GBB

SOLID WASTE MANAGEMENT CONSULTANTS

WASTE OUTLOOK

Gershman, Brickner & Bratton, Inc. • WINTER 2017-18

In This Issue

Disaster Debris Management Planning – A Community's Best Defense

By Lori Scozzafava, GBB Senior Vice President, Operations Officer

Extreme events like hurricanes, tornadoes, floods, wildfires, ice storms, tsunamis, volcanoes, earthquakes, and acts of terrorism create emergencies that threaten lives and damage property. When faced with emergencies, prepared teams don't have to think about what needs to be done. They follow established protocols that allow them to respond quickly and effectively while simultaneously implementing well-thought-out procedures that will bring normalcy back as soon as possible and mitigating any long-term consequences.

While environmental resource management professionals are not relied upon for rescue operations during natural and man-made disasters, they play critical roles in responding to the events by orchestrating the removal of debris, in a timely fashion, that will minimize the disposal of as much material as possible (preserving landfill space) and insure that the Federal Emergency Management Agency's (FEMA) rule are followed, so that federal reimbursements may be obtained for the cost of the debris handling. This can best be accomplished

Debris Management Plan:
A written document that establishes procedures and guidelines for managing disaster debris in a coordinated, environmentally-responsible, and cost-effective manner.

if advanced planning has been done so that contracts for collection assistance are in place, temporary debris storage facilities have been identified, and processing capabilities have been lined up. The mechanism communities use for pre-disaster planning is to develop a Debris Management Plan (DMP).

Having a DMP allows facilities to respond and resume operations quickly; return the

Continued on page 2

Food for Thought: Organic Waste Processing Industry

By Ljupka Arsova, GBB Senior Consultant

Food waste has been at the top of the agenda of many cities and counties around the US in the past few years. As such, there's an increasing number of initiatives to raise awareness about the amounts being generated; develop strategies to prevent its generation; and develop source separation programs, collection systems and new processing capacity for this kind of materials. In October, I had the opportunity to attend, and present at, the BioCycle Renewable Energy from Organics Recycling (REFOR) Conference, which is affiliated with the American Biogas Council. The conference brings together professionals from public-sector authorities, technology and project developers, consulting firms,

and financing companies. It's a great opportunity to learn from key players in the organic waste processing industry and stay current with the latest industry news.

Key takeaways of the conference, that

Continued on page 3

Reading List

As thought leaders, GBB consultants regularly contribute articles to leading industry publications, sharing insight and information on important topics. Recently published articles include:

Is the U.S. Ready for a Paradigm Shift in Solid Waste Management?

Steve Simmons
Senior Vice President

Waste Today Magazine
November / December 2017

tinyurl.com/SimmonsParadigm


WASTE WATCH

Is the US ready for a paradigm shift in solid waste management?

>> STEVE SIMMONS

At Whatcom and other recent industry conferences, a notable dialogue has been to push forward paradigm shifts toward the circular economy and zero waste as solutions to challenges associated with solid waste management in the U.S. The circular economy implores the waste industry to design its way past the traditional linear "make-take-dispose" model. Zero waste dictates that 90 percent of waste material generated could and should be diverted from disposal through aggressive increases in waste reduction and recycling.

With these buzzwords flying around the industry, it is easy to imagine incorporating these concepts and technologies, but our current national and state policies and economic landscape do not support these widespread changes. Two fundamental factors are holding back the circular economy and zero waste from widespread implementation in the U.S.

First, as a matter of federal policy, the U.S. lacks the framework of incentives and regulatory drivers to lead or force the shift toward a circular and/or zero waste economy. The Resource Conservation and Recovery Act (RCRA) is the regulation by which the U.S. Environmental Protection Agency (EPA) can provide legally enforceable requirements for waste management.

Under RCRA's Subtitle C, hazardous waste is regulated from cradle to grave, including generation, transportation, treatment, storage and final disposal facilities. Under RCRA's Subtitle D, nonhazardous waste landfill disposal is regulated to ensure technical and financial viability. Subtitle D does not have robust mechanisms for the widespread shifts that proponents of circular economy and zero waste concepts are calling for.

Second, solid waste management decisions are made locally and often are based on cost-effectiveness of the proposed solution. About $1 out of every $3 spent on waste management is for disposal. In the U.S., landfill disposal cost currently hovers at $50 per ton. In comparison to the advanced processing and conversion technologies associated with circular economy and zero waste practices, the cost of landfilling underrun the costs of these practices by a wide margin.

The circular economy and zero waste visions are admirable; but, without policy and economic drivers in place, the dream of a widespread paradigm shift in solid waste management in the U.S. is far from reality.

The infrastructure that could provide the diversion called for by circular economy and zero waste advocates is technically viable and becoming more proven through its implementation in European nations but struggles to gain traction in the U.S. for economic reasons.

Buzzwords like circular economy and zero waste are important for driving change; however, current U.S. policy framework and national infrastructure support an industrial economy that encourages linear materials management.

The circular economy and zero waste visions are admirable, but, without policy and economic drivers in place, the dream of a widespread paradigm shift in solid waste management in the U.S. is far from reality.

These shortcomings in the U.S. make me ask what the best solution is moving forward. I personally prefer economic and market-driven approaches.

The big topic of discussion in the media as I write this is the proposed tax reform bill. Could part of the tax reform equation be a tax on waste? In the U.K., landfill taxes are as high as $100 per ton, and they are experiencing a boom in material recovery.

Maybe we should be placing disincentives on things we don't want, such as waste, so that we can provide incentives for what we want: jobs, income and efficiency. National policy drivers could help drive the circular economy forward. If our national policy doesn't change, we are left with hoping that states and private businesses will come forward with better policies. wt

Defend Against China's National Sword: Rebuild. Renew. Recontract

Lori Scozzafava
Senior VP, Operations Officer

Waste Today Magazine
September / October 2017

tinyurl.com/ScozzafavaSword


WASTE WATCH

Defend against China's national sword: Rebuild. Renew. Recontract.

>> BY LORI SCOZZAFAVA

The recyclables market is about to undergo an enormous change. The Chinese government has targeted certain scrap materials from being imported in the future. Given that scrap is the U.S.' biggest dollar value export to China, limiting imports to the country could be a game-changer for the U.S. recyclables material market.

Although the Chinese government began its crackdown on imports in 2013 (Operation Green Fence) by rejecting loads of scrap material that simply did not meet certain standards, all out bans of certain recyclables recently have been proclaimed and the National Sword customs crackdown has been underway since earlier this year. The most recent announcement (Announcement No. 39 of 2017) indicated that by Dec. 31, 2017, 24 types of materials, including eight types of postconsumer plastics and unsorted scrap paper, will be banned from import to China.

With imports being rejected at Chinese ports, the supply of source-separated recyclables will exceed the demand for feedstock and likely will push prices down on recyclables in the U.S. The lowest quality materials will be the first to be eliminated, including mixed bales of plastic bottles and bales of plastic film. Even though we know recyclables are commodities that are always responding to market forces that create price fluctuations, the impact of China's import policies could be a full-scale game-changer.

What is the best defense against National Sword and these proposed bans? Rebuild. Renew. Recontract.

Even though we know recyclables are commodities that are always responding to market forces that create price fluctuations, the impact of China's import policies could be a full-scale game-changer.

REBUILD

As the export market tightens, U.S. brokers and buyers of recyclables will demand higher quality materials at lower prices. To stay operating, recyclables processors will want to be in a position to market to these buyers. Having quality materials will secure this capability. There is demand for feedstocks, but the fleet of processors is not yet prepared to supply them. Technological improvements to processing equipment, such as the latest screens and optical sorters, will make it possible to produce these higher quality outputs. The time is now to upgrade material recovery facilities (MRFs) with this newer equipment to ensure that recyclables can find a market in the U.S. at a price that sustains operations.

RENEW

It is important to have a known and secure market for the volumes of recyclables processed, particularly with lower quality recyclables. Therefore, having a strong relationship with the buyer of these commodities is essential. The time is now to renew your relationship with your existing markets. Reinforce your loyalty and establish a long-term contract for your processed materials, perhaps at an indexed rate. This could cement your relationship and help to sustain your operations through the tough times ahead.

RECONTRACT

As part of solid waste management strategies, local governments need to see that recyclables always have a place to be marketed. Transforming curbside recyclables into feedstock for manufacturing, however, requires processing. Some contracts assume revenue from sales of processed recyclables will not only cover the costs of processing, but also will create profit. If National Sword puts downward pressure on U.S. recyclables prices, processors are likely to find themselves running a deficit on certain commodities. If a processor goes out of business, everyone loses. The time is now to think about reconstructing between those that provide curbside recyclables feedstock and their processors. It's recommended that contracts be revisited so the risks are shared and they are more sustainable.

The best defense is a good offense. Consider how you are going to rebuild, renew or recontract to build your shield against National Sword and China's proposed import bans. wt

Links to all recently published GBB articles are available on GBB's website.

Director of Kent County, MI Department of Public Works Testifies before House Subcommittee on PURPA

In early September, Kent County Michigan's Public Works Director, Dar Baas, testified before the Energy subcommittee of the Energy and Commerce committee in the US House of Representatives. The goal of the hearing was to explore whether or not reforms to the Public Utilities Regulatory Policies Act of 1978 (PURPA) are appropriate to respond to a changing energy generation sector. Mr. Baas gave testimony detailing the necessity of Waste-to-Energy (WTE) facilities and more specifically, the need for PURPA to be adjusted to prevent publicly owned and operated WTE facilities from shuttering. He attributes the increase of facilities shutting down to be due to utilities only agreeing to impractical contract lengths or disregarding the value and offering to buy power from WTE facilities at a loss.

During his testimony, he illustrated for the committee how beneficial WTE facilities can be in the U.S.: "The 76 WTE plants located across the nation have a baseload renewable electricity capacity of 2547 MW and generate over 14 billion kWh of electricity per year, avoiding nearly 30 million tons of greenhouse gas. Approximately half these facilities are owned by local governments." Kent County's own WTE plant produced 100,943,000 KWh of electricity and diverted 182,000 tons of waste from the County's landfill in 2016.

GBB is assisting Kent County in developing the master plan for its Resource Park that will house facilities to recover discarded materials, to reuse and recycle the recovered material, and to convert non-recyclable material into intermediate products or to recover the energy value of those discards. This master plan will help to create clear blueprints about how Kent County will move forward and adjust to regulatory and market changes. See the 4-minute testimony of Mr. Baas at tinyurl.com/KentPURPA

Continued from page 1

Disaster Debris Management Planning

community to a working state of normalcy as soon as possible; reduce the impact to the environment; ensure effective use of resources; and comply with local, state and federal regulations. Key elements of a DMP include:

- An overview of the purpose of the plan and how it fits into the community's Emergency Management Plan;
- Identification of the types of incidents that are likely to occur, with estimates of types and quantities of debris that may be generated;
- A description of how debris will be collected and removed (specifically about removal from private property) and where this material will be stored and processed;
- Pre-prepared public information strategy that ensure residents receive accurate and timely information about procedures, timeframe, rules and guidelines;
- Health and safety precautions that will be implemented to protect workers and residents;
- Environmental considerations that may trigger compliance with environmental and historic preservation;
- An estimate of the personnel and equipment that will be needed and the roles and responsibilities for all involved;
- A description of the monitoring of debris operations and how the jurisdictions will monitor its debris removal contractor at pickup sites, who will perform monitoring, and measures to avoid conflicts of interest in monitoring contracts.

Unfortunately, no matter where one is, it is likely that disasters will occur. Although some locations are more at risk, GBB always advises that a community maintain a regularly updated DMP as part of its emergency management resources. Without such a plan, a community can expect that a disaster will strain its solid waste infrastructure, inefficiently expend resources, and even years after the disaster, it may find itself mitigating damages. To avoid long-term disruptions from a disaster, having a DMP in place is your best defense.

Speakers' Corner

"Waste Conversion Market Update"

In October, GBB President Harvey Gershman kicked off the Renewable Energy from Waste Virtual Conference with an overview of today's waste conversion market, shining a spotlight on existing and emerging technologies, and providing insight on the rapidly developing and dynamic waste conversion industry.

View a PDF of the presentation:
www.gbbinc.com/GershmanREW2017

"Anaerobic Digestion as a Business Opportunity for Tribal Communities"

As part of the Project Feasibility, Feedstock Analyses track, of the recent BioCycle Renewable Energy From Organics Recycling Conference, in Portland, OR, GBB Senior Consultant Ljupka Arsova talked about anaerobic digestion for Tribal Communities and the status of a current project for the Mesa Grande Band of Mission Indians, near San Diego, CA.

View a PDF of the presentation:
www.gbbinc.com/ArsovaBioCycleREFOR2017

Continued from page 1

Food for Thought: Organic Waste Processing Industry

should be of interest to those interested in food waste processing, include:

- Operators of wastewater treatment plants are more than ever interested in accepting organic waste to process with their anaerobic digestion (AD) units. The two most important benefits of doing so are that it allows them to produce enough biogas and electricity to be self-sustaining and operate off the grid, and it saves the local community millions of dollars from not having to build brand-new AD processing capacity.
- The trend of experienced European developers coming to the US is continuing and will make the development of AD facilities less expensive and more reliable as they bring their valuable development/operation expertise acquired in the European Union AD market. This is significant because many AD facilities built in the last 5 years in the US have changed ownership as the initial developers/owners could not financially survive the expensive challenges faced during the development and operations phases of the facilities.
- Investors are very comfortable financing AD projects and have funds to invest, but they are expecting certain contractual arrangement to be in place before they can close financing on a project. Some of the investors are calling for standardization of contracts because they believe it will make it easier for all the parties involved in a project's development.
- More public-sector authorities are expressing interest in developing AD facilities and implementing organic waste management systems.
- The American Biogas Council launched the Digestate Standard Testing and Certification Program, a voluntary industry-led third-party verification standard for the digestate product of AD facilities. Information can be found at www.digestate.org.
- Renewable Identification Numbers (RINs) are credits from generating renewable fuels that are used for compliance under the EPA's Renewable Fuel Standard (RFS) program. Currently, the RINs' value is at a record high of $38/MMBTU (101 For RINs - Paul Green, BioCycle Magazine, November 2017), over 12 times the value of natural gas, making the economics of AD facilities much better when LNG/CNG is the final product instead of electricity. Unfortunately, there is policy uncertainty associated with this since the RFS program is only authorized until 2022, and the renewable fuel mandate beyond that is unknown at this point.

Although so many positive actions and initiatives supporting the organic waste processing industry are happening, we have yet to see it in full bloom. Successfully developing an AD project, or implementing a program for organic waste management, requires long-term confidence and contracts in place – both of which are very challenging at this moment in the US. Nevertheless, there are AD facilities currently under construction/development, the industry is moving forward, and we are all working hard together to make it bigger and stronger.

First Woman on Guam Solid Waste Authority's Collection Crew

Nebi Manglona, a 19-year-old young woman from Dededo, in Guam, is the only female sanitation working at the Guam Solid Waste Authority. Working with the collection crew since August, she is noted for her speed, agility, work ethic and overall efficiency.

Early this fall, she was featured in a Guam Daily Post article at:
tinyurl.com/Manglona

Recent GBB Assignments

In the past few months, GBB has been selected for several new assignments, including:

- **Development of Master Plan for Resource Park**
  Kent County, MI
- **Wage Study**
  Kent County, MI
- **District Energy System Expansion Support**
  Metropolitan Government of Nashville and Davidson County, TN
  (as subcontractor to FVB Energy Inc.)

We very much appreciate the opportunity to assist these clients with their needs.

Assisting with Hurricane Recovery

American Red Cross

In recognition of the immense damage brought by hurricanes Harvey, Irma, and Maria to our southern states, especially Florida and Texas, and to Puerto Rico, GBB has donated $1,000 to the Red Cross for the relief and recovery efforts. We encourage those who can to also contribute and donate via www.redcross.org/about-us/our-work/disaster-relief/hurricane-relief.

The American Red Cross is using donor dollars to provide shelter, food, comfort and emergency support for individuals and families affected by the hurricanes. Financial donations are used to help people recover and get back on their feet in the challenging weeks and months ahead.

GBB

SOLID WASTE MANAGEMENT CONSULTANTS

2010 Corporate Ridge
Suite 510
McLean, VA 22102
703.573.5800
Fax: 703.698.1306

www.gbbinc.com

Renewable Energy from Waste Conference Proceedings Streamable Online

The 5th edition of the Renewable Energy from Waste (REW) conference, the premier waste conversion industry event, took place in early October. Originally scheduled to take place in Fort Myers, FL, the event became a free online virtual conference following Hurricane Irma, and a donation was made to hurricane relief.

RENEWABLE Energy FROM WASTE CONFERENCE

As in previous years, the unique conference provided attendees with information on a wide variety of options - because no one waste conversion technology or fuel product is the solution for everyone. From their desks, attendees of the 2-day webinar heard about technologies that handle various waste streams, from organics to industrial to municipal solid waste. Beyond the technologies themselves, attendees heard about the planning, permitting and market conditions that are essential to successful projects.

As a great, and free, learning opportunity, the content of the 8-hour conference can now be viewed on the REW conference website at www.rewconference.com/video:

Waste Conversion Industry Update (95 minutes)
An overview of today's waste conversion market followed by presentations from those companies and municipalities that are implementing high-profile waste conversion projects.

Lessons from Abroad (42 minutes)
Technology being applied to waste processing systems in Europe are successfully producing solid recovered fuel and organics for anaerobic digestion. How can these advanced processes be applied in the US? This panel has the answers.

Developing RDF Processing Systems & Creating Demand (46 minutes)
Domestic development of waste-to-fuel processing systems can be successful as technologies to process municipal solid waste and residuals from material recovery facilities are advancing. Find out how from those producing the fuel and those consuming it.

Closing the Loop with RNG (45 minutes)
Disposal companies are fueling their collection trucks with the waste they collect, creating a true closed-loop system. This session explored how companies have been able to accomplish this with processes such as anaerobic digestion, which creates renewable natural gas.

The Lee County Success Story (59 minutes)
Learn how Lee County, Florida's integrated waste management system has experienced decades of success with a waste-to-energy facility and a robust recycling programs working in tandem. The integrated approach has allowed the county to generate electricity, earn revenue from recycling, and reduce the amount of waste going to landfills.

Expanding Waste Management Systems Toward a Circular Economy (62 minutes)
In this panel discussion, speakers who have experience in implementing waste conversion projects provided practical advice on how to properly, and successfully, move forward a waste conversion process.

Tech Talks (62 minutes)
Learn about what is happening at the research level to bring further acceptance of waste conversion technologies into solid waste management. The research being shared during this session will shape the future of the industry.

Financing Strategies for Waste Conversion (58 minutes)
Speakers offered effective strategies for securing financing for waste conversion projects.

The event, created by Waste Today and Recycling Today Events, in association with GBB, is the leading conference exclusively centered around waste conversion and will be back with its 6th edition in 2018. Stay tuned for announcements about the date and venue!