



# **Oregon Materials Management Metrics**

**Metro Washington COG  
Recycling Committee  
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## Recovery, Not Diversion

- Modern landfills themselves cause little environmental damage
- It is the waste of resources when materials are landfilled that causes the environmental damage.
- When resources like paper, plastic, and metals are disposed, it means more cutting down of trees, mining minerals from the ground, burning of petroleum and other fuels for energy to replace those resources. That environmental damage dwarfs the damage caused by the landfill itself.



## What we currently measure:

- Disposal: based on per ton fees collected at all landfills and Oregon's one energy recovery facility
- Waste composition through studies every few years
- Recovery – based on surveys of all recyclers and other material recovery operations and mills.



# Oregon Materials Management Metrics



**As part of our implementation of Oregon's Materials Management Vision for 2050, Oregon will be adopting new goals and measures. More on that later.**

## **Current goals:**

- Goals are based on legislation from 1991, updated in 2001
- 50 Percent recovery by 2009 (not achieved until 2010)
- Each watershed (county) has its own goal
- No increase in waste generation statewide after 2009. Generation includes disposal plus recovery
- Non-statutory goals for per capita waste disposal.



## Oregon's Material Recovery Survey

- Survey is used to measure recovery of materials, which is also part of total waste generation.
- For 2011 we surveyed:
  - 235 private recyclers including collectors, processors, end users, exporters, and composters
  - 175 collection service providers (garbage/recycling collection companies)
  - 11 scrap metal dealers
  - 38 disposal sites or waste exporters
- DEQ is required to hold as confidential data from private recyclers and scrap metal dealers



## Oregon's Material Recovery Survey: What is Reported

Each recycler reports:

- Tons of each material collected
- Location (wasteshed) where that material came from
- Amounts received from other major recyclers
- For collection service providers, the tons collected from each major source:
  - Residential curbside
  - Commercial collection
  - Apartments/multifamily
  - Depots and disposal sites
  - Other



## Oregon's Material Recovery Survey: What is Reported (continued)

Each recycler also reports where they send or how they use each material:

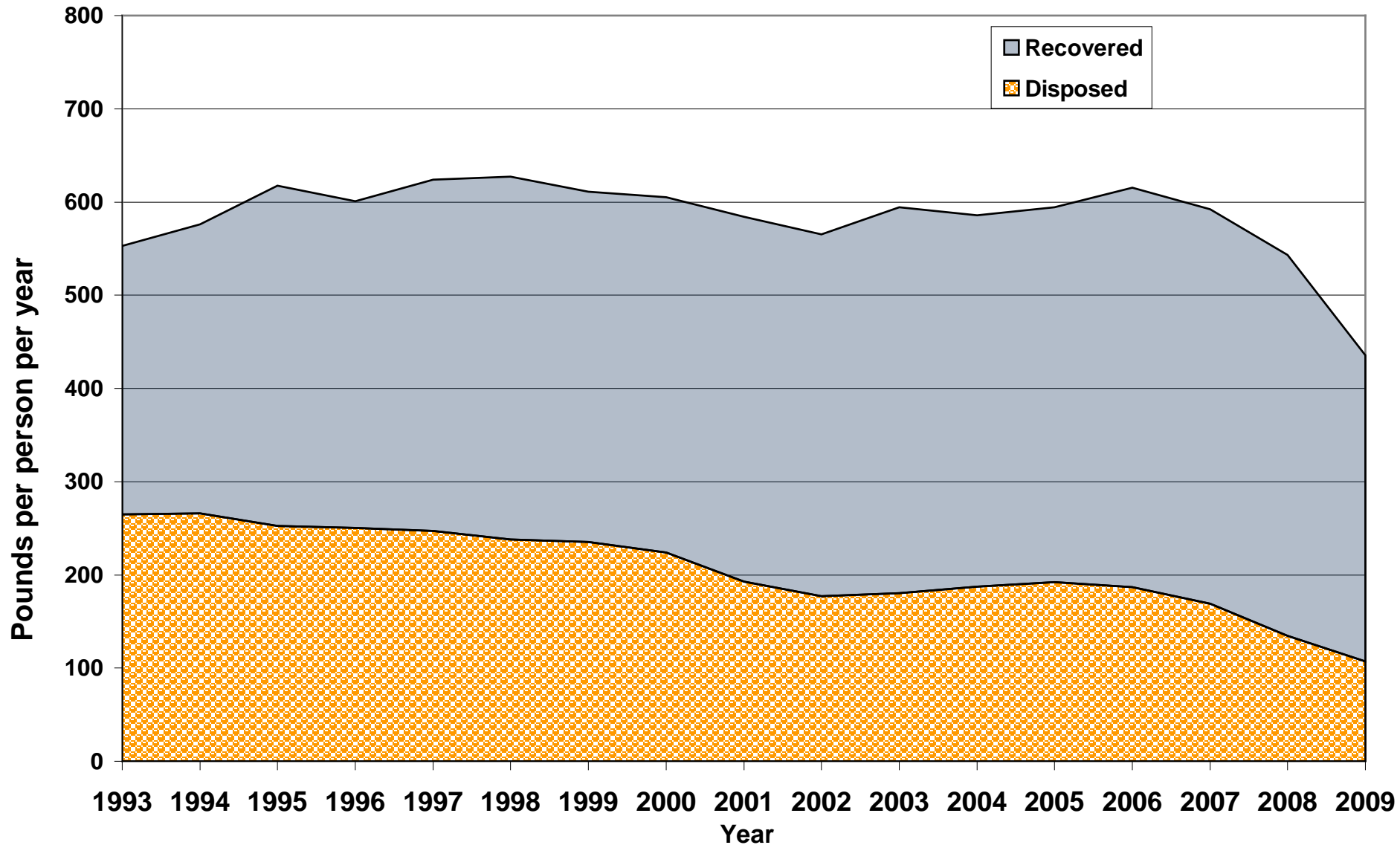
- Tons sent to each other recycler, processor, or end user
- Tons used to make a product
- Tons exported out-of-region
- Tons disposed

This information allows us to avoid double-counting material

- Collectors provide the best information on the source of each material
- End users and exporters provide the best information on the total amounts recovered
- Commingled materials “decommingled” for analysis

# Oregon Waste 2009/2010

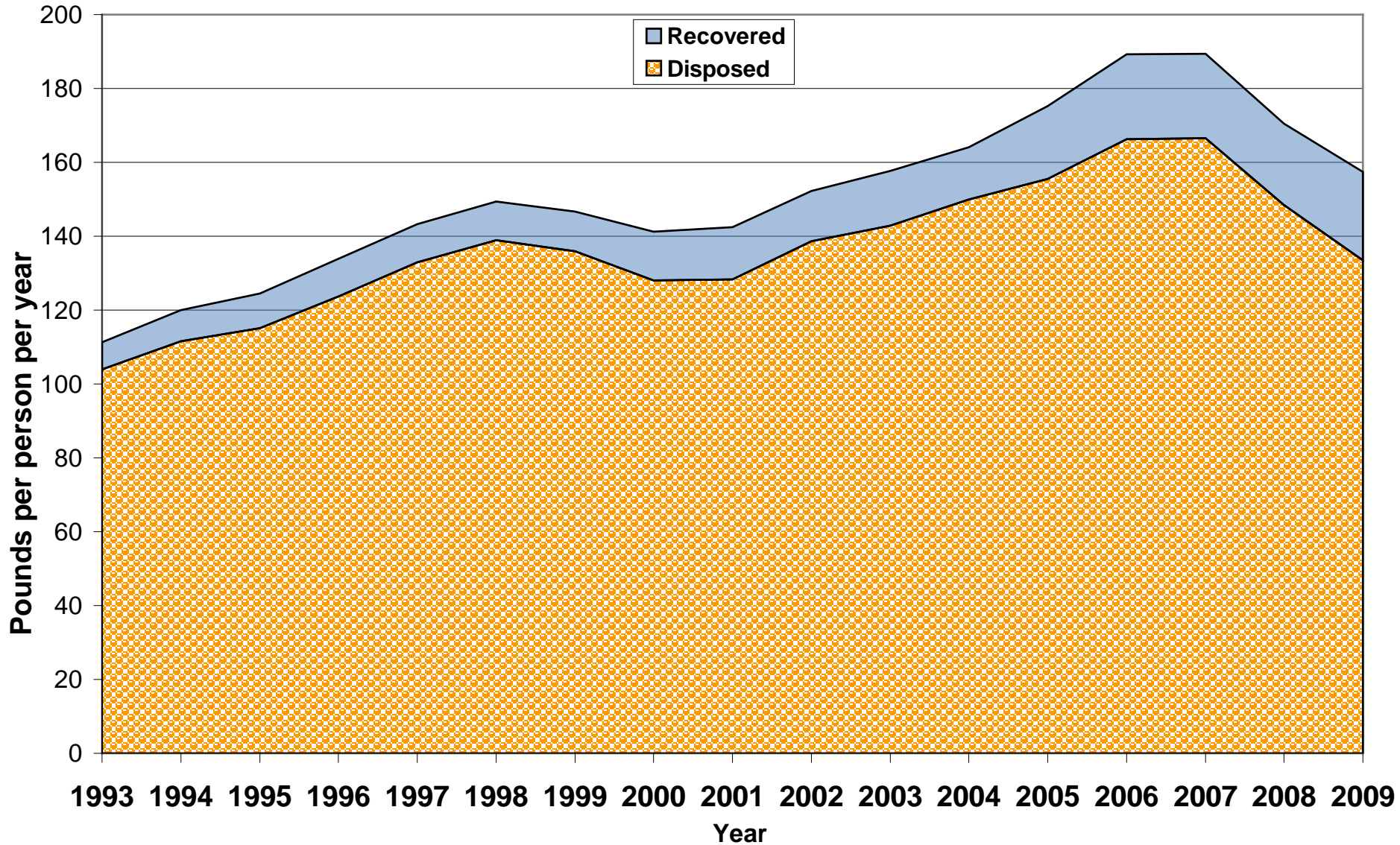
## Recyclable Paper Recovery and Disposal Per Capita





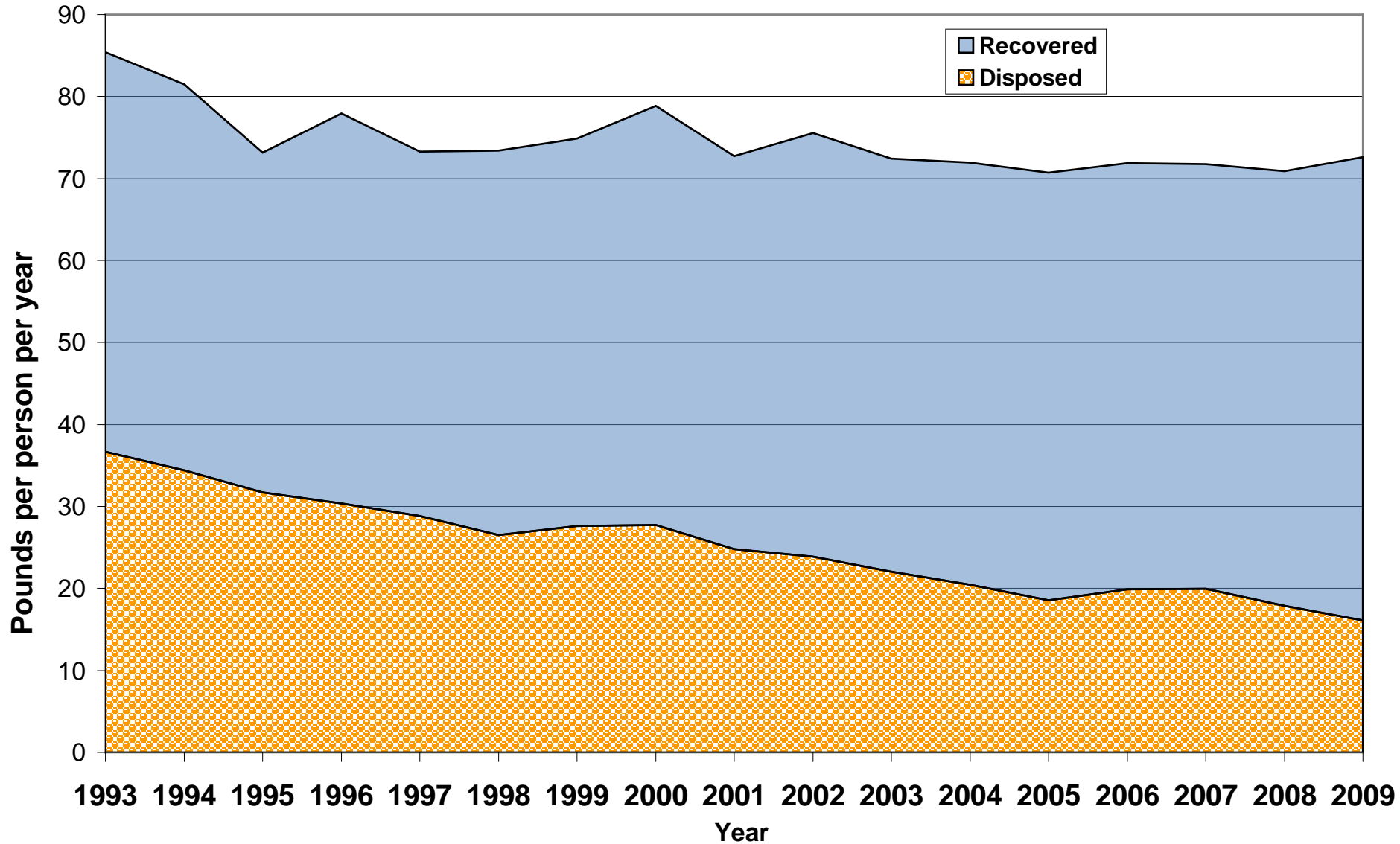
# Oregon Waste 2009/2010

## Plastic Recovery and Disposal Per Capita



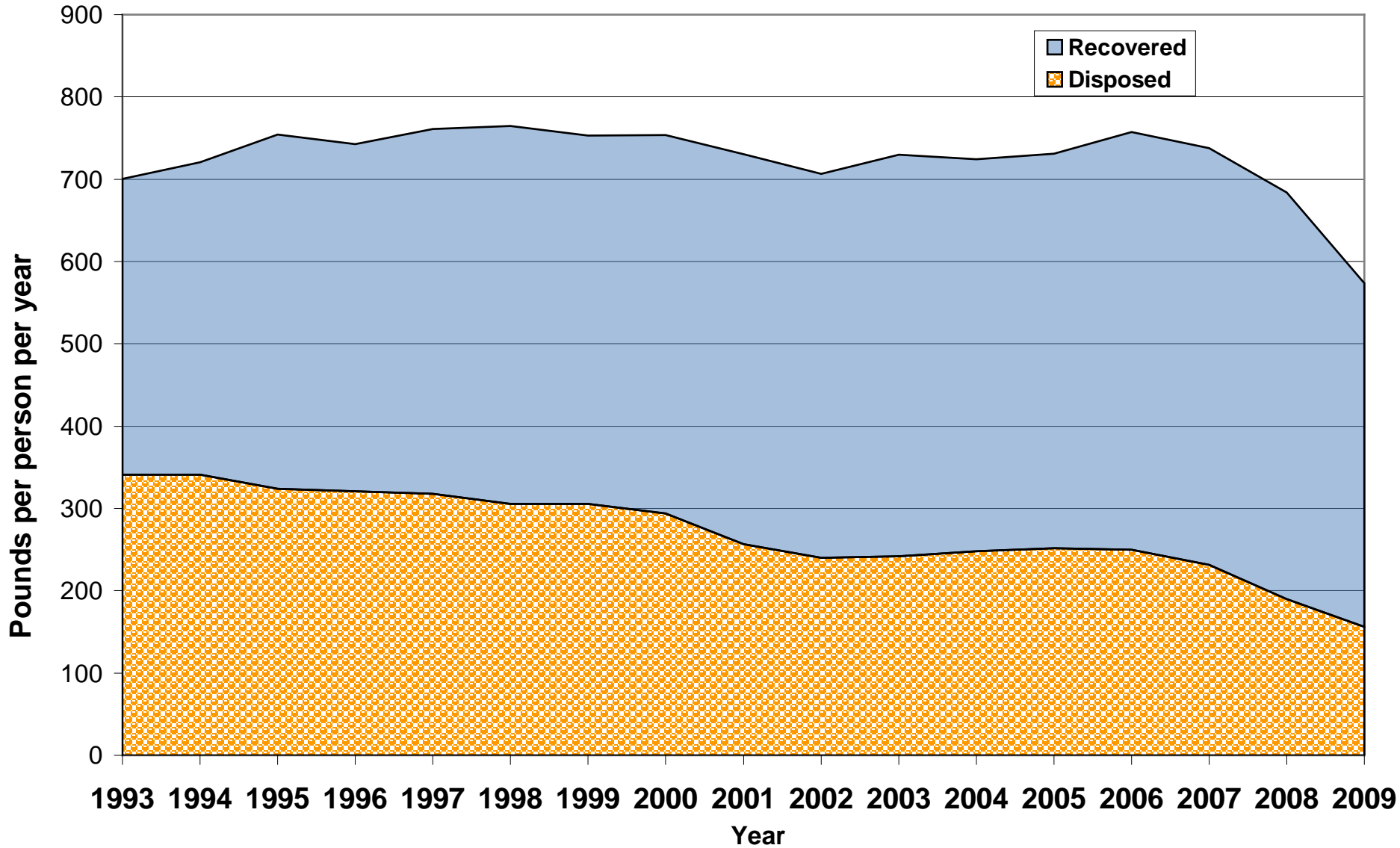
# Oregon Waste 2009/2010

## Container Glass Recovery and Disposal Per Capita



# Oregon Waste 2009/2010

## Common Recyclable Materials Recovery and Disposal Per Capita





## **2050 Vision and Framework for Action for Materials Management in Oregon**

Oregonians in 2050 produce and use materials responsibly  
conserving resources • protecting the environment • living well

Recognizing that Earth's resources are finite, Oregonians live within the limits of our sustainable share of the world's natural resources....

- Most environmental impacts of materials are upstream in the manufacture, use, and consumption of the materials, not downstream at end-of-life
- DEQ developed 18 background documents to help guide the development of the 2050 Vision, available at:  
<http://www.deq.state.or.us/lq/sw/materialsmgmtplanbkgrddocs.htm>.
- 3 documents will be discussed here.



## 2050 Vision Background Document

### What are “Sustainable Materials” and “Sustainable Materials Management”?

Looked at 6 concepts:

- “Cradle to Cradle” (McDonough and Braungart)
- Zero Waste
- The Natural Step
- The Ecological Footprint
- “Definition of Sustainable Packaging”
- Internalizing Externalities / Least Cost Planning

Each had advantages and limitations



## 2050 Vision Background Document

### **Alternative Criteria for Measuring Environmental Impacts of Materials Management**

Many different environmental criteria can be measured to determine environmental impacts. Measures described include:

- Energy use
- Greenhouse gas production
- Land use impacts and Ecological Footprint
- Toxins
- Resource depletion
- Respiratory effects
- 12 other measures also briefly described

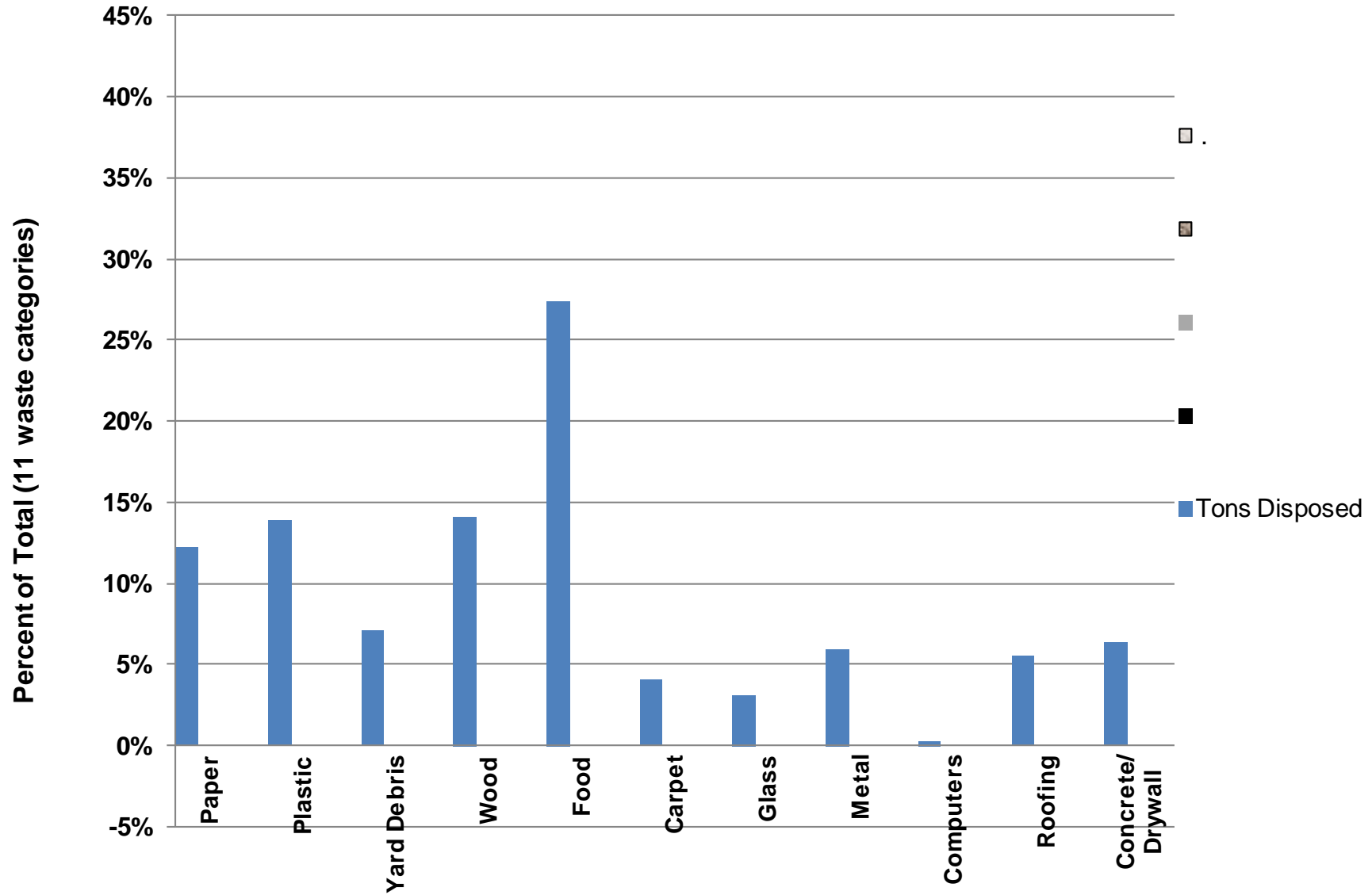


## 2050 Vision Background Document

# Potential for Additional Material Recovery

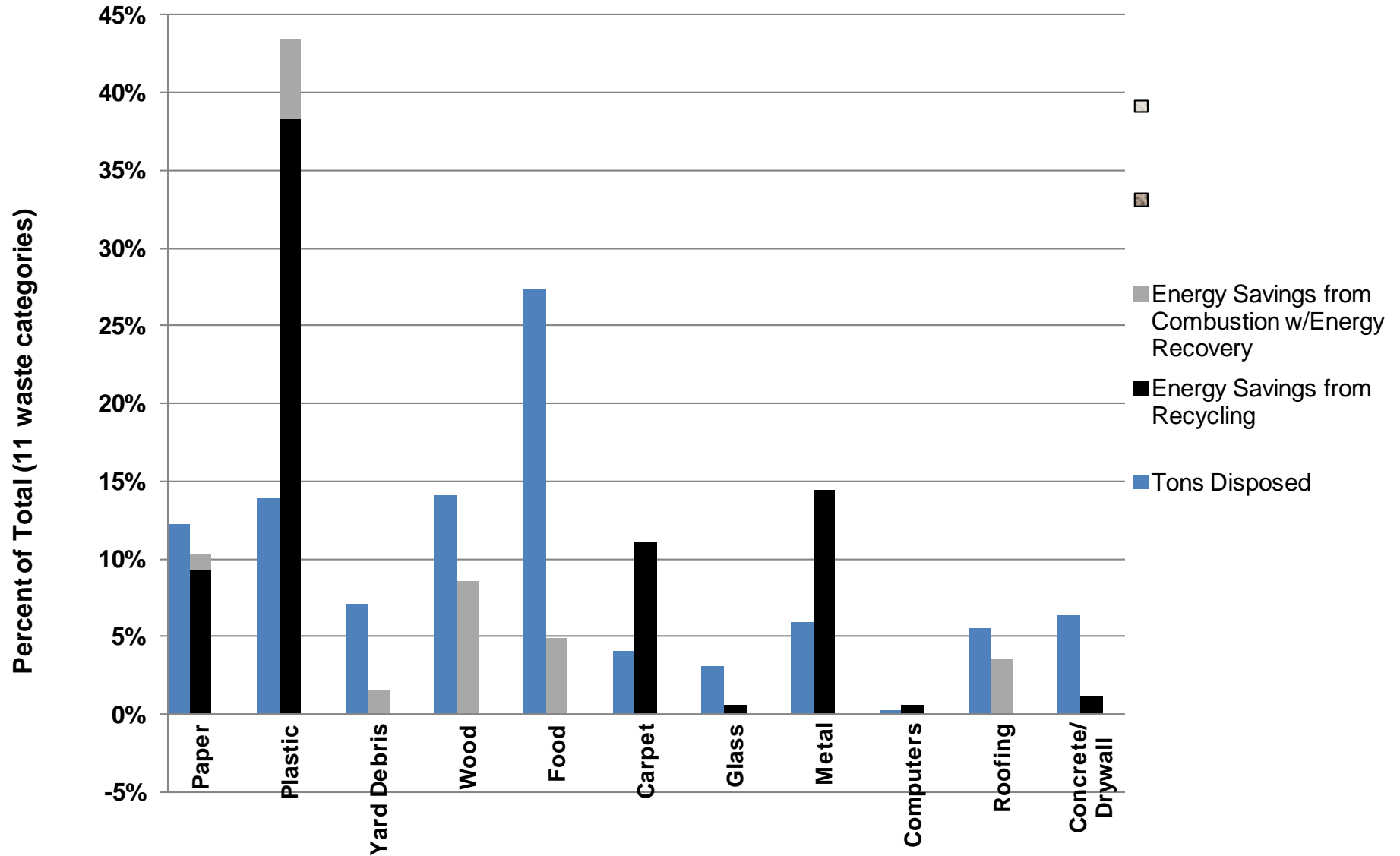
- Looked at materials currently being disposed in terms of the potential energy and greenhouse gas savings if these materials were recovered and remanufactured into new products, taking the place of virgin materials.
- Impetus for plastics recovery project that Oregon is about to begin (and is looking for other governments and businesses to partner with)

# Oregon Materials Management Metrics

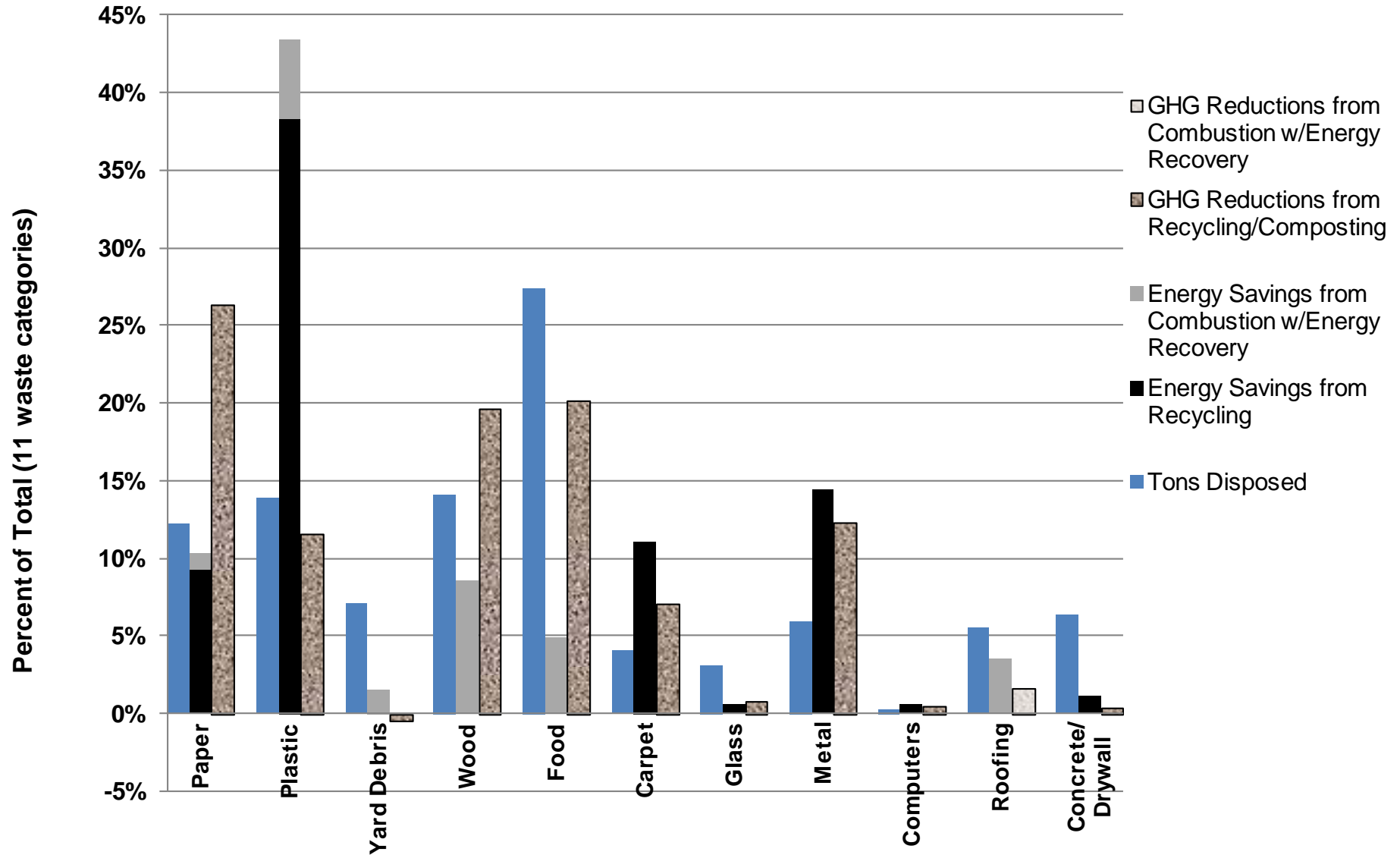




# Oregon Materials Management Metrics



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## 2050 Vision

### **New Goal Development and Measurement**

Oregon is just beginning this process, but here are some concepts we are considering:

- Consumption-based Greenhouse Gas Inventory (can be expanded to include toxics and other factors)
- Recovery goals based on greenhouse gas generation or other measures instead of tons
- Ecological Footprint
- “Genuine Progress Indicators” (See Maryland web site)



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