of the facilities featured in this series were witnessed by attendees from all walks of life, including professionals and interested members of the general public. Participants included NYSAR³ members, Cor-



County Waste & Recycling Services MRF in Albany

the Syracuse University Environmental Finance Center (SU-EFC), in collaboration with the New York State Association for Reduction, Reuse, and Recycling (NYSAR³), coordinated a tour series throughout New York State to bring them to light. In addition to MRFs, large-scale composting facilities also grapple with the issue of contamination. Plastics that make their way into the organics stream can clog mixing and screening equipment, and may compromise the quality of



Jefferson County Station in Watertown



nell Cooperative Extension staff, town supervisors, recycling and sustainability coordinators, NYSDEC representatives, educators, students, and others. Reciprocally, the flow of information at each stop was not unidirectional. Not only were tour guides able to offer insights to the pros and cons of their particular operation, but often the attendees were able to offer operational suggestions and professional connections for dealing with certain challenges. These interactions became the heart of the tour series.

Foundationally, SMM facilities provide us with a strategy for reducing waste bound for the landfill and for utilizing beneficial materials more efficiently. However, the thrust of change will ultimately spring from the connections we make and the support we offer one another.

Together we can identify barriers, develop strategies and solutions, and help to cut away the metaphorical clogs in the machinery. By learning from the incredible work that is already being done, and by initiating efforts that still need to be made, we can all contribute to the sustainable management of the materials in which we all depend.

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Did you miss out on this summer's series? Fret not. Additional tours are being planned for this fall and spring of 2017. For information on those upcoming events, please visit: <http://efc.syr.edu/homepage-5/>

Questions regarding the NYS SMM tour series can be also directed to SU-EFC Project Assistant Jesse Kerns at jekerns@syr.edu.



CJ Krantz Organics Composting Facility, in Buffalo (above and below)



Radix Ecological Sustainability Center in Albany