



**SOLID WASTE
MANAGEMENT
CONSULTANTS**

WASTE OUTLOOK

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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

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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

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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



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

Lori Scozzafava
Senior VP, Operations Officer
Waste Today Magazine
September / October 2017

tinyurl.com/ScozzafavaSword



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

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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



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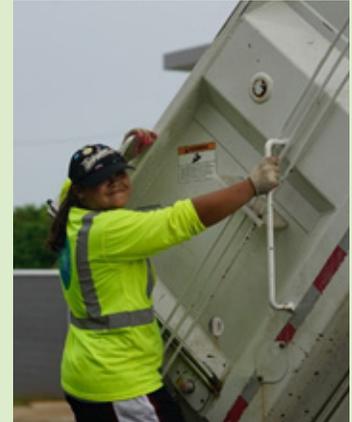
Food for Thought: Organic Waste Processing Industry

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

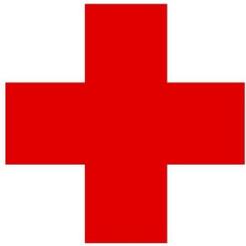
Recent GBB Assignments

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.



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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.



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!