



WM Organic Recycling Solutions

US Composting Council Conference

Presented by Eric Myers
Director of Organic Recycling Operations
Waste Management
January 25, 2011



Think Green.® Think Waste Management.



Think Green!



WM Statistics

- WM manages **over 92 million tons** of materials annually
- WM is North America's largest residential recycler, annually managing over **8.5 million tons of traditional recyclables commodities** per year
- WM estimates that **30-35 million tons are organic** in nature from the materials we manage (excluding recycled paper, OCC, etc).
- **Over 750,000 residential** yard and food waste collection customers
- WM currently manages **over 1.25 million tons of organics to beneficial uses** including composting, mulch operations
- Currently operating **34 Organics Facilities**



WM Tomorrow

Re-Envisioning the Nature of “Waste”

- **We don’t manage “Wastes,” we manage “Resources.”** WM’s approach is to focus on developing sustainable solutions to materials management... socially, environmentally, and economically sustainable solutions.
- **WM is striving to minimize our customers’ and our own impact on the environment, and to maximize the value of the materials we manage.** To be sustainable, these solutions must meet the varying needs of the communities and customers we serve across the country.

WM’s Goal:
To minimize environmental impact and extract the highest value from the materials we manage



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WM Supports Locally Controlled Organics Program Management

Yard waste management in **Florida:**

A yard waste ban has been in place for 15 years. While 3.4 million tons of yard waste are collected annually, only 1.5 million are beneficially reused - most ends up in C&D LFs without GHG emissions controls. HB 569 was narrowly focused legislation that allows disposal of yard debris in Class I landfills - only if the landfills have gas capture systems that beneficially use the gas. The legislation was supported by local communities and was approved virtually unanimously.

Yard waste management in **Georgia:**

A yard waste ban has been in place for 18 years yet only 4% of municipalities report that they are composting their yard debris, while 28% reported they are going to inert landfills, and 15% reported they are going to solid waste landfills.

Foodwaste management in **San Francisco:**

Starting in 1996, provided technical assistance, funding, program planning & implementation food recycling. As infrastructure and end markets developed, the program expanded, culminating in a ban in 2010.

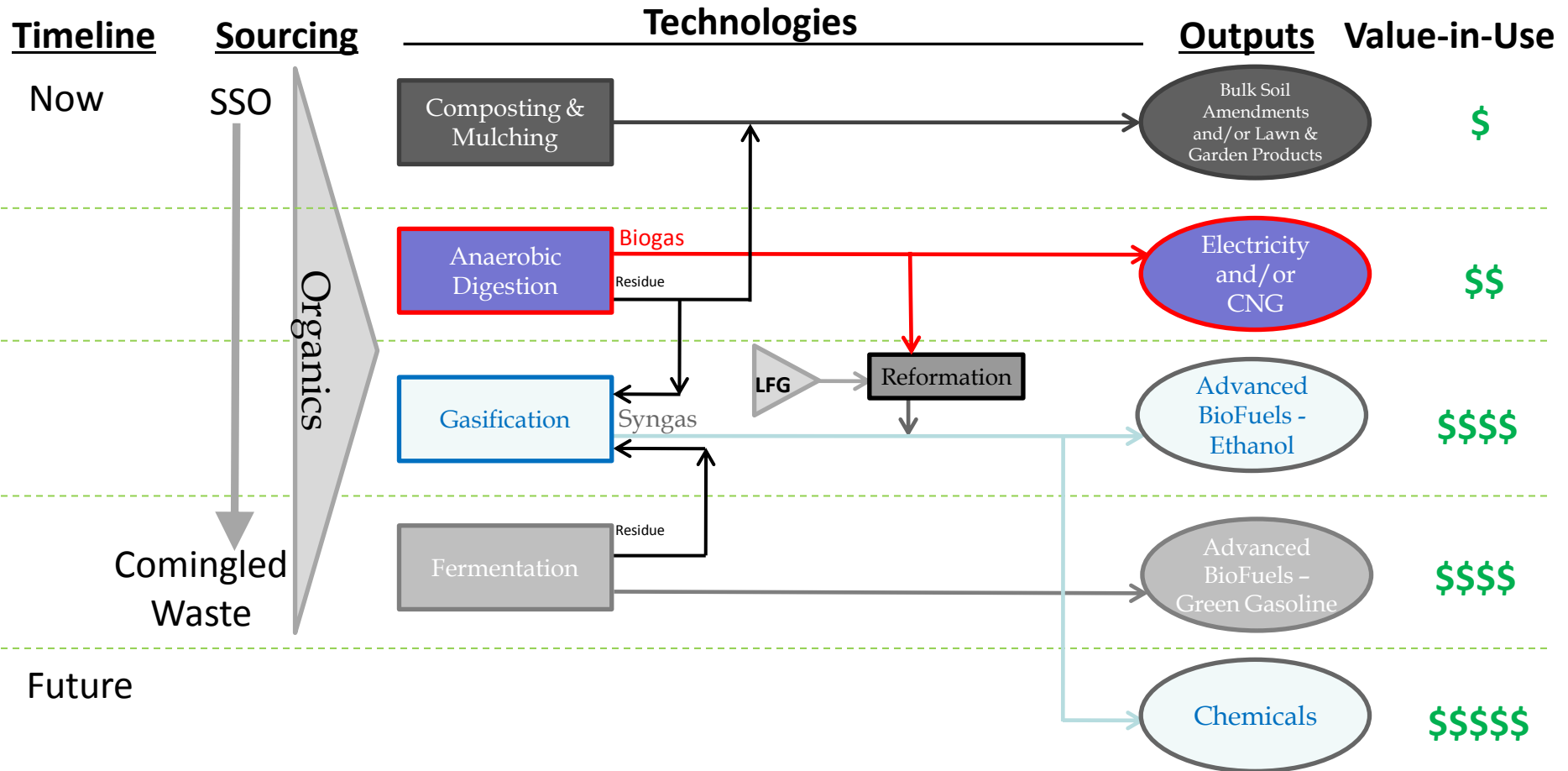
Think Green:

WM's Approach to Organics Management

- **WM supports a broad range of organics management processes and technologies** to meet the varying needs of the customers and communities we serve. This applies to variations by customer type as well and regional differences.
- **WM is growing its portfolio of organics processing solutions** - we are accelerating efforts to develop additional composting operations throughout the US, as well as investing in other organics processing technologies - energy, fuel, and even non-fossil fuel based chemicals. *These solutions will continue to evolve as new technologies emerge.*
- **WM supports robust environmental permitting and operating requirements** when creating organics management policies and regulations to ensure protection of air, soil, surface and groundwater.
- **WM supports organics bans when there is well developed plan and appropriate infrastructure in place to support proper management** including rate incentives, convenient collection systems, public outreach, and the development of processing infrastructure and end product markets.

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WM's Focus on Value Creation of the Organics Material Stream



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Local Organics Processing - Wood

Wood is **Re**covered at our Davis Street Construction & Demolition MRF in San Leandro

Clean wood is then shipped to our Tri-Cities Facility where it is ground and colored for sale as mulch



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Green Waste & Food Composting – San Leandro and Novato

WM's HomeGrown™ Compost is US Composting Council certified and produced in Novato, CA from local residential food scraps and yard trimmings.

We follow a rigorous quality control process beginning with the initial grinding and blending of materials to windrow turning and final ¼” screening to ensure highest quality compost

WMEARTH CARE™ LANDSCAPE CENTERS: BAY AREA LOCATIONS DELIVERING THE BAY AREA'S FINEST



- Fremont**
7010 Auto Mall Parkway
Fremont, CA 94538
510 624 5910
- Livermore**
10840 Altamont Pass Road
Livermore, CA 94551
925 455 7300
- Morgan Hill**
910 Coyote Creek Golf Drive
Morgan Hill, CA 95037
408 779 2206
- Novato**
8950 Redwood Highway
Novato, CA 94948
415 892 2851
- San Leandro**
2815 Davis Street
San Leandro, CA 94577
510 838 2303
- San Jose**
15909 Guadalupe Mines Road
San Jose, CA 95160
408 268 1670



WM Recently Announced Organics Processing Operations

Food & Organics Recycling, Orange County, CA

- First of its kind bio-separation system in Southern California
- Processes food wastes and other organic materials to create a slurry which can be used as a feedstock in anaerobic digesters and other green end-uses
- WM proprietary design using modified equipment from an Italian Manufacturer



Compost Facility, Okeechobee, FL

- WM's first dedicated compost facility to manage food waste, leaf and yard trimmings, and clean wood waste from commercial and residential customers in Southern Florida
- Eight acre site using windrow and Engineered Compost Systems technology
- Will create value-added bulk and bagged lawn and garden products.
- Operations begin Spring of 2011.



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WM Investments - Garick, LLC.

In 2010, WM made a majority equity investment in Garick LLC-Leading Manufacturer, Marketer, and Distributor of Organic Lawn & Garden Products

- **Existing Composting, Grinding, and Bagging Operations**-Atlanta, GA; Charlotte, NC; Decaturville, TN; New Milford, CT; Springfield, OH; Topeka, KS
- **Variety of Organics Materials Processed** - Residential & Commercial Food Wastes, Yard & Wood Wastes, Ashes, Manures, Other Organic Materials
- **Excess Processing Capacity** - Currently process 500,000 tons, have processing capacity of up to 1 million tons
- **Established Product Line** - Compost and Soils, Nursery/Greenhouse Growers Blends, Soil and Mulch Products, Recreational Surfacing Products
- **Strong Product Distribution Network and Product Markets**



Garick LLC.

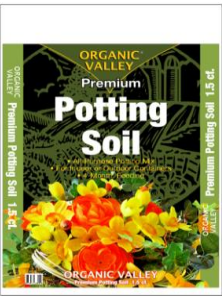
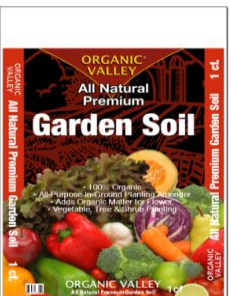
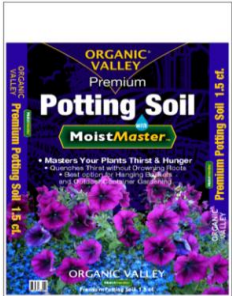
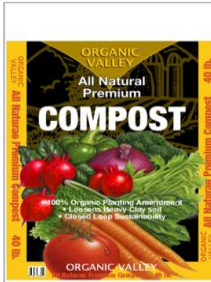
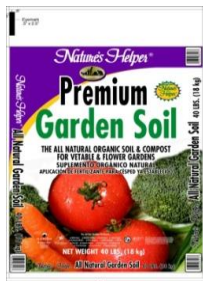
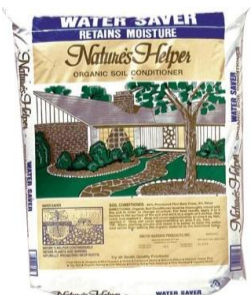
Processing & Bagging - Paygro Facility Springfield, Ohio



Ohio's largest
permitted organics
and food composting
facility



Lawn & Garden Products & Brands



Garick LLC.

Lawn & Garden Product Customers



BEST SAND

Big River Industries, Inc.



JOHN DEERE
LANDSCAPES



GARICK
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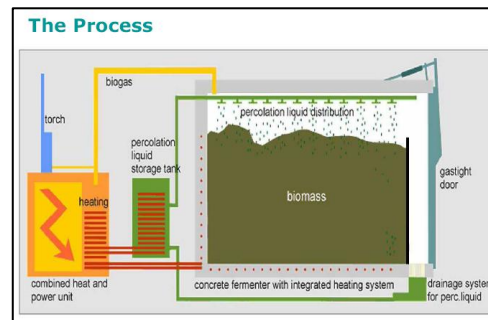


WM's Technology Partners

Harvest Power

In 2010 WM invested in Harvest Power - Harvest Power builds “next-generation” organic waste management facilities; recently named “Emerging Company of the Year” by the New England Clean Energy Council.

- **HP employs innovative and emerging technologies** to build, own and operate state-of-the-art facilities that produce renewable energy and soil enhancement products from discarded organic materials.
- **High-solids anaerobic digestion** - HP and WM are working on digestion projects to create clean biogas and nutrient rich compost through anaerobic digestion (biogas to power), composting, and product marketing.



WM's Technology Partners - Terrabon

In 2009, WM invested in Terrabon. Terrabon uses an acid fermentation process that converts biomass into organic salts, that can then be converted to a high-octane gasoline

- **Variety of Organics Materials Processed** - Residential & Commercial Food Wastes, Yard & Wood Wastes, other Organic Materials
- **Process creates a “green transportation fuel”** - can be blended directly into a refiners’ conventional fuel pool, avoiding many of the blending and logistics challenges presented by ethanol
- **Pilot plant currently operating in College Station** - in cooperation with Texas A&M University and Valero

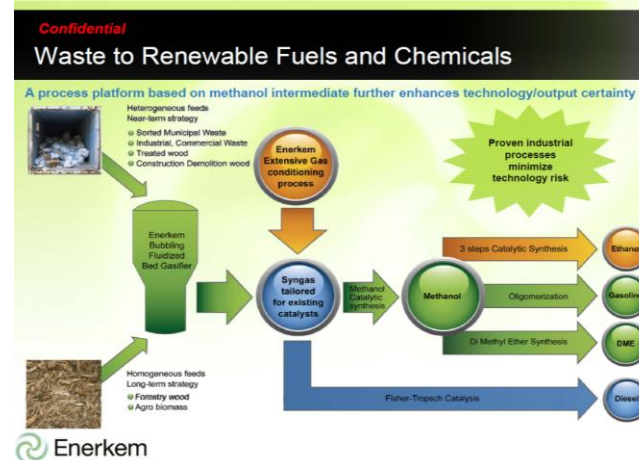


TERRABON
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WM's Technology Partners - Enerkem

In 2010, WM invested in Enerkem, a Canadian company that uses thermochemical technology to convert waste materials into advanced biofuels.

- Enerkem uses a fluidized bed gasification technology to process diverse carbon-based feedstocks, including sorted Municipal Solid Waste, construction and demolition wood, agricultural and forest residues
- Currently producing methanol and ethanol from syngas derived from waste organics and plastics in Westbury, Quebec
- 500 tpd plant in Edmonton, Alberta - Construction began in mid-2010, operational 2011



Thank You!



www.wm.com/sustainability/index

