



# **Measuring California's Progress in Reducing Solid Waste Disposal**

Assembly Bill 939 (1989):  
**Jurisdiction Diversion Mandate**

**PRC Section 41780**

(a) (1) ... the jurisdiction shall divert 25 percent of all solid waste by January 1, 1995....

(a)(2) ... the jurisdiction shall divert 50 percent of all solid waste on and after January 1, 2000....

Assembly Bill 341(2011):  
**Statewide Recycling Goal**

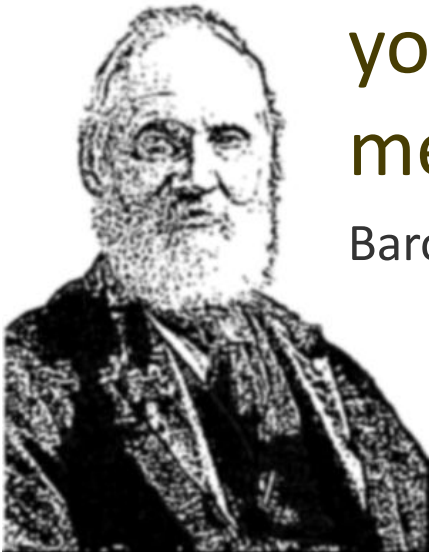
**PRC Section 41780.01**

(a) ...it is the policy **goal** of the **state** that not less than **75** percent of solid waste generated be source reduced, recycled, or composted by the **year 2020**, and annually thereafter.

# Importance of Measurement

“...when you can measure what you are speaking about and express it in numbers you know something about it; but when you cannot ... your knowledge is of a meager and unsatisfactory kind...”

Baron William Thomson Kelvin – May 3, 1883



# Goals

- Consistent with statute
- Ambitious = less disposal
- No additional reporting burdens
- Simple
- Practical

# Indication not Perfection

“Measure with a micrometer.

Mark with chalk.

Cut with an axe.”

*Unattributed, Undated ... Elvis?*



# Measurement Options

1. Waste stream census
2. Formula to estimate generation
3. New recycling reporting system
4. Current per capita system
5. Modified system

## **Option 1. Waste Stream Census**

- Used in 1990 for original base-years
- Costly
- Need full participation
- Creative & speculative numbers
- Double counting



## Past Survey Success?

- Only 238 (16%) out of 1510 facilities were willing to verify data in 2010/2011
- Only 44 (30%) out of 147 Materials Recovery Facility responded to survey in 2004

# Census

“A census taker once tried to  
test me. I ate his liver with some  
fava beans and a nice chianti.”

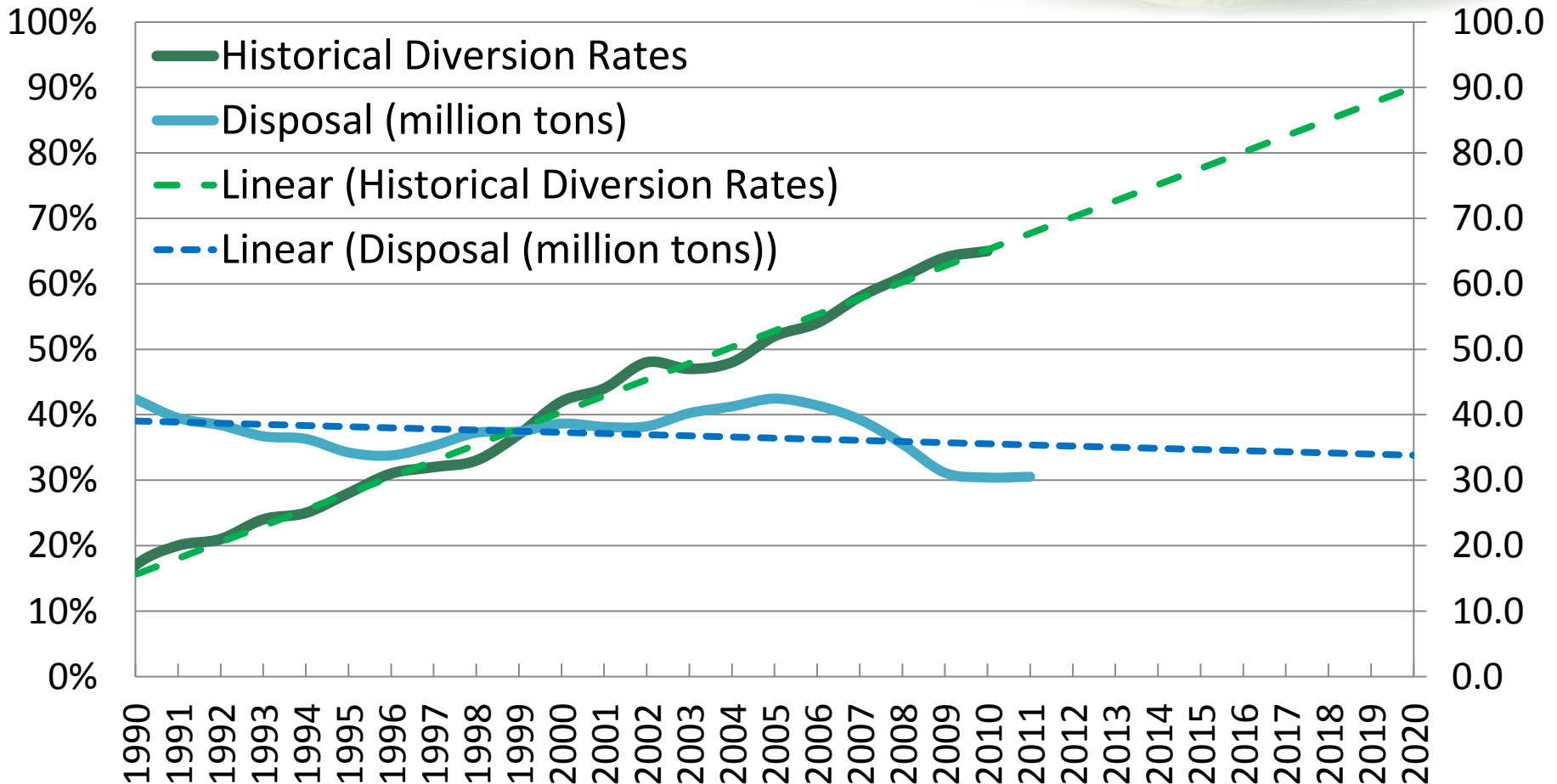
*Hannibal Lecter - 1991*



## **Option 2. Formula to Estimate Generation**

- Used from 1995 to 2006
- Not timely
- Complicated formula
- Too much focus on numbers
- Replaced in 2007
- Susceptible to generation inflation

# Calculate our way there?



# Formula

“If you torture the data long enough, it will confess.”

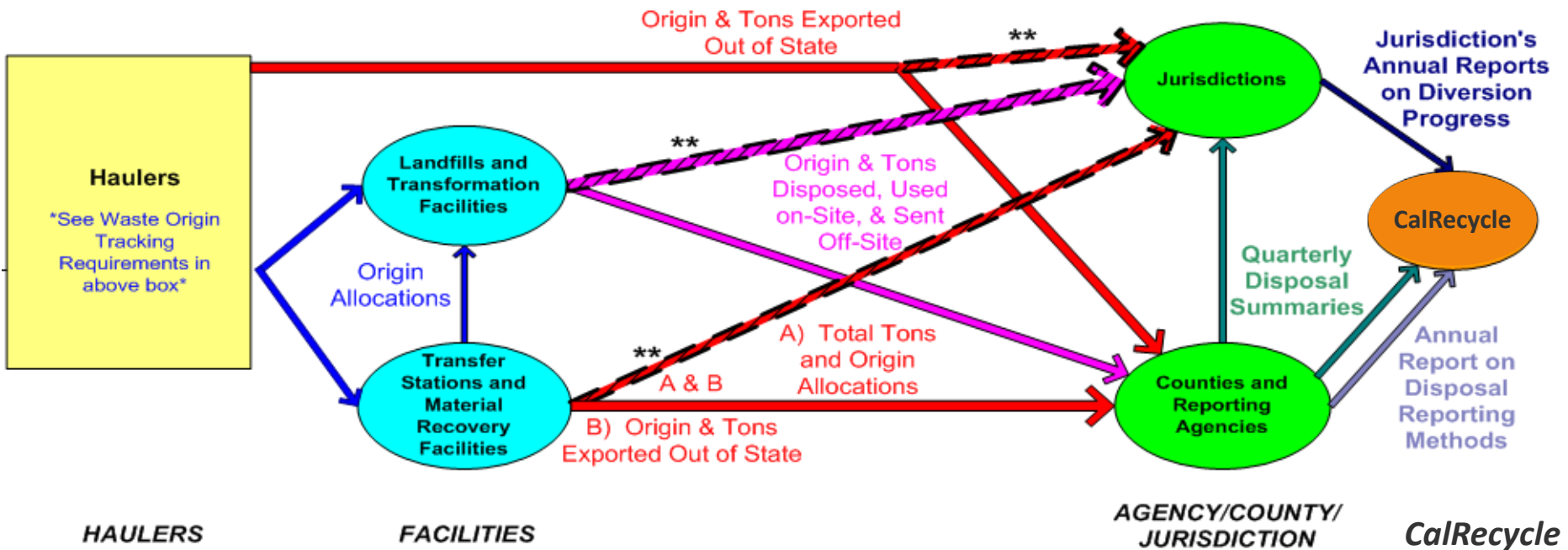
*Ronald Coase - undated*



## **Option 3. New Recycling Reporting**

- Statutory authority: PRC Section 41821.5(b)
- Disposal Reporting System model
- Burden on recyclers
- Increased costs
- Some activities hard to measure

# Disposal Reporting System



\*\* Haulers/Facilities must send data to Jurisdictions upon request

# Activities to Track & Who Reports?

## Disposal Related

- 129 landfills
- 3 transformation facilities
- 79 ADC/AIC Users
- 61 beneficial reusers
- 4 tire-derived fuel users

**~37 Million Tons in 2010**

## Recycling in CA

- 600+ MRFs & other processors
- 160+ RCP manufacturers

## Composting in CA

- 150+ composting facilities
- 150+ mulch & other
- 2 anaerobic digestion

## Source Reduction in CA

- 12.6 million occupied households
- 1.4 million businesses

## Activity Outside CA

- ??? Brokers, exporters & destinations

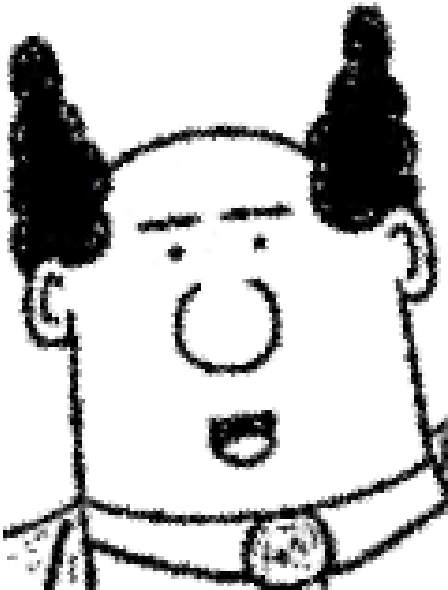
**~35 Million Tons in 2010**



# New Recycling Reporting

“Everything is measurable if you try hard enough.”

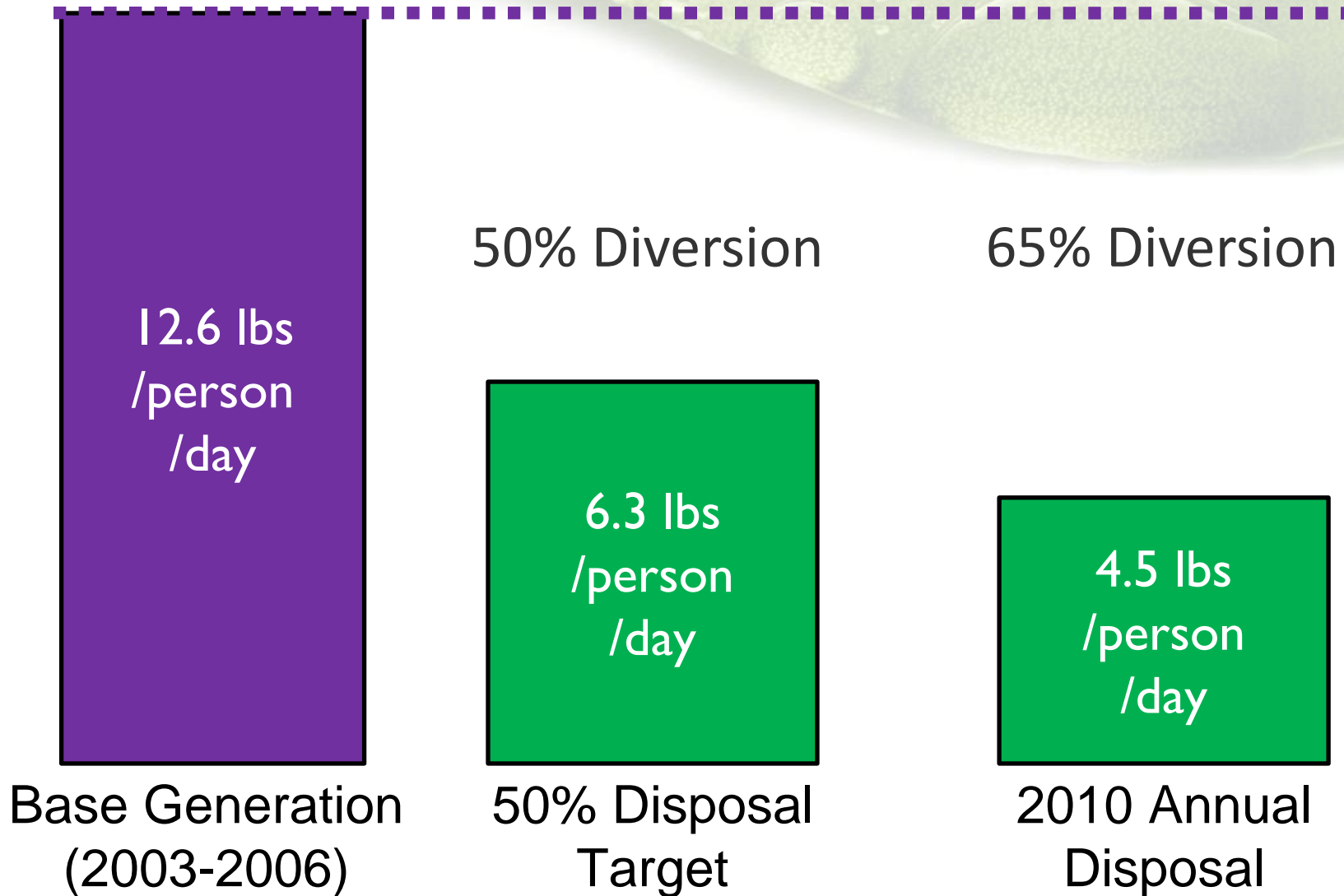
Pointy Haired Boss - March 8, 1998



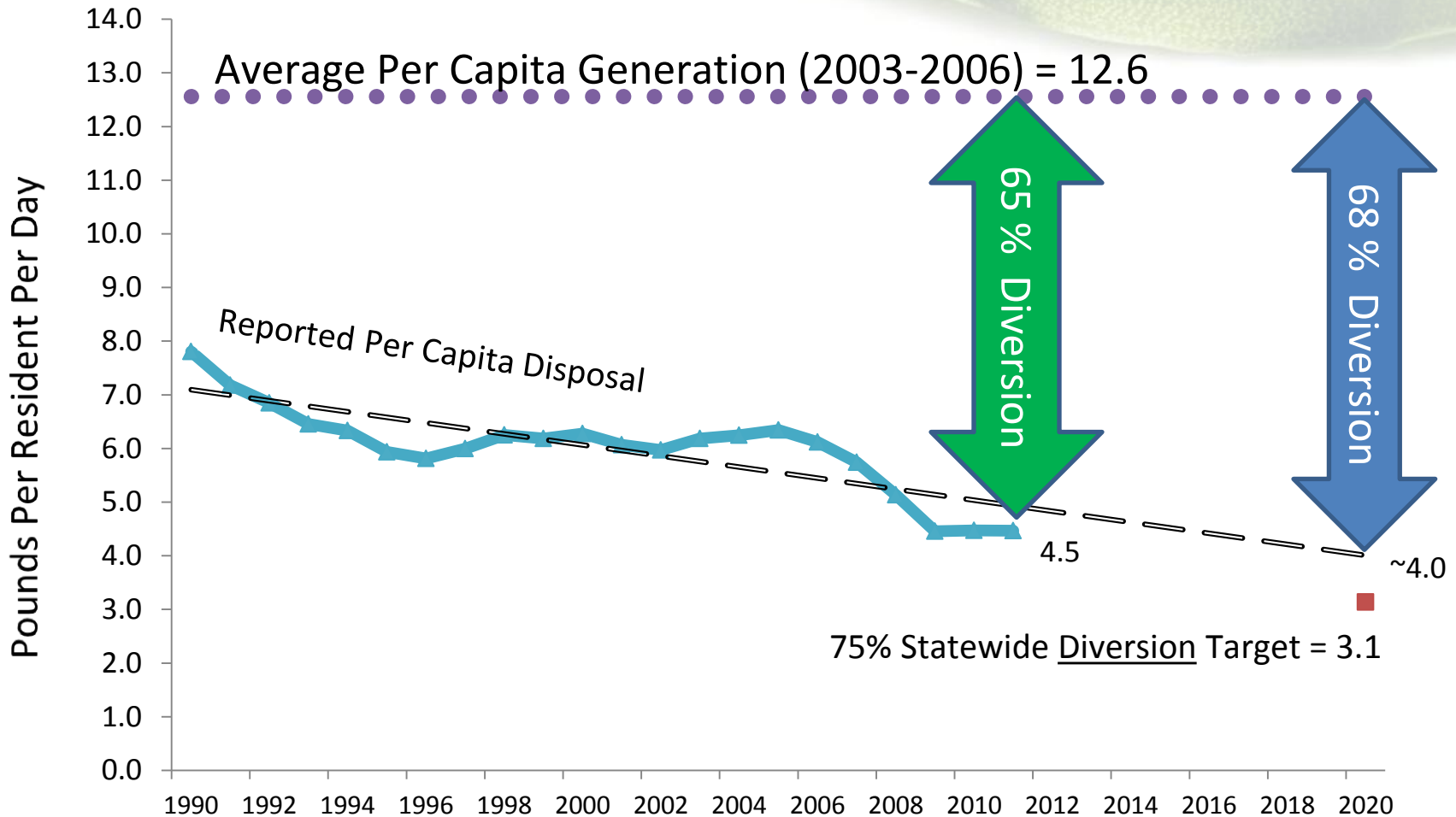
## Option 4. Current per capita system

- Used since 2007
- Works well for jurisdictions
- Reporting in-place
- Simple calculations
- Not ambitious enough
- Not diversion goal → “recycling” goal
- Not all activities are the same

# 2010 Statewide Diversion Rate



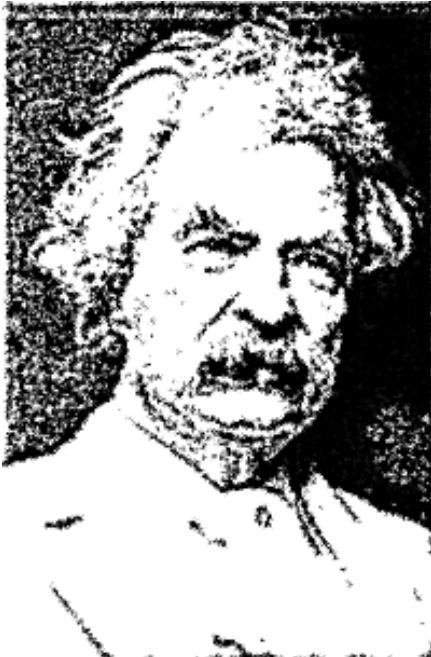
# Statewide Diversion



# Current per capita Diversion System

“Facts are stubborn things, but statistics are pliable.”

*Mark Twain - Undated*



## **Option 5. Modify Current System for 75% Statewide Recycling Goal**

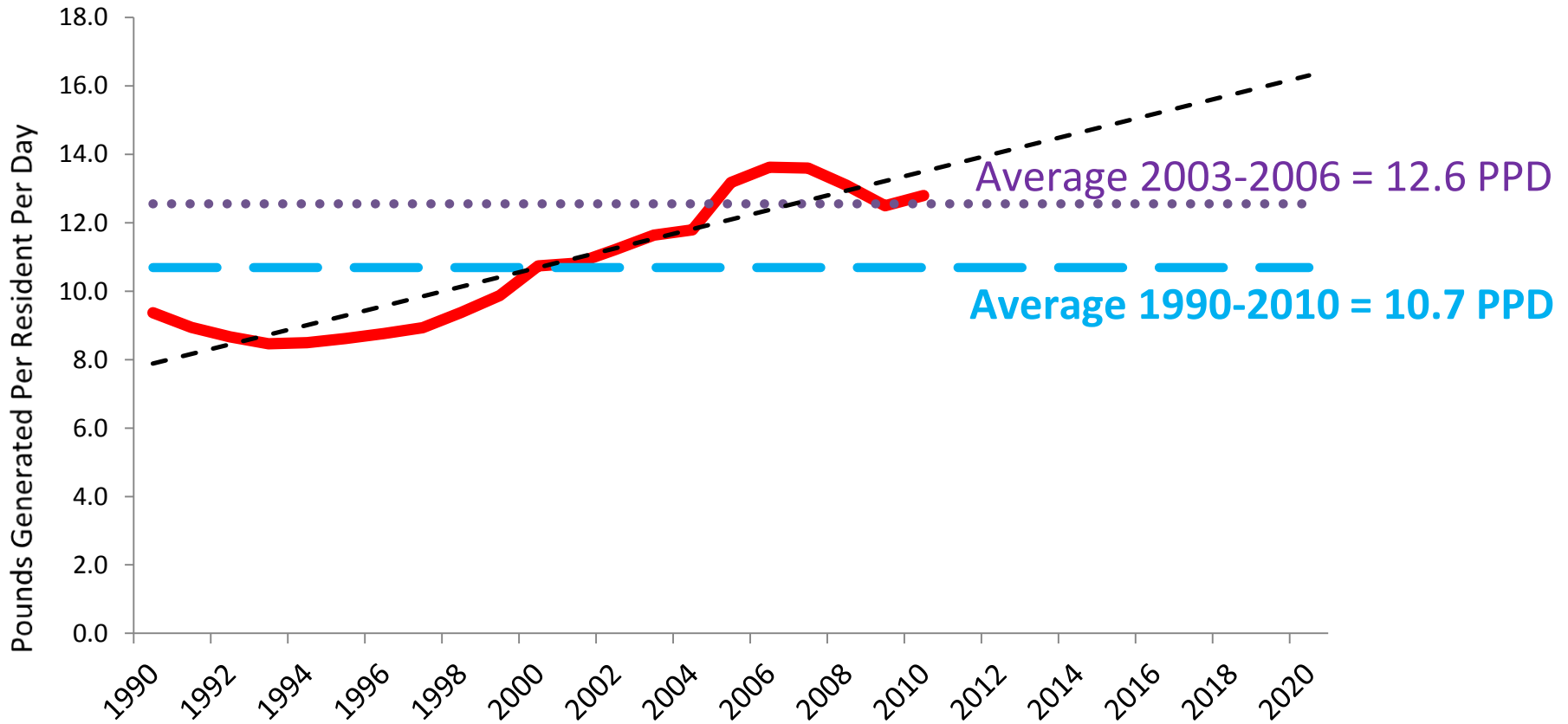
- Per resident disposal target
- Allows for population growth
- No multiplier for economic growth
- Redefine “what counts”, “base” & “target”

# What Counts:

	Jurisdiction Mandate Diversion* Rate	Statewide Goal Recycling* Rate
<b>+</b>	<u>Diversion</u> Source Reduction, Recycling, Composting, ADC, AIC, Beneficial Reuse, & Transformation	<u>Recycling</u> Source Reduction, Recycling & Composting (includes Anaerobic Digestion)
<b>-</b>	<u>Disposal</u> Landfilled, Exported Disposal & Excess Transformation	<u>Disposal-Related Landfilled</u> , Exported Disposal, Transformation, ADC, AIC, Beneficial Reuse, Waste Derived Fuel & Energy

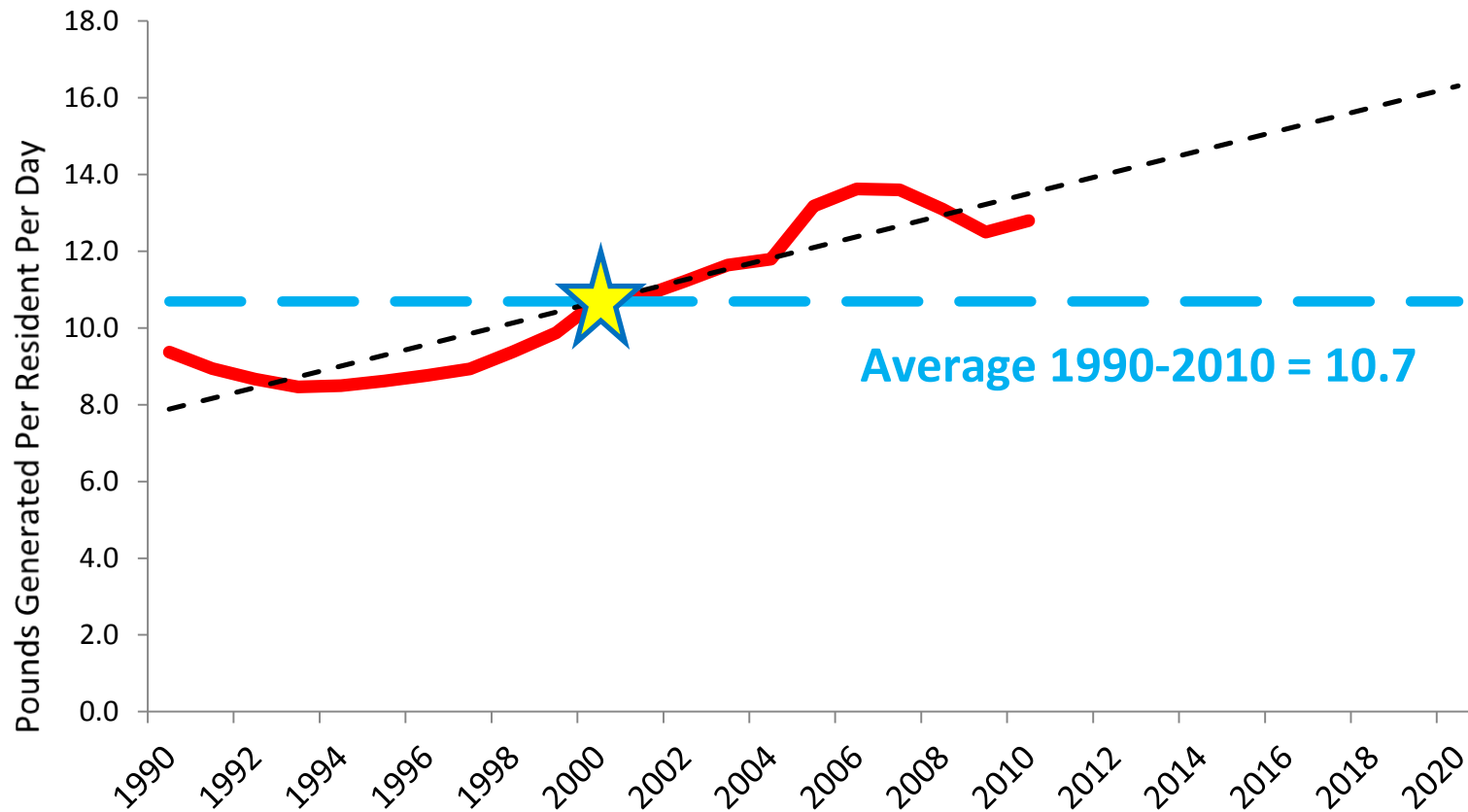
\*Biomass not included in the base – but future increases to biomass reduce disposal so it falls into Diversion and Recycling categories.

# The Base:

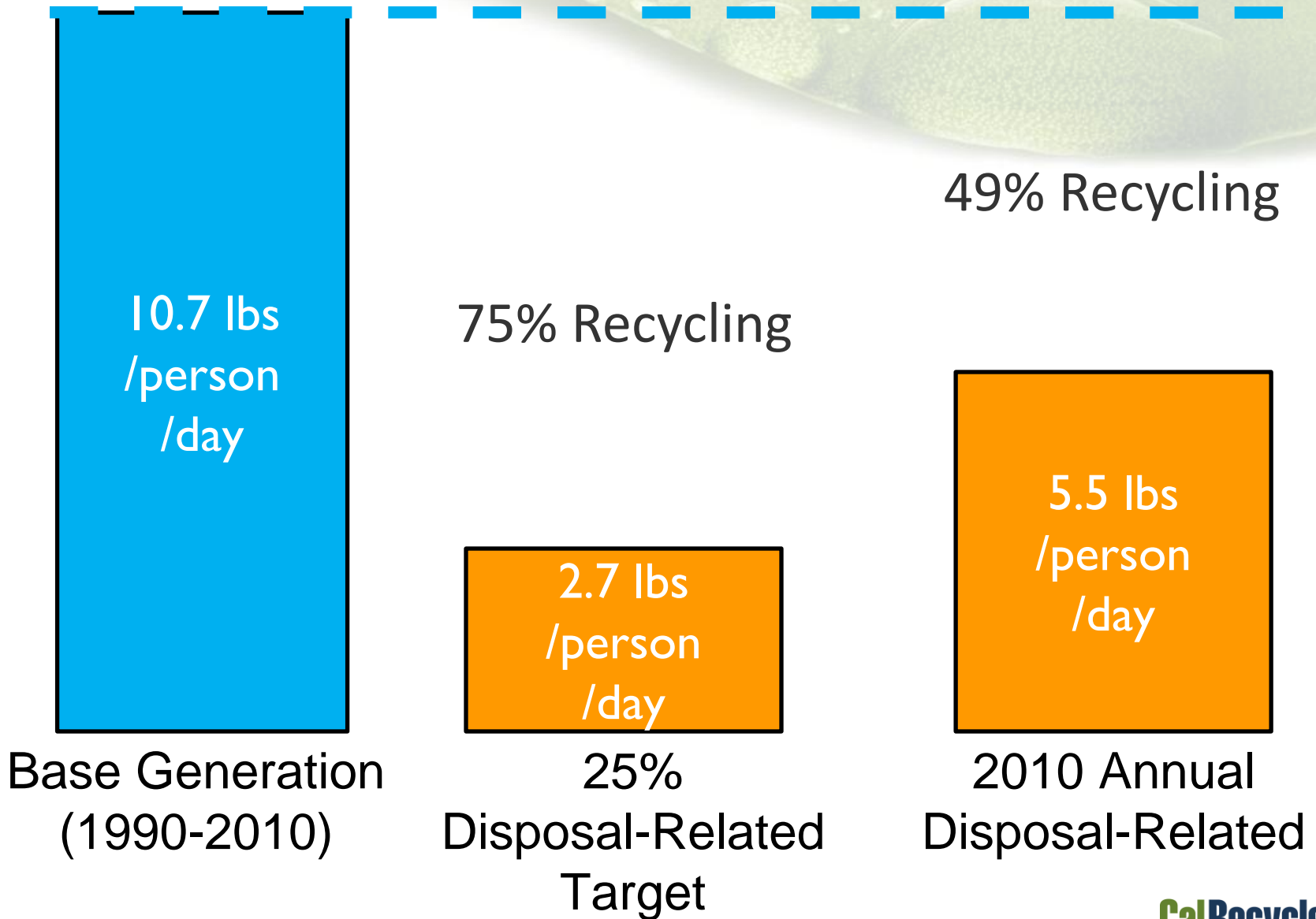




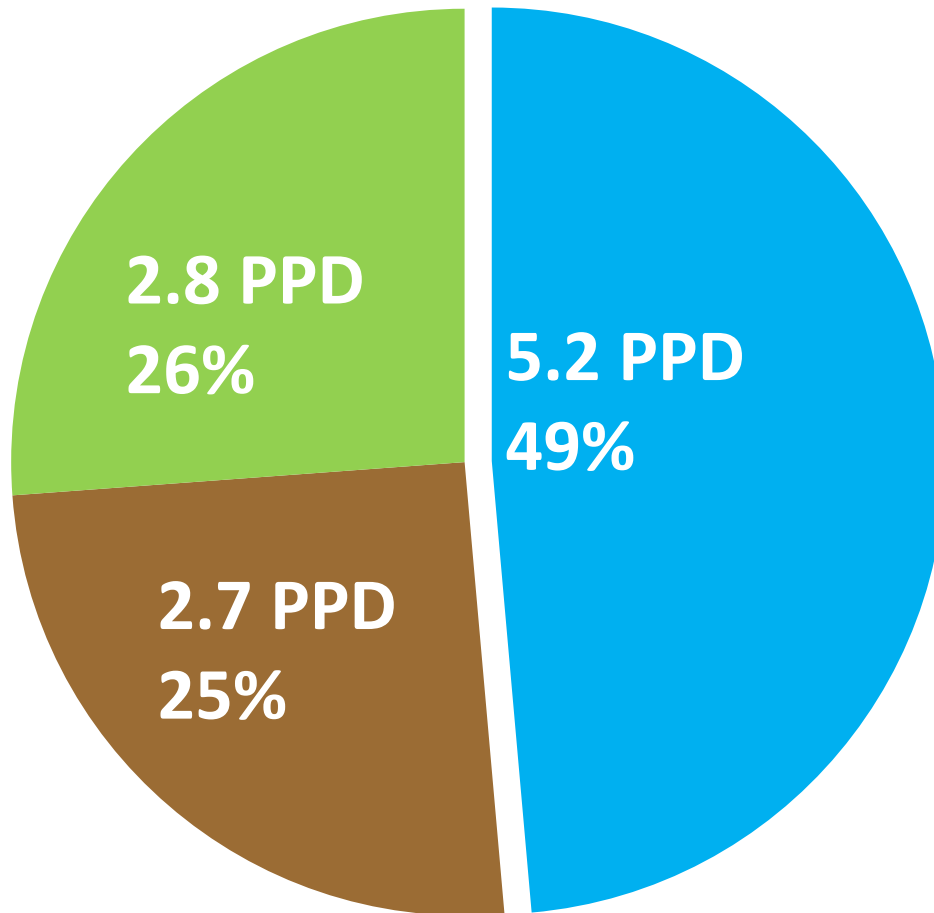
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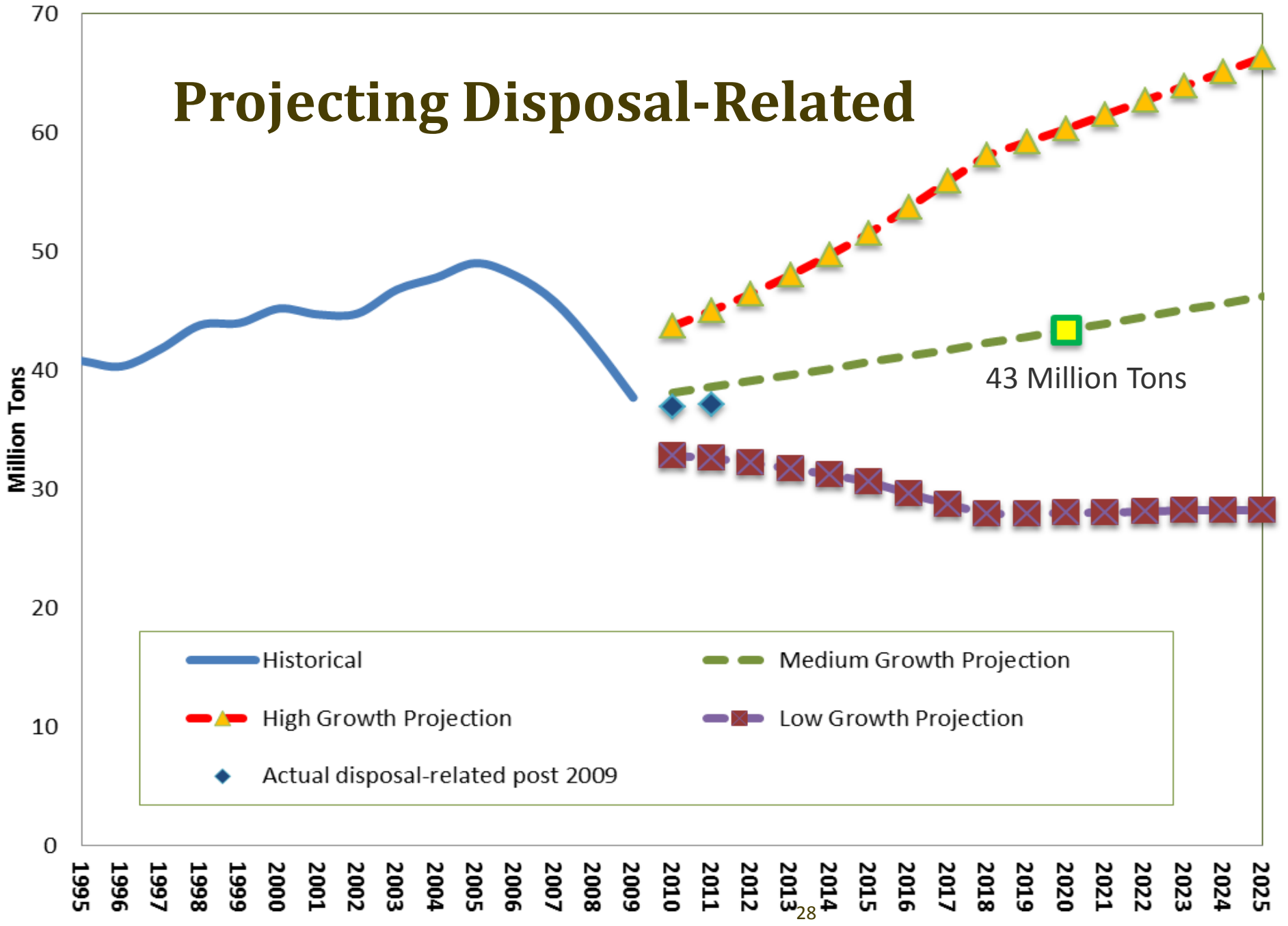
# 2010 Statewide Recycling Rate



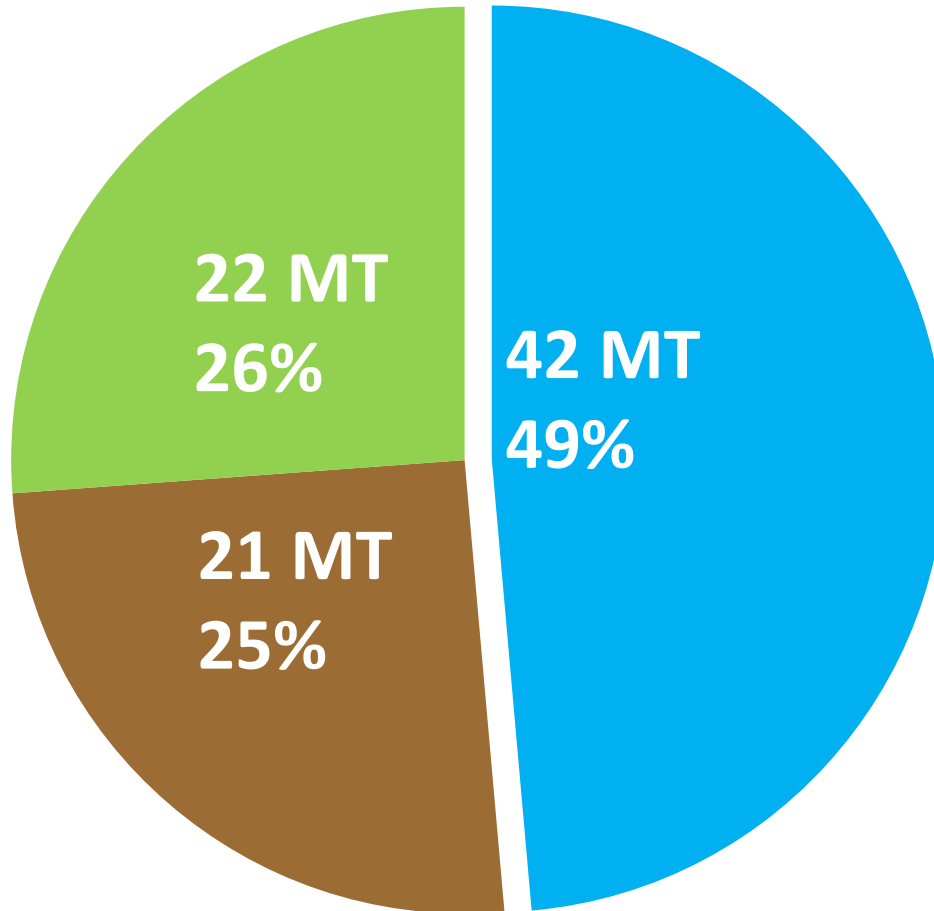
# Per Capita Targets



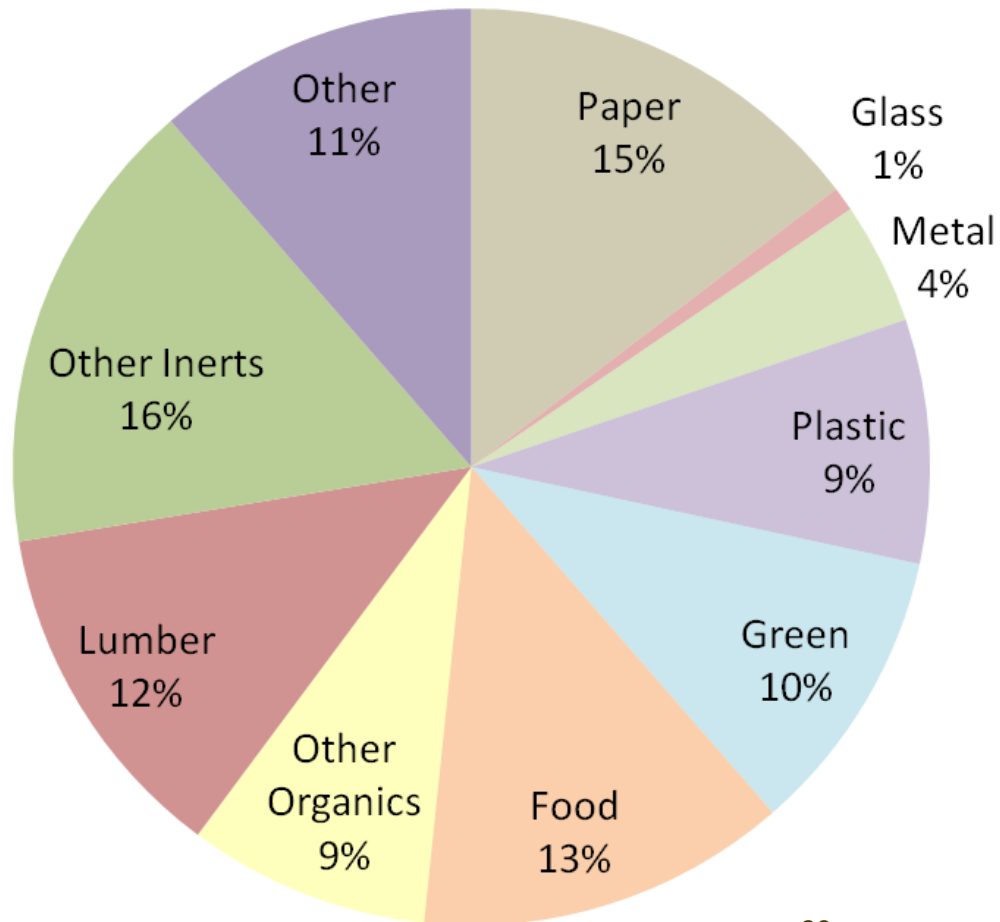
# Projecting Disposal-Related



# 2020 Per Capita Tonnages



# 2020 Composition of potential disposal-related



# Questions

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“The government are very keen on amassing statistics. They collect them, add them, raise them to the nth power, take the cube root and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first instance from the village watchman, who just puts down what he damn pleases.”

*Sir Josiah Stamp - Undated*

