EVALUATION OF LONG-TERM WASTE MANAGEMENT ALTERNATIVES

Presentation to the
Orange County Solid Waste Advisory Board

April 2, 2009

Orange County Website: http://www.olver.com/orangecounty/

GBB Report Findings

- Only Waste-to-Energy technologies were recommended for consideration
- Other technologies risky: unproven, uncertain costs, and potential for environmental non-compliance
- Not enough wastes generated to be cost effective (estimated $102 per ton)
- Not price competitive with tipping fee of current landfill, private vendors, or likely the new transfer station

Waste-to-Energy Contacts

- Northeast Maryland Waste Disposal Authority
- Covanta Energy
- Waste Management/Wheelabrator
- Integrated Waste Services Association
- Energy Answers

Northeast Maryland Waste Disposal Authority

- Mass Burn was the only proven, economically feasible technology
- Two new facilities are planned, one new and one a replacement
- Site procurement for the replacement facility began in 2006, the new site took longer due to political opposition
- Once the site procured, vendor selected, financing arranged and the design completed, two years will be required for permitting and three years to construct
- Expect the new facility to take longer to permit due to political opposition
- Found that 500 tpd was not an economically viable size, 900 tpd was marginally viable and 1500 tpd was cost effective
- Facility costs for a 1500 tpd facility will be about $500 million
- Cost difference between 1200 tpd and 1500 tpd capacity was very small

Covanta Energy

- Considers 1000 tpd to be the minimum volume for an operating facility
- Mass Burn is the only proven viable technology for WTE
- Once a site and vendor are selected, financing procured and design complete, estimate four years for permitting and construction
- Covanta develops, builds and operates their facilities
- Representative is tentatively scheduled to speak to SWAB in May

Waste Management/Wheelabrator

- Selected vendor for the new Northeast Maryland facility
- Estimate four years to permit and construct
- Mass Burn remains the only proven, economically feasible technology
- Whether or not Orange County pursues Waste-to-Energy, the transfer station is “inevitable”

Integrated Waste Services Association

- Waste-to-Energy trade organization, representing 69 of the 87 operating facilities in the U.S.
- No new facilities constructed in the U.S. in the last 10 years. There have been some expansions and replacements
- Maryland is about to begin permitting a new facility
- Estimate that facility will take two years to permit, three years to construct

Energy Answers

- Uses Refuse Derived Fuel (RDF), in which the MSW is processed into fuel pellets, which is then used as fuel to make steam and electricity
- Need at least 500 tpd to be economically viable. Expect that Orange County would need to form a regional agreement with others and that the transfer station would still be required
- A 500 tpd facility would cost approximately $200 million with annual operating costs of $6 to $8 million
- Once a site has been selected, funded and designed, estimate four years to permit and construct

Other Contacts

- Plasma Arc
- Duke Energy
- UNC
- IST Energy
- Blue Ridge Environmental Defense Fund

Findings

- Consensus that Mass Burn (including RDF) is the only proven and economically viable waste to energy technology
- GBB, this review and reviews by others find that other technologies are not proven, economically feasible or environmentally reliable
- Minimum viable MSW volume will be 500 tpd, with 1000 tpd or more better, necessitating some Regional Partnering Agreement
- Regional Partnering Agreement will likely necessitate a transfer station if Waste-to-Energy is selected as the long term waste management solution
- Forming a regional agreement, siting, permitting, and building, a WTE facility will take a minimum of 10 years even if actively pursued, more than likely 15 to 20 years

Transfer Station Evaluation
Economic Break-Even Analysis

- Savings in total transfer, haul, and disposal costs = capital cost of transfer station
- Significance:
  - If alternate disposal solution can be developed within the time frame prior to reaching the "break even" – cheaper to direct haul to private sector transfer station.
  - If alternate disposal solution cannot be implemented within the time frame prior to reaching the "break even" – cheaper to build in-County transfer station.

Alternate Disposal Solutions

- Premise – Eliminate Long-Term Need for Transfer Station
  - Sited in Orange County (within 12-mile radius of waste generation centroid)
  - Regional Partners – 500 to 1000 TPD threshold (accept out-of-county waste)
  - Operational within “break-even” window
  - County must be willing to pay higher disposal cost than for out-of-county landfill disposal

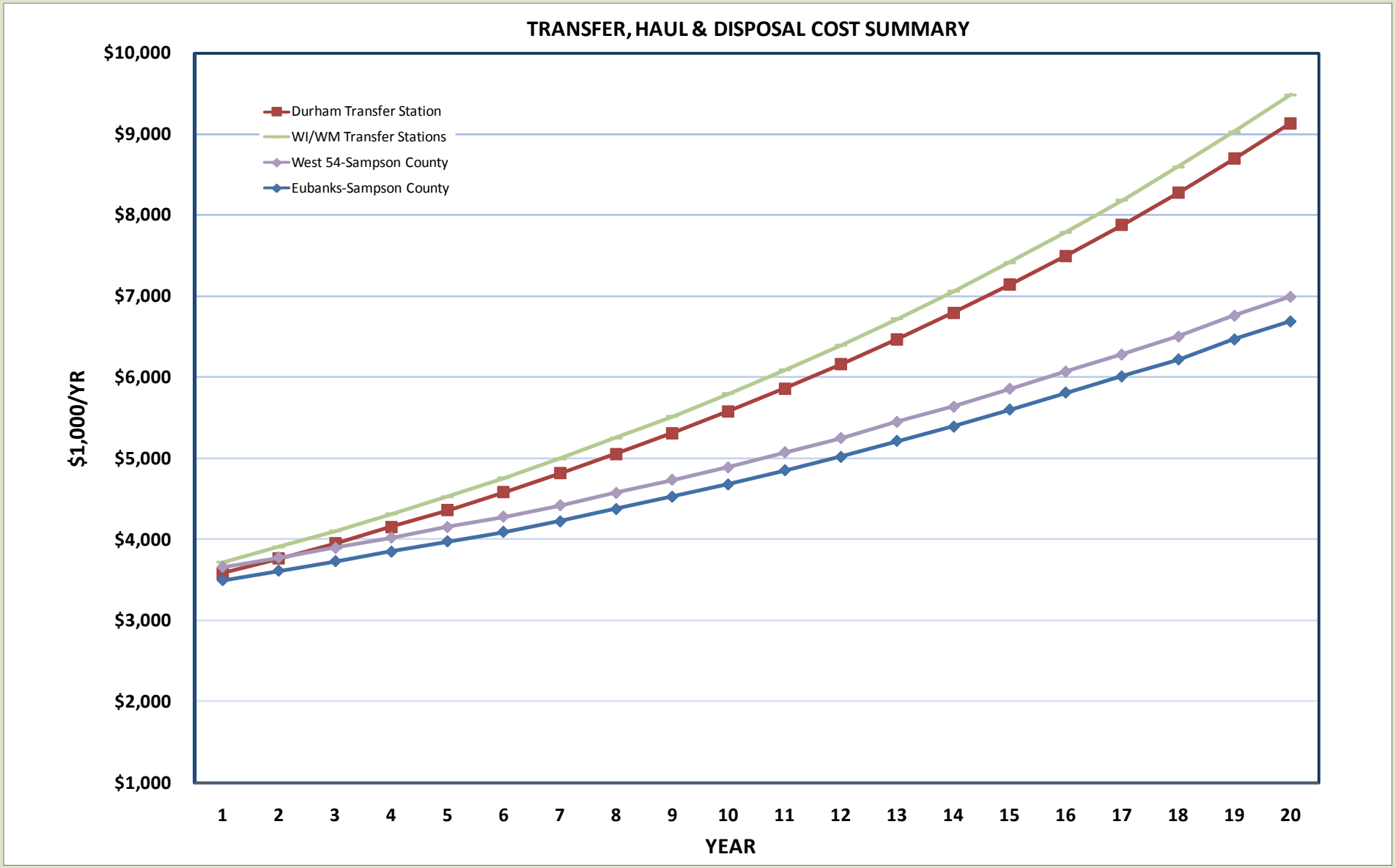
Current Landscape

- WTE (Mass Burn/RDF) only proven technologies:
  - No new facilities constructed within the U.S. within the last 10 years(1)
  - Minimum of 3 to 5 years to permit and construct facility(1)
  - WTE not considered as a renewable energy source in North Carolina(1)
  - Minimum size range – 500 to 1000 TPD
  - $100.00/ton Tipping Fee(2)
- UNC:
  - WTE Alternative being studied – long-term alternative
  - Long Term – 15 to 20 years
- Competing Private Sector Landfill Disposal Capacity

(1) Wheelabrator
(2) GBB Report

Summary

- Break-even point – 10 to 12-year range, depending upon private-sector disposal fee
- UNC Alternative Long-Term – (15 to 20 years)
- WTE:
  - Site Facility in Orange County
  - Establish Regional Partnership
  - Implement Waste Flow Control
  - Potentially Higher Tipping Fees than Out-of-County Landfill Disposal


TRANSFER, HAUL & DISPOSAL COST SUMMARY
$10,000
$9,000
$8,000
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$1,000/YR
Durham Transfer Station
WI/WM Transfer Stations
West 54-Sampson County
Eubanks-Sampson County
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YEAR

QUESTIONS?

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