“Would it kill you to compost?”
New York City

- 8.6 million people
- 302 square miles
- Surrounded by water
- 1/3 resident foreign-born
- 170 languages spoken
- 27,000 people per square mile
- 70% live in multi-unit housing
- 90% of housing stock pre-dates modern recycling programs
- 50,000 tons of solid waste/day
  - 10-12,000 tons residential
  - 10-12,000 tons commercial
  - 25-30,000 tons C&D
- Density creates challenges and opportunity for efficiency
- Water creates transport options

Lower Manhattan from Brooklyn
NYC Department of Sanitation

- NYC Department of Sanitation (DSNY) responsible for residential waste
- DSNY provides weekly curbside trash and recyclables collection from every household
- Private waste companies responsible for commercial and industrial waste
- Last disposal facility (Fresh Kills Landfill) closed in 2001; 100% dependent on waste export
- Private companies for long distance MSW transport and disposal
- Mandatory residential dual-stream curbside recycling since 1989
- Private companies process and market DSNY recyclables

<table>
<thead>
<tr>
<th>Citywide Aggregate Composition - Residential</th>
<th>Estimated</th>
<th>Estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Percent</td>
<td>Tons/Yr</td>
</tr>
<tr>
<td>Paper</td>
<td>27.0%</td>
<td>834,438</td>
</tr>
<tr>
<td>Plastic</td>
<td>14.0%</td>
<td>431,580</td>
</tr>
<tr>
<td>Glass</td>
<td>4.4%</td>
<td>134,498</td>
</tr>
<tr>
<td>Metal</td>
<td>3.5%</td>
<td>109,288</td>
</tr>
<tr>
<td>Organics</td>
<td>43.9%</td>
<td>1,355,236</td>
</tr>
<tr>
<td>E-Waste</td>
<td>0.9%</td>
<td>27,413</td>
</tr>
<tr>
<td>C&amp;D</td>
<td>5.1%</td>
<td>156,876</td>
</tr>
<tr>
<td>Special Waste</td>
<td>0.4%</td>
<td>12,054</td>
</tr>
<tr>
<td>Misc Inorganics</td>
<td>0.8%</td>
<td>24,467</td>
</tr>
<tr>
<td>Totals</td>
<td>100%</td>
<td>3,085,849</td>
</tr>
</tbody>
</table>
World’s Leading Recycler of Metals & Electronics

- Main Business Divisions:
  - Sims Metal Management – metals
  - Sims Recycling Solutions – e-waste
  - Sims Municipal Recycling – curbside
- Metal recycling operations on five continents
- Electronics recycling on four continents
- Largest curbside program in US – NYC
- ~8.5 million tons/yr of recyclable material
- 240 facilities & 4500 employees worldwide
- 11 deep water export facilities
- Ship by rail, container, bulk ship, truck, barge
Sims Municipal Recycling (SMR)

- Sims (Hugo Neu) began processing NYC curbside in 2003
- In 2008, signed long term NYC contract
- NYC contract includes:
  - 100% DSNY Metal/Glass/Plastic; ~25,000 TPM
  - 50% DSNY Paper; ~14,000 TPM
- Service DSNY with 5 Facilities
  - Brooklyn MRF
  - Bronx & Queens transfer sites (truck-to-barge)
  - Jersey City MRF
  - Jersey City Glass Plant
- Contract term of 20 years from commissioning of Brooklyn MRF; 2 10-year optional extensions
SMR Partnership with New York City

- 4 Acceptance Facilities for DSNY collection trucks
- 2 MRFs
- 1 Glass Plant
- Barge-based movement intra-city between SMR facilities
Queens & Bronx Truck-Barge Transfer

- On Newtown Creek in Queens
- On the Bronx River in Hunts Point
- 400-500 tons Metal/Glass/Plastic (MGP) and 500-600 tons Paper per barge
- Sites also move 100s of 1000s of tons/year of scrap metal to Sims’ main processing and export terminal in Jersey City

Barging Flattened Cars to the Shredder

Barging MGP
Claremont Terminal, New Jersey

Largest Recycling Facility in the World

- +100 acres
- More than 1 millions tons of metal/year
- Processing for 120,000 tons/year curbside recyclables
- Glass plant for all New York City recycled glass
- One of Jersey City’s largest employers
- More than 1 mile of rail siding
- 2,600 feet of bulkhead
- Deep water for bulk ship loading

Claremont Terminal, Jersey City, NJ
Sunset Park, Brooklyn

- 11 acre pier on Brooklyn’s working waterfront
- Long term lease with City of New York
- Barge, rail and truck access
- Architect designed master plan, buildings and Education Center
- 95 employees
- Sustainability
  - Wharf, buildings and equipment elevated 4 feet for sea-level rise
  - 2nd largest solar electric array in New York City (600kW)
  - First commercial (100kW) wind turbine in NYC
  - On site stormwater treatment with native plantings and swales
  - Extensive use of recycled materials
- Technology
  - Slow Speed Shredder
  - Disc and Trommel Screens
  - Ballistic Separators
  - NIR Optical Sorters
  - Magnets, Eddy Currents
  - Air Knives, Screens
  - Balers
Sunset Park MRF, Brooklyn
Recycling Education Center, Sunset Park MRF

- SMR built and operated 8000 SF Education Center
- Interactive exhibits, theatre, and multi-purpose lunch space, bridge to MRF viewing gallery
- 300 tours and 8,500 visitors per year
- Programs for NYC public & charter schools 2nd-12th grade (one of the most popular field trips for NYC school groups)
- College/graduate classes, non-profits, businesses, corporate brand teams, and government delegations
- Monthly open tours for individuals, families, smaller groups, and periodic large-scale events (Open House NY 400+ attendees).
SMR Glass Plant, Jersey City

• Process 10-12,000 tons per month of glass bottles from NYC and NJ residential recycling programs

• Technology
  – Color separation with optical sorters
  – Removal of heat-resistant and leaded glass with X-Ray sorter
  – Removal of ceramic/porcelain with optical sorters
  – Mixed color glass crushed

• Markets
  – Color-sorted glass to container market
  – Crushed glass used as Glass Aggregate
Glass Aggregate

- Crush to -3/8"
- Remove plastic/metal/paper particles
- Structural Fill
- Tree Pits
- Stormwater Filtration (void space)
- Raising sites to new FEMA maps

Stockpiled Glass Aggregate

Stormwater Bio-Swale Construction

Crushed Mixed Color Glass

NYC Tree Pits/Stormwater
NYC Paper

- Pratt Mill, Staten Island
  - Long term contract in 1996 for 50% of NYC curbside paper.
  - Opened 1997: First major manufacturing facility built in NYC in more than 50 years
  - Manhattan Paper barged to Mill via Marine Transfer Station
  - SMR barges approx. 50% of its paper to Pratt from Queens facility
  - Low value consumer when export markets are strong; critical outlet under National Sword and down markets
Thank You