

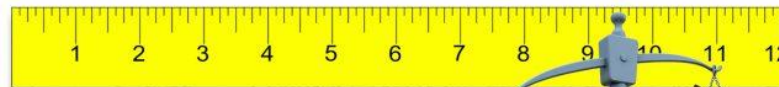


Environmental Research & Education Foundation

Lighting a path to sustainable waste management practices

Influence of State Goals and Definitions on Sustainable Materials Management

Measurement Matters



Summit

Feb 27-March 1, 2018
Chattanooga, TN



Debra L. Kantner
Data & Policy Program Manager

Bryan F. Staley, PE, PhD
President & CEO

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?



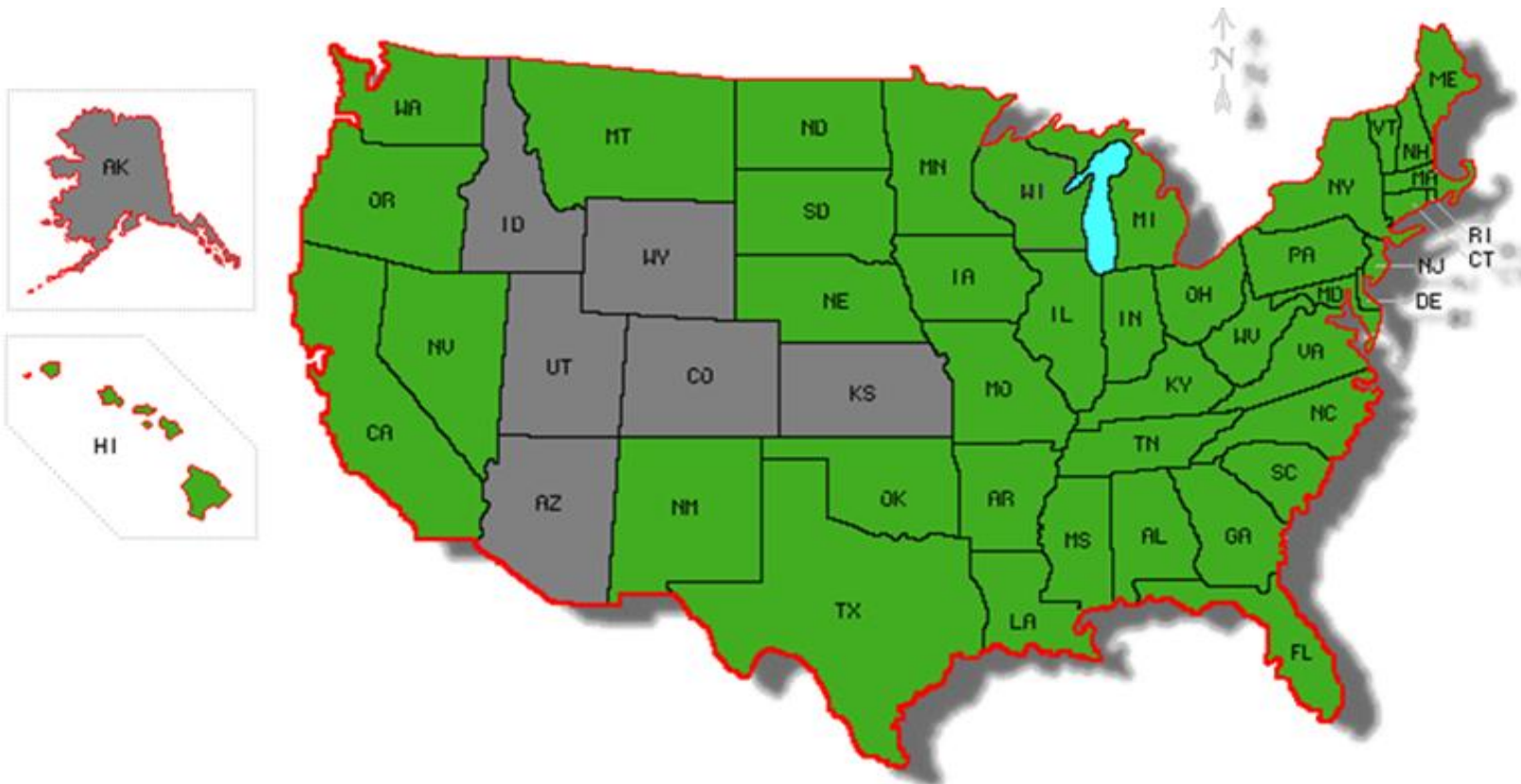
Policy Goals At a Glance



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

- Most (43) states have recycling, diversion or waste reduction goals.



Example State Goals



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

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)

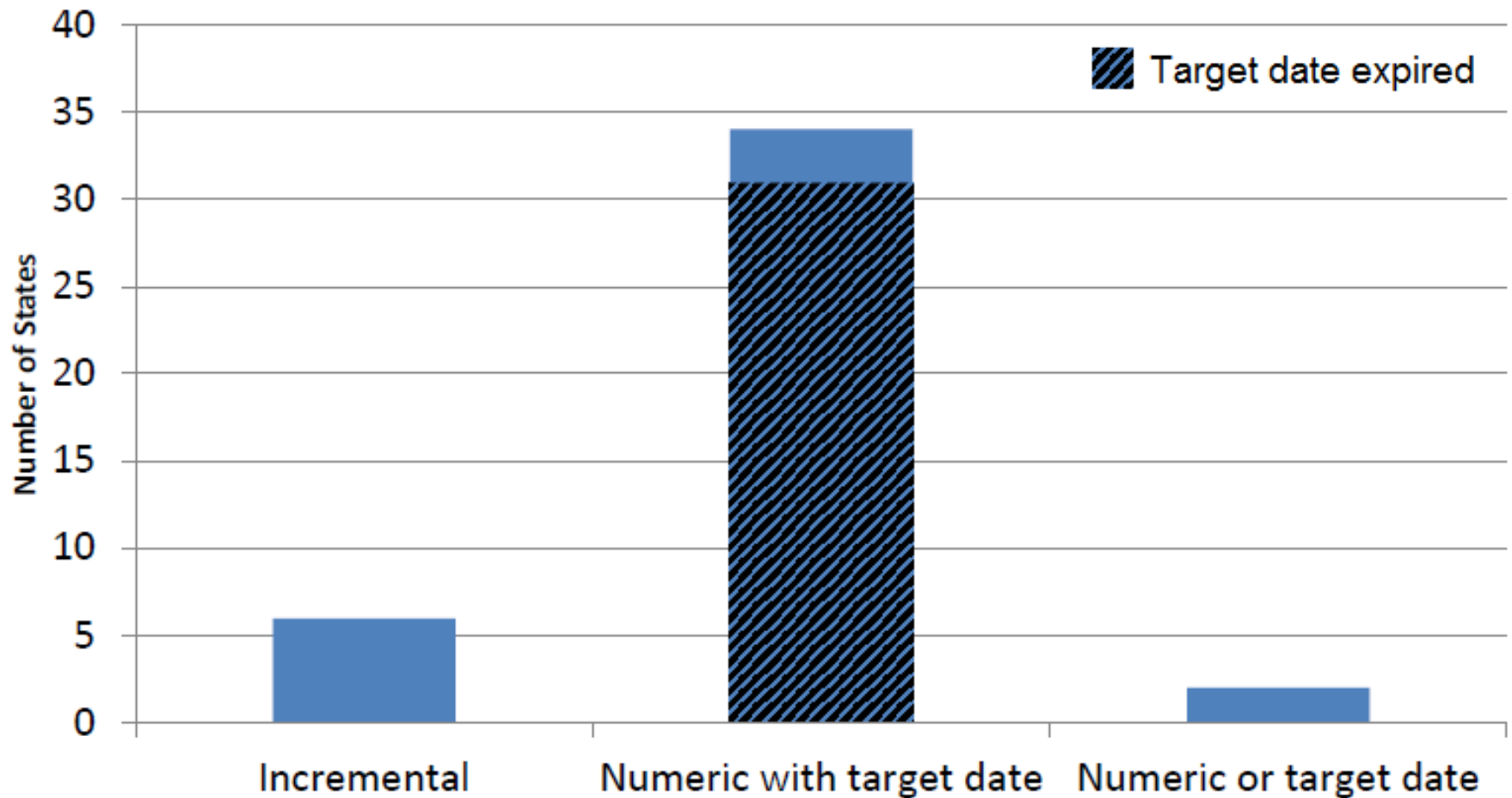
Structure of SMM Goals



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

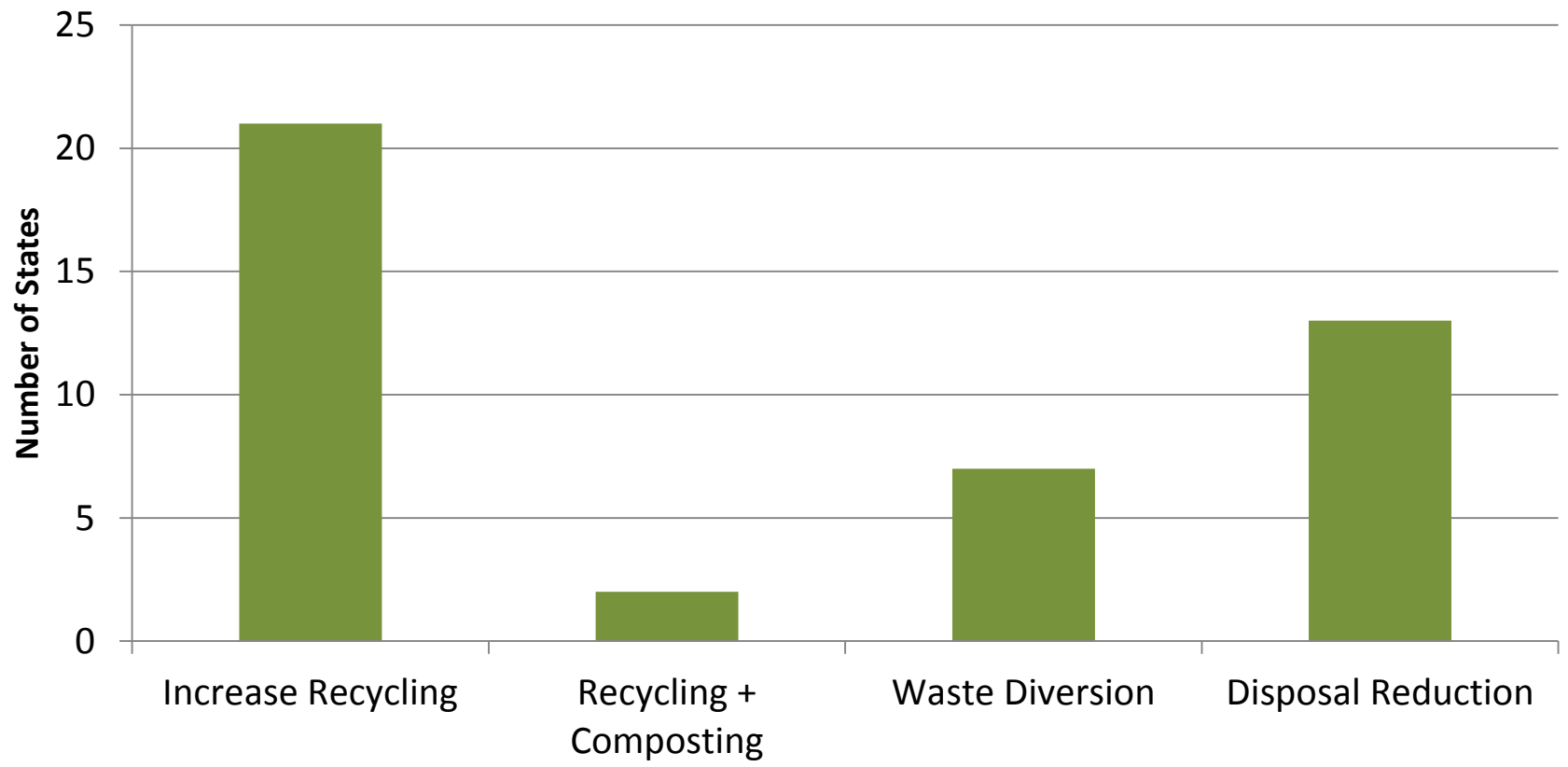
State Waste Management Goals- Structure



Language of SMM Goals



State Waste Management Goals- Language



State Recycling Goals



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

“Recycling” is the most common language used in waste management goals:

State	Recycling Goal	Target Date
Florida	75%	2020
Connecticut	58%	2024
Minnesota	35%/50%/75%	2030
South Carolina	35%	2005
Illinois	25%	1996
Maryland	20%/35%	2005
Oklahoma	10%	2011

Definitions Matter



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

- 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?



**Environmental Research
& Education Foundation**

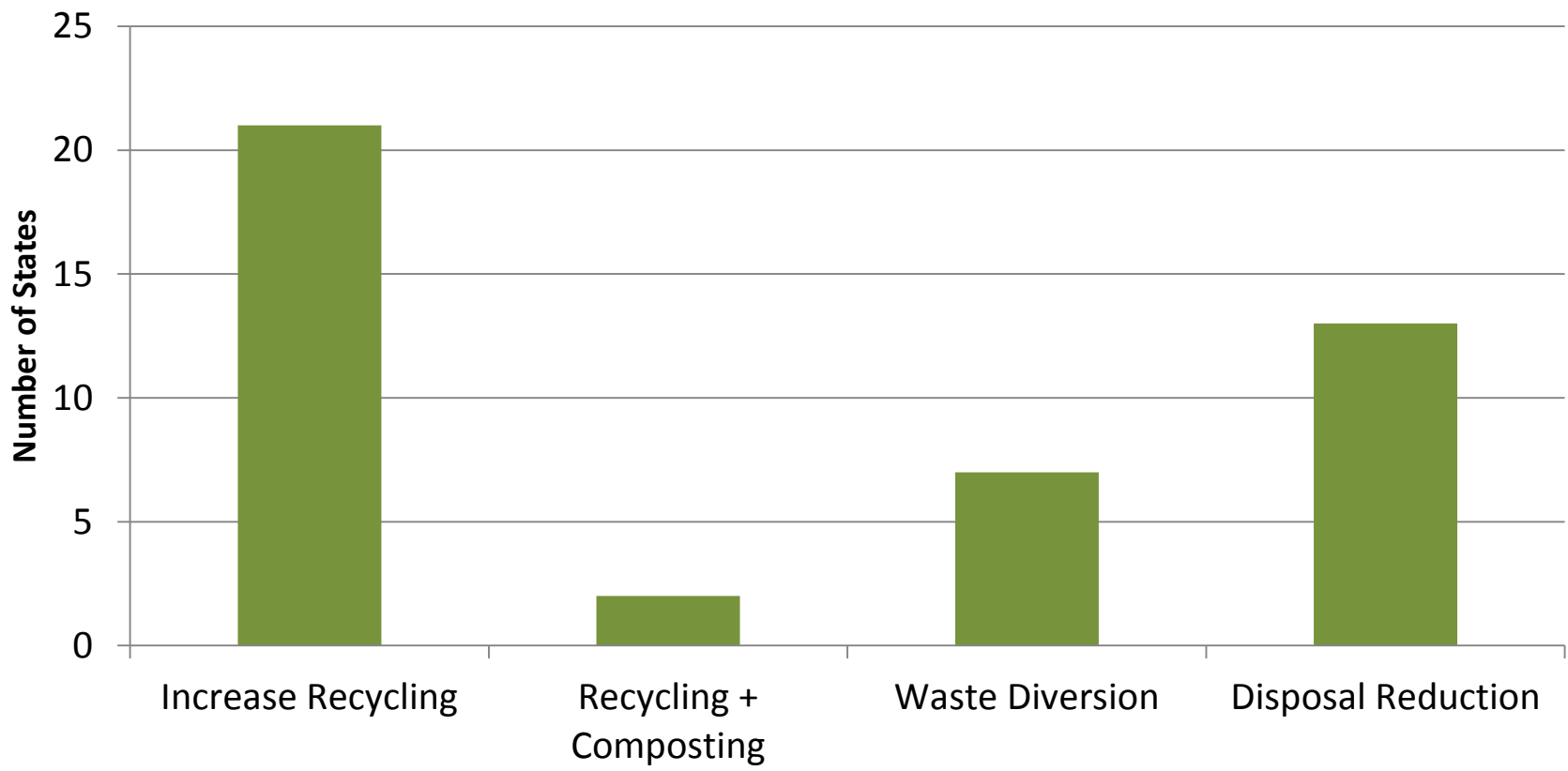
Lighting a path to sustainable waste management practices

18 different definitions of recycling





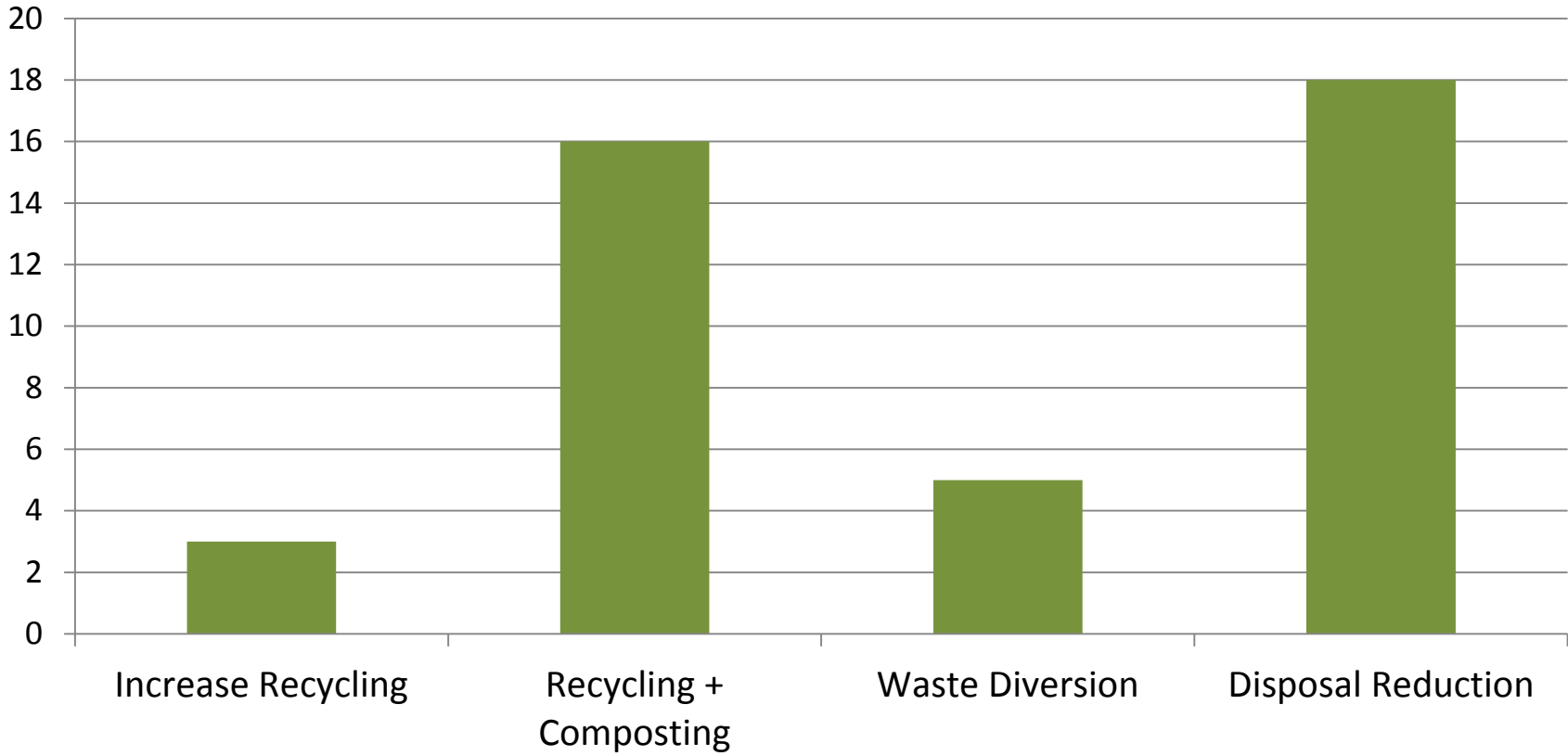
State Waste Management Goals- Language



Operations included in



State Waste Management Goals- Operations



Recycling definition can shift material destination and impact sustainable materials management

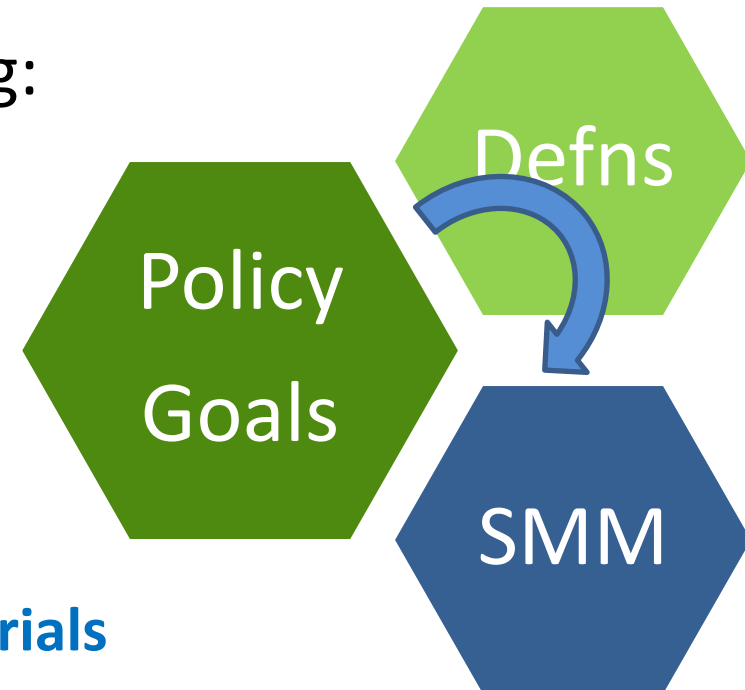
Why do we set solid waste management goals?

- 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**



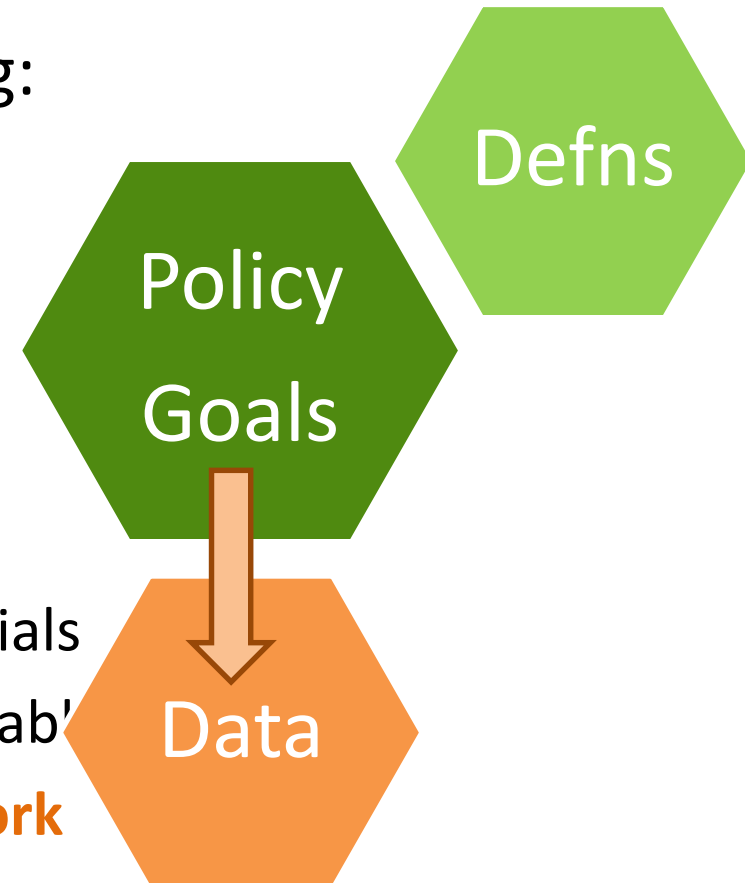
Why do we set solid waste management goals?

- 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



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 unfavorab'
 - **Improve data reporting framework**



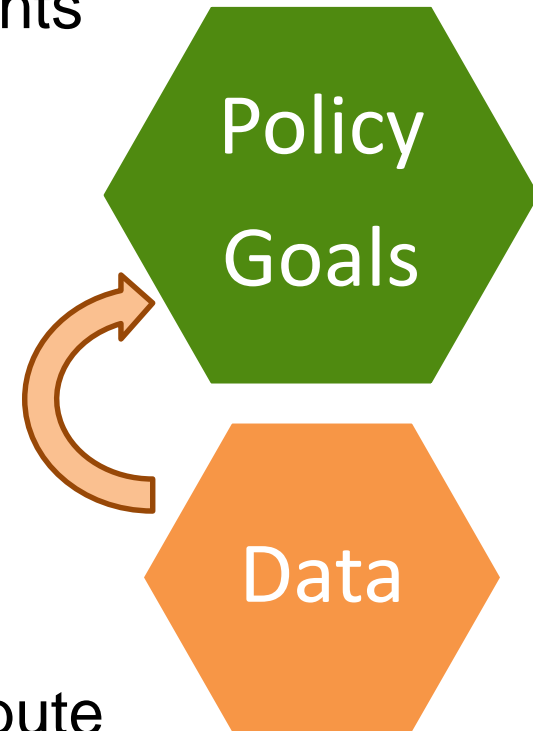
Use waste composition data to understand provide the theoretical maximum material recovery rates:

- Quantify mass of applicable waste components

- Food waste
- Yard trimmings
- Paper
- Plastic
- Metal
- Glass
- Textiles

Excludes non-recoverable materials

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



Theoretical Maximum Rate

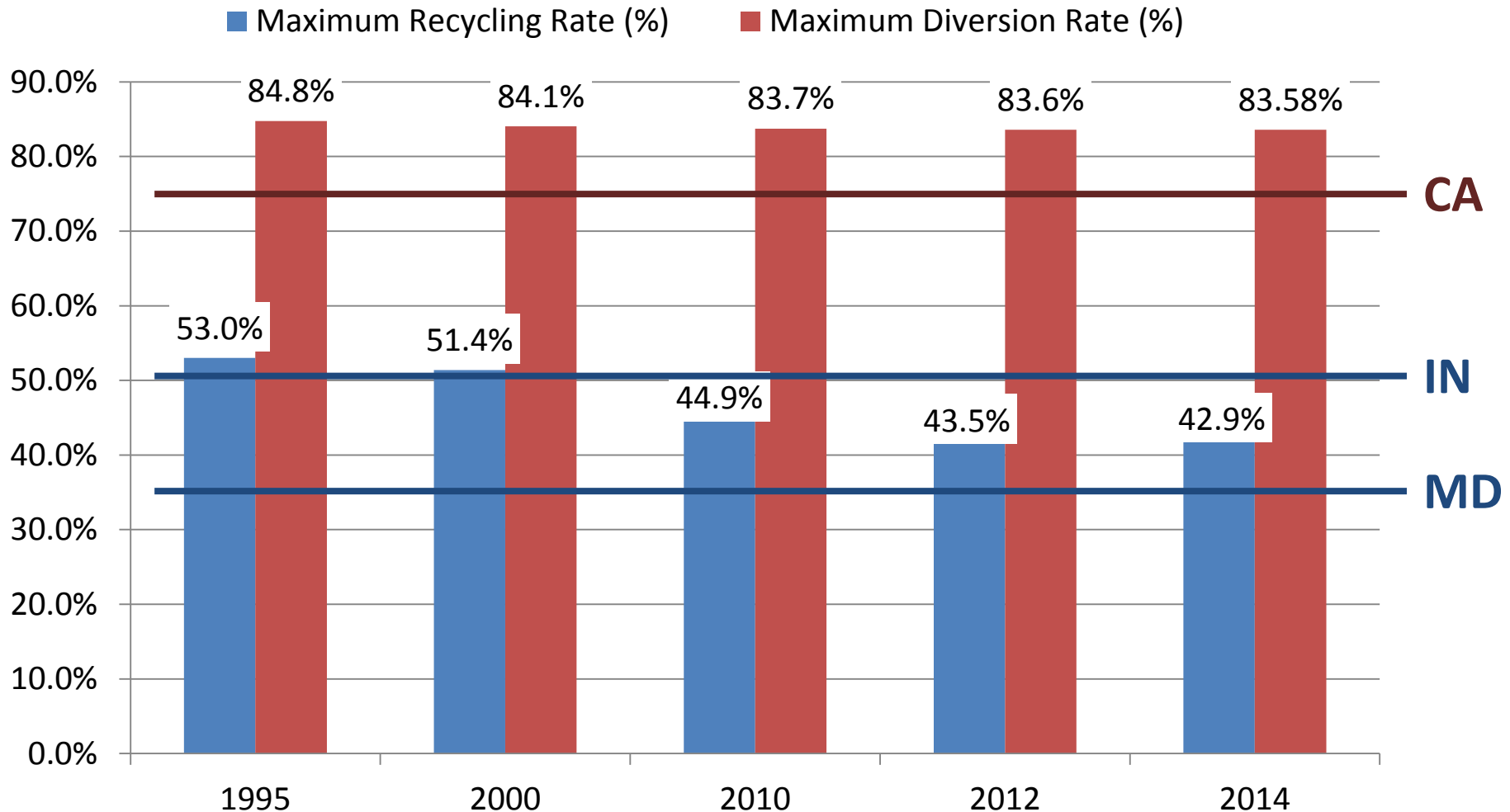
Facts & Figures (1995 - 2014)



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

Maximum rates based on EPA waste composition



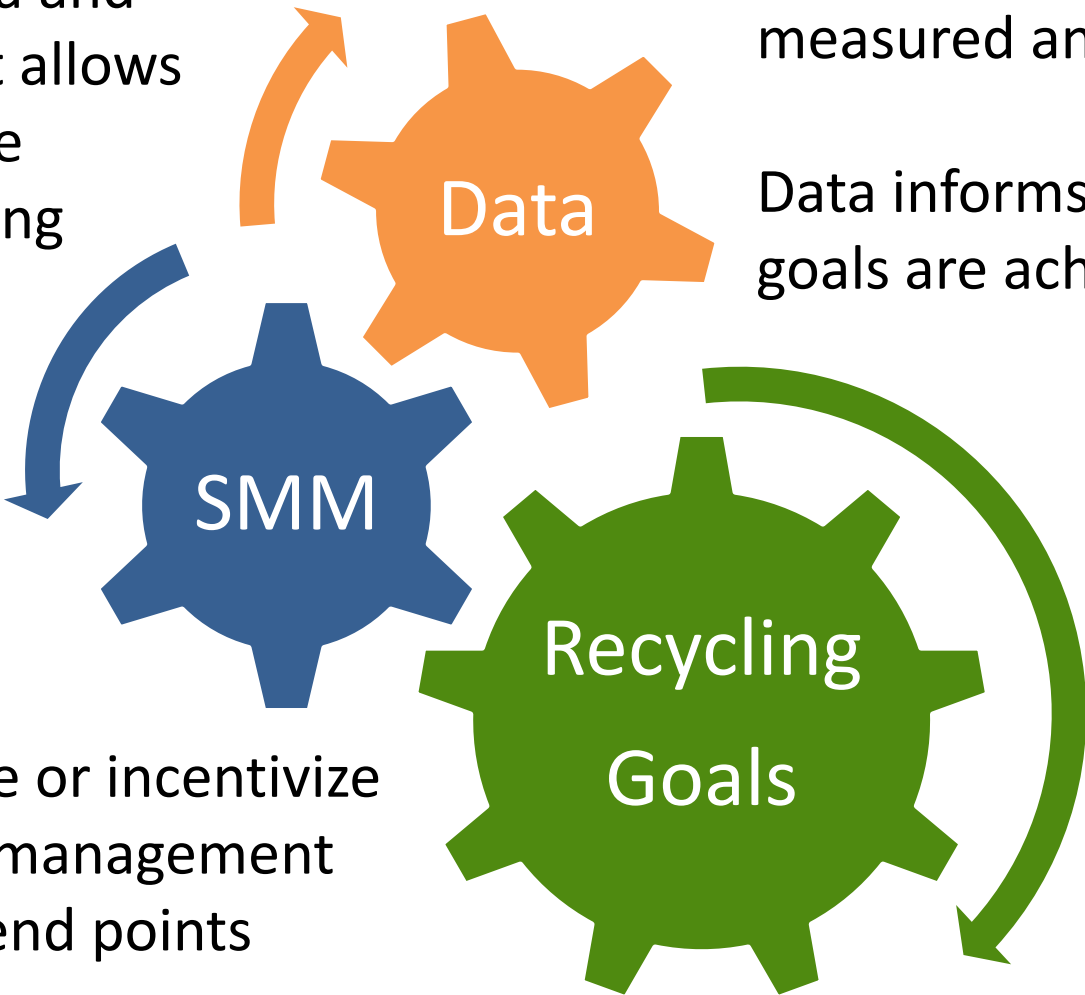
Interlocking Concepts



Adequate data and measurement allows for sustainable decision-making

Goals impact what is measured and tracked.

Data informs what goals are achievable.



Goals prescribe or incentivize various waste management activities and end points



**Environmental Research
& Education Foundation**

Lighting a path to sustainable waste management practices

Thank you!

Debra Kantner

DKantner@erefdn.org

(919) 861-6876 ext. 107

Photo Credits:

- | | |
|---|---|
| 1. and 3. Stock Photos (paper and cans) | 5. San Diego County, CA (food waste) |
| 2. City of Concord, NC (plastics) | 6. Ian Lindsay, Vancouver Sun Files (WTE) |
| 4. County of Olmsted, MN (yard waste) | 7. Hofstetter (LFG) |