Influence of State Goals and Definitions on Sustainable Materials Management
Analysis of Waste Sustainability Goals

• Why do we set sustainability goals?
• What kind of goals are being set?
• What do the goals incentivize?
• How is success measured?
• What rates are achievable?
• What is the impact of goals?
Policy Goals At a Glance

• Most (43) states have recycling, diversion or waste reduction goals.
Example State Goals

**Increased Recycling**
- (FL): Recycle at least 75% of the MSW that would otherwise be disposed of by 2020
- (IN): Recycle at least 50% of MSW

**Recycling + Composting**
- (OR): Achieve 50% recovery through recycling and yard debris collection by 2000

**Waste Diversion**
- (MI): Find uses for 50% of the MSW stream by 2015.

**Disposal Reduction**
- (TN): Reduce MSW disposal by 25% on a per-capita basis (1995 base year)
Structure of SMM Goals

State Waste Management Goals - Structure

- Incremental
- Numeric with target date
- Numeric or target date

Target date expired
State Waste Management Goals - Language

- Increase Recycling: Number of States = 20
- Recycling + Composting: Number of States = 2
- Waste Diversion: Number of States = 7
- Disposal Reduction: Number of States = 13
“Recycling” is the most common language used in waste management goals:

<table>
<thead>
<tr>
<th>State</th>
<th>Recycling Goal</th>
<th>Target Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>75%</td>
<td>2020</td>
</tr>
<tr>
<td>Connecticut</td>
<td>58%</td>
<td>2024</td>
</tr>
<tr>
<td>Minnesota</td>
<td>35%/50%/75%</td>
<td>2030</td>
</tr>
<tr>
<td>South Carolina</td>
<td>35%</td>
<td>2005</td>
</tr>
<tr>
<td>Illinois</td>
<td>25%</td>
<td>1996</td>
</tr>
<tr>
<td>Maryland</td>
<td>20%/35%</td>
<td>2005</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>10%</td>
<td>2011</td>
</tr>
</tbody>
</table>
Definitions Matter

• Although goals use similar **structure** and **language**, direct comparisons are hard to make due to differences in definitions.

• Definition differences impact:
  1. Which activities are recycling
  2. What’s included in MSW
  3. Recovery system impacts from policy goals
What is Recycling?

18 different definitions of recycling
Language of Policy Goals

State Waste Management Goals - Language

- Increase Recycling
- Recycling + Composting
- Waste Diversion
- Disposal Reduction

Number of States

Increase Recycling
Recycling + Composting
Waste Diversion
Disposal Reduction
Recycling definition can shift material destination and impact sustainable materials management.
The overarching purpose

Why do we set solid waste management goals?

• States cite many reasons, including:
  – Increase sustainability
  – Protect environmental quality
  – Increase recycling participation
  – Reduce carbon footprint
  – Protect public health
  – Maximize beneficial use of materials
  – Reduce materials sent to unfavorable endpoint
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  - Improve data reporting framework
Use waste composition data to understand provide the theoretical maximum material recovery rates:

- Quantify mass of applicable waste components
  - Food waste
  - Yard trimmings
  - Paper
  - Plastic
  - Metal
  - Glass
  - Textiles

- Assume 100% recovery of materials to compute theoretical maximum recycling and diversion rates

Excludes non-recoverable materials
Theoretical Maximum Rates

Maximum rates based on EPA waste composition

- Maximum Recycling Rate (%)
- Maximum Diversion Rate (%)

Year | CA | IN | MD
--- | --- | --- | ---
1995 | 84.8% | 53.0% | 44.9%
2000 | 84.1% | 51.4% | 44.9%
2010 | 83.7% | 43.5% | 43.5%
2012 | 83.6% | 42.9% | 43.5%
2014 | 83.58% | 42.9% | 43.5%
Interlocking Concepts

Adequate data and measurement allows for sustainable decision-making.

Goals prescribe or incentivize various waste management activities and end points.

Goals impact what is measured and tracked.

Data informs what goals are achievable.

Data

SMM

Recycling

Goals
Thank you!

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