



# Solid Waste Management Options for the District of Columbia: Sustainability-based Analytics



# Today's Agenda

- **DCDPW State of Play**
- **Strategic Direction**
- **NCAM Model Use**
- **Opportunities from Study Data and Results**

# Today's Take Away

- Now is the opportunity to re-think and re-structure the flow and management of solid materials reflecting a systematic, integrated approach to managing capital and the environment.
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- The District must make informed decisions on choosing a resource management system and operations design that can secure value and return to the DC economy and its citizens in the form of jobs, cost control, renewable energy, energy resiliency, and technological advancement
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# State of Play

- DCDPW Moving Ahead to Incorporate the Mayor's Sustainability Plan and Goals in Operational Strategy and Planning
  - Zero Waste to Landfills
  - Waste Generation reduced by 15%
  - 20% reuse of Construction/Demolition Material
  - 80% Diversion of waste from landfills
  - 50% reduction in Greenhouse Gases
  - 50% Increase in Renewable Energy
  - Recast materials as reusable and extract asset value
  - Ensure capacity and capability for population growth

# State of Play

- With no solid waste processing capacity of its own, the District of Columbia is outsourcing the management of valuable residual assets, and paying to do so (tipping fees, etc, with expiring contracts)
- To meet the Mayor's Sustainability program goals and long-term needs, DPW is identifying environmentally preferable and cost-effective methods for disposition that reward DC first
- Emphasis on recycling has a politically correct *feel* with little empirical evidence of financial or environmental validity.
- The primary focus on traditional recycling options may be foreclosing technology and processes that contribute to multiple goals and targets across the DC Sustainability spectrum

# DCDPW Strategic Direction

- What is the strategy for managing the District of Columbia's solid waste over the next 30 years that is:
  - Fiscally responsible
  - Responds to stakeholders' priorities
  - Addresses sustainable practices
  - Uses the best technologies for the waste stream
- Use both an environmental and financial lens to identify and quantify residual material handling options

# Purpose of the Study

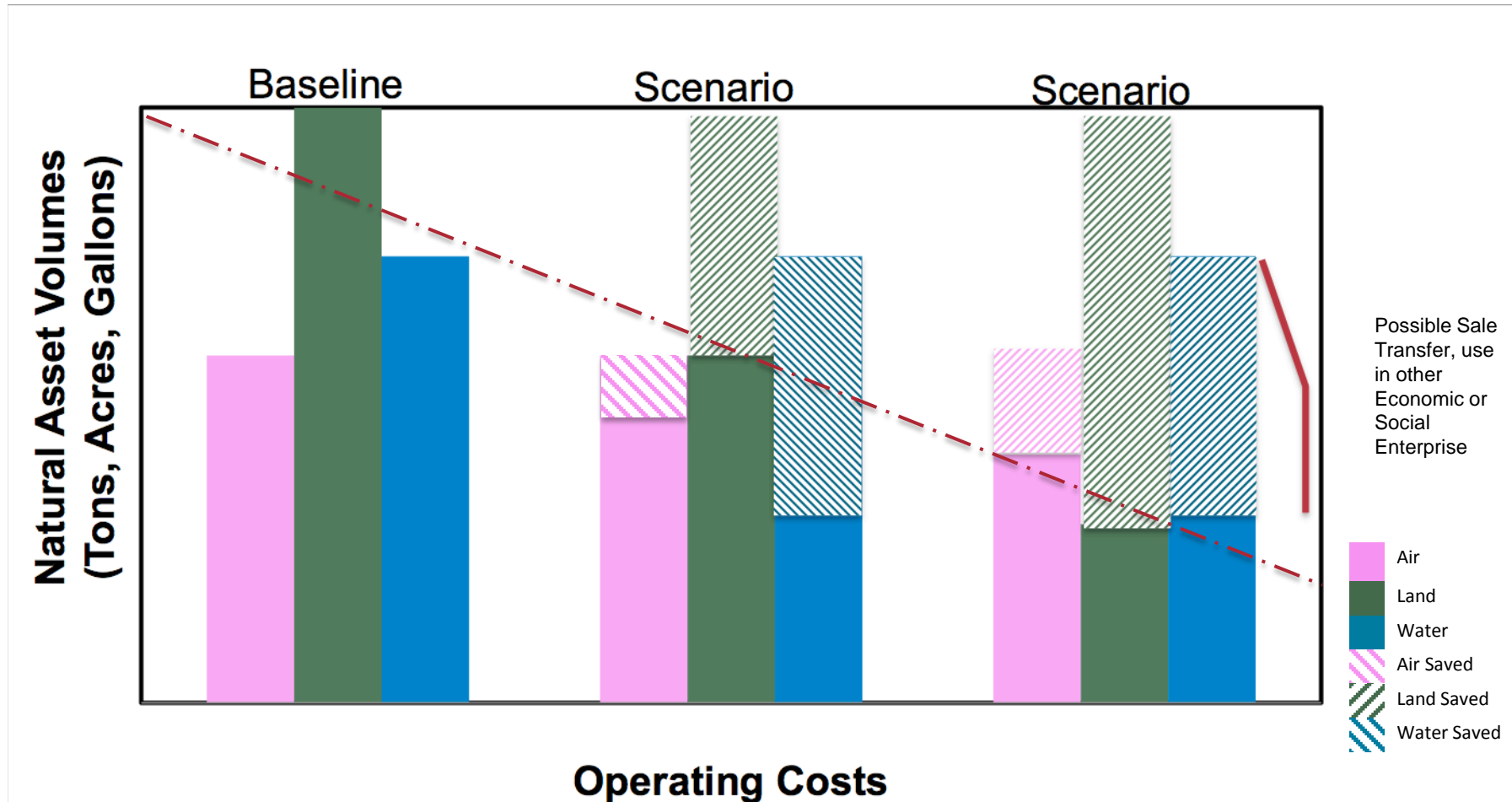
- Develop an analytic framework to evaluate the highest and best use of air, land, water and money in selecting appropriate technologies and or process strategies to manage solid waste over the next thirty years
- Understand and integrate community priorities
- Identify technology and process options that contribute to the full spectrum of DC Sustainability targets and challenges

# The Sustainable Basis for Decision-Making

- Usable supplies of Air, Land and Water are Shrinking Due to Regulation, Conservation and Development
- The District Benefits by Environmentally and Financially Managing Usable Air, Land and Water as Assets
- Natural Capital Asset Management (NCAM) Inventories Used and Reserved Air, Land Water Capacity as Asset with Operational and Potential Market Value.
- These values are the basis of the quantitative analysis applied to current and potential waste management system options to determine the best deal for the District.
- Enables Optimization Decision-Making, rather than Compliance or Avoidance Decision-Making



# NCAM™ EVALUATION ILLUSTRATIVE RESULT



# Opportunities from Study Data and Results

NCAM Study inputs and data will cross-cut with other agencies such as DOE

Stakeholder Participation will likely be of political interest

Technology and process scenario options included for value generation contribute to all DC Sustainability Goals, not just DCDPW (E.g., bankable GHG credits, water use reductions, renewable energy production, reduced fuel use, neighborhood energy sourcing)

Results and Recommendations will identify potential asset, development, offset, financial, and credit market values from all aspects of waste management (reduction to disposition) associated with DCDPW technology and process decision-making as current contracts expire.