


Solid Waste Feedstock

Presented at:



Biomass Summit

Feedstock • Co-Firing • Finance & Investment

October 19, 2009



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Agenda


1. Solid Waste Feedstock Supplier Overview
 - By Harvey Gershman
2. Solid Waste Landfill Owners' Perspective Panel Discussion
 - Johnny S. Poore, Executive Director, Lamar County (GA) Regional Solid Waste Authority
 - Ed Repa, Ph.D., Director, Environmental Programs, National Solid Waste Management Association (NSWMA)
3. Discussion



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Solid Waste Feedstock Supplier Overview

Presented at:



By:
Harvey Gershman, President
Gershman, Brickner & Bratton, Inc.

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Agenda

1. Background on Solid Waste
2. Solid Waste Sites Available for Development
3. Site Characteristics for Economic Viability
4. Ownership Structures of These Sites
5. Establishing Relationships with Site Owners
6. Trends in the Structure & Terms of Supply Agreements
7. Questions & Answers



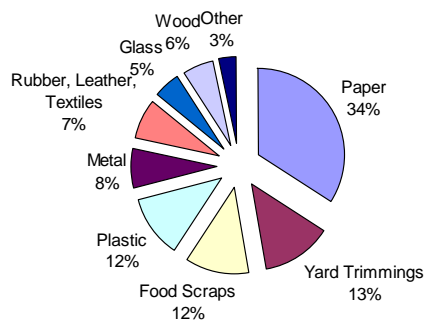
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1. Background on Solid Waste



Waste Facts

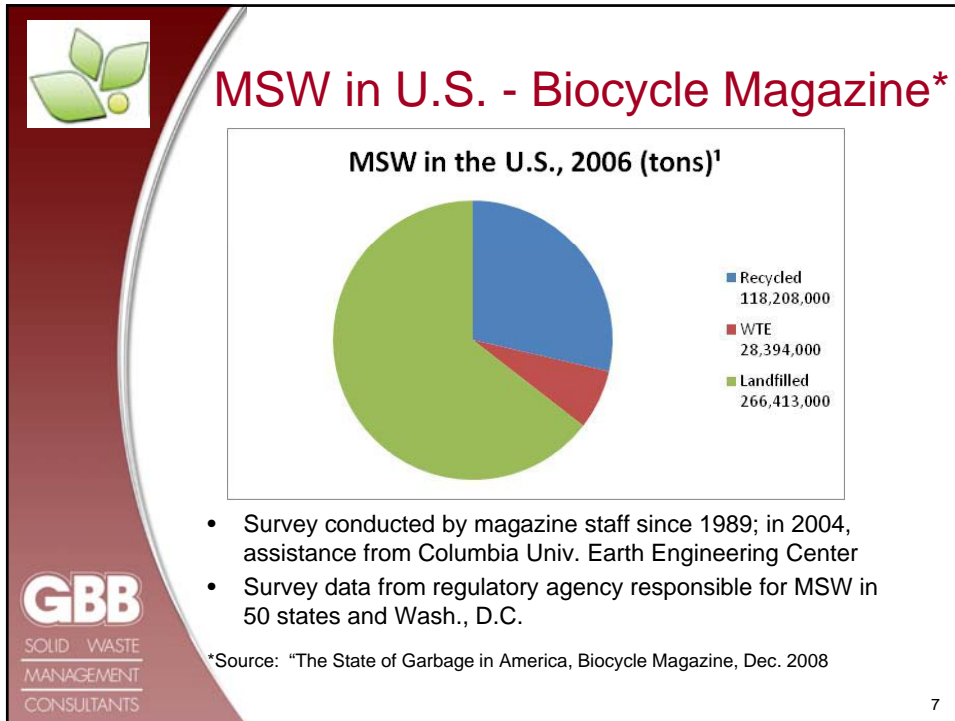
- Each person in U.S. today generates 1,606 lbs. per year
 - In 2010, to grow to 1,752 lbs. per year
- What is in our waste?
 - Recyclables
 - Feasible now to recycle up to 50-70%
 - Energy content of remainder: 5,500 BTUs per pound
 - Coal at 9,000 BTUs per pound



Total: 245 Million Tons (Before Recycling)

Source: US EPA, 2005 data





U.S. Solid Waste Management Programs/Facilities*


Program/Facilities	2000	2002	2004	2008
Curbside Program	9,709	8,875	7,689	**
Yard Trim Facilities	3,846	3,227	3,474	**
Landfills (MSW)	2,142	1,767	1,654	**
Incineration	132	107	109	**
Landfills (C&D)	1,825	1,931	1,574	**
Transfer Station	3,970	3,895	3,744	**

*Source: BioCycle, State of Garbage; various years

** Watch for publication in near future


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Regulations and Trends

- Federal
 - Resource Recovery and Conservation Act
 - Resource Conservation Challenge (RCC) – 35 percent recycling priority
 - Waxman-Markey Bill
H.R. 2454 Substitute (proposed) – renewable energy requirements and carbon credits
 - Executive Order 13514 - "*Federal Leadership in Environmental, Energy, and Economic Performance*"
 - 50-percent recycling and waste diversion by 2015
 - Using printing/writing paper containing at least 30-percent post-consumer content
 - Defines "renewable energy" to include landfill gas and derived from municipal solid waste
- States
 - Anywhere from none to 70 percent recycling goals
 - A few states have incineration ban



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U.S. Solid Waste Management Programs*/Facilities Trends***


Program/Facilities	2004*	2008*	2010***	2020***
Curbside Program	7,689	* *	8,000	8,000
Yard Trim Facilities	3,474	* *	3,600	4,000
Landfills (MSW)	1,654	* *	1,500	1,250
Incineration	109	**	109	135
Landfills (C&D)	1,574	**	1,500	1,250
Transfer Station	3,744	**	3,800	4,000

MRFs (per GAA)	2002- 462	2006-539	600	700
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*Source: *BioCycle*, State of Garbage; various years
 ** Watch for publication in near future
 *** GBB, October 2009




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Project Development Time Spans

Type of Project	Time Span (months)
Drop-off Center	3 to 9
Curbside Collection	6 to 12
Materials Recycling Facility	24 to 36
Composting Facility	24 to 48
Waste-to-Energy	60 to 84
Landfill	24 to 60




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- ## 2. Solid Waste Sites Available for Development
- Existing solid waste operations
 - Sites owned by:
 - Public agencies/authorities
 - Private service providers
 - Other
 - Brownfields
 - Utilities (water, sewer, and/or electric)
 - Sand and gravel owner/operators
 - Private owned generally
 - Community and political resistance
 - NIMBY!
 - NIMTO!
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3. Site Characteristics for Economic Viability

- Already owned by the project sponsor
 - Public or private
- Close to waste centroid of service area being served
- Close to destination where waste/recyclables are hauled
 - MRF
 - Transfer Station
 - WTE
 - Landfill
- Rail access contiguous/close by for current or future consideration
- Community acceptance so that implementation timeline is shorted




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Site Attributes

Site For	Attributes
MRFs and Transfer Stations	<ul style="list-style-type: none"> ➢ Proximity to waste centroid and highways ➢ Industrially zoned ➢ Rail access for product shipments ➢ 5 to 20 acres in size
Waste To Energy Facilities	<ul style="list-style-type: none"> ➢ Proximity to energy markets for fuel, steam, chilled water, and electricity ➢ Convenient interconnection to grid and availability of cooling water source ➢ Industrially zoned ➢ Permittable, especially for solid waste disposal and air emissions ➢ Rail access for waste delivery and/or residue feedstock ➢ 6 to 20 acres in size
Landfill	<ul style="list-style-type: none"> ➢ Positive attributes re: wetlands, hydrogeological and groundwater issues ➢ Adequate buffer from neighbors ➢ On site fill material ➢ Rail access for waste/residue delivery ➢ At least several 100s to 1,000s of acres in size
All	<ul style="list-style-type: none"> ➢ Acceptable to political and community concerns ➢ Willing seller/owner ➢ Reasonable price tag



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4. Ownership Structures

Site Ownership	Asset Ownership	Common (Yes/No)
1. Public	Public	Yes
2. Public	Private*	Yes
3. Private	Private	Yes
4. Private	Public	No

* If lease, needs to be longer than debt secured by asset; rules involved if tax-exempt debt



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5. Establishing Relationships with Site Owners

- Outright sale/purchase arrangements
 - Option to purchase common, subject to permitting
 - Agree on a price
 - Subject to fair market value appraisal if public taking involved
- Lease/Royalty arrangements
 - Lease term equal to or greater than useful life and/or term of debt
 - Site returned to owner at end of lease with site in original condition
 - Royalties related to waste deliveries, e.g. \$ per ton
- Host community agreements
 - Financial benefit to hosting jurisdiction or neighborhood
 - For either publicly or privately owned assets
 - Can be a payment in lieu of property taxes or in addition to property taxes
 - Sometimes set by State law
 - Ranges from \$1 to 8 per ton, subject to escalation
 - No or low cost disposal services sometimes included



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6. Trends in the Structure & Terms of Supply Agreements

- With local governments
 - Can be 20 to 30 years
 - Pricing includes price adjustments
 - For WTE, often formularized service fee so that debt service is covered
 - For WTE, when debt and initial term completed, market/negotiated rate with pricing adjustments
 - For MRF services, credit for current value of recyclables often included
 - For WTE or landfill, minimum annual tonnage requirements or everything net of recycling in a defined service area
- With private parties:
 - Often spot arrangements at an agreed upon price
 - Terms typically 3 to 5 years with price adjustments and minimum annual tonnage requirements or everything net of recycling in a defined service area



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7. Questions & Answers

Thank You!

Harvey Gershman

President

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Solid Waste Landfill Owners' Perspectives

Presented at:



Moderator:
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Panelists:
Johnny S. Poore, Executive Director
Lamar County (GA) Regional Solid Waste Authority
Ed Repa, Ph.D., Director, Environmental Programs
National Solid Wastes Management Association

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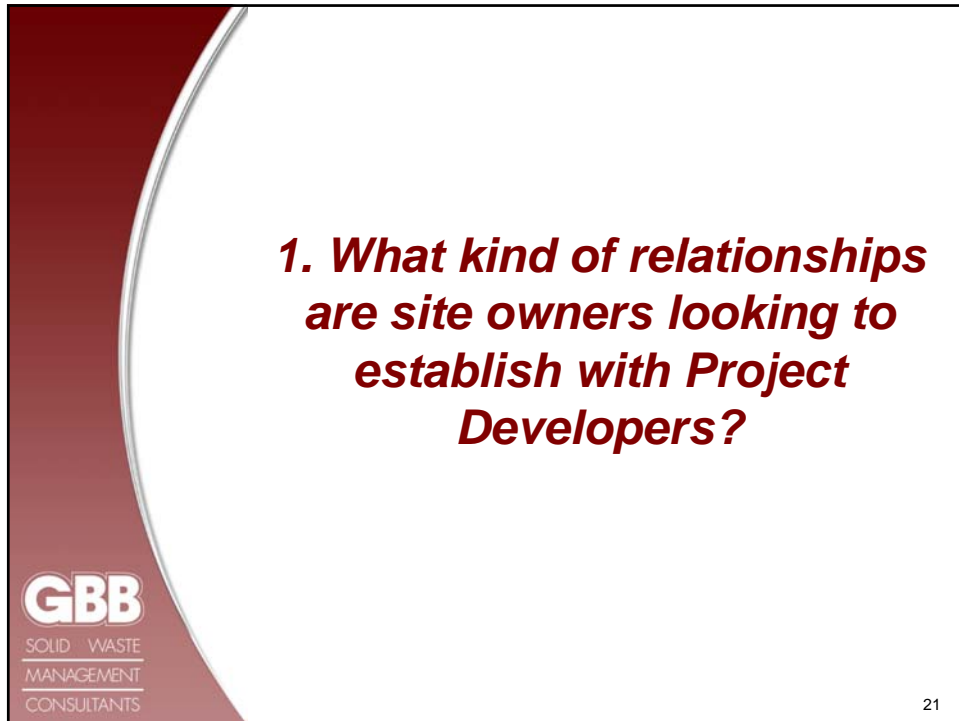


Questions and Discussion





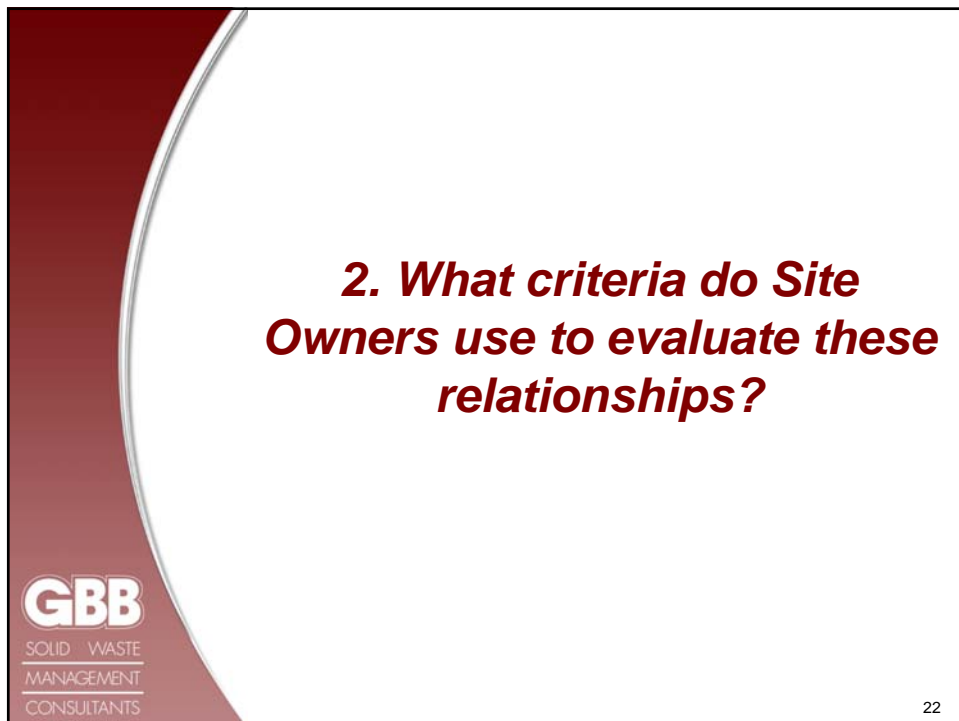
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1. What kind of relationships are site owners looking to establish with Project Developers?

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2. What criteria do Site Owners use to evaluate these relationships?

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***3. What is the best way for
Developers to engage with
Site Owners?***



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***4. What type of LFG
agreements best meet
Site Owners' needs?***



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5. What pricing and agreement term are they looking for?



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6. What are the keys to a successful relationship?



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Questions & Answers

Thank You!

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