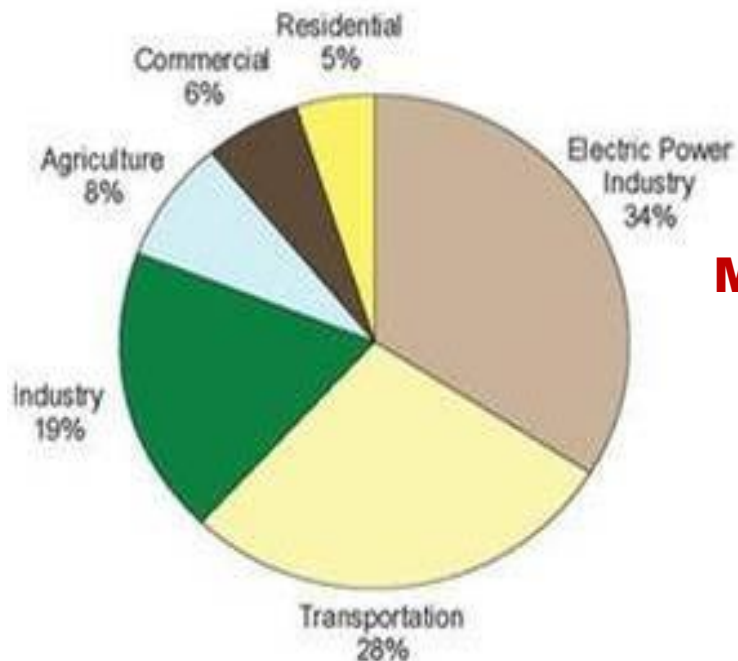


Creation of Greenhouse Gasses

Source versus Use

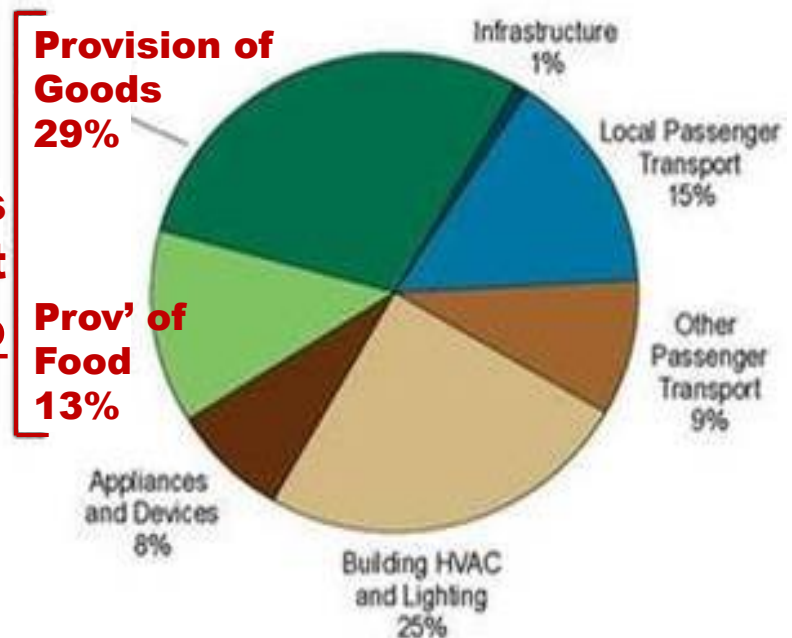
By Source

Sector-Based GHG Inventory
US (Domestic) Emissions, 2006



By Use

Systems-Based GHG Inventory
US (Domestic) Emissions, 2006

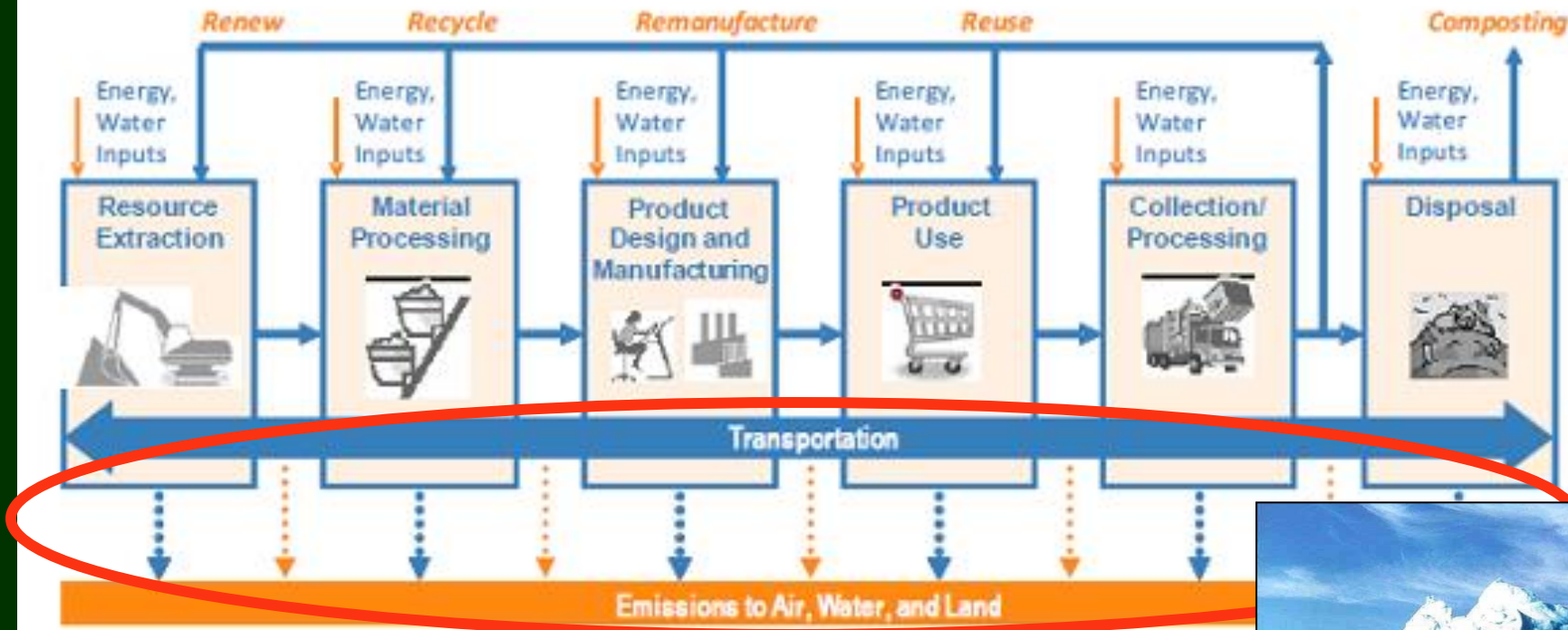


**Materials
Management
42%**

**Prov' of
Food
13%**

Flow of Materials Management

Each stage takes in material, energy, water and expels waste

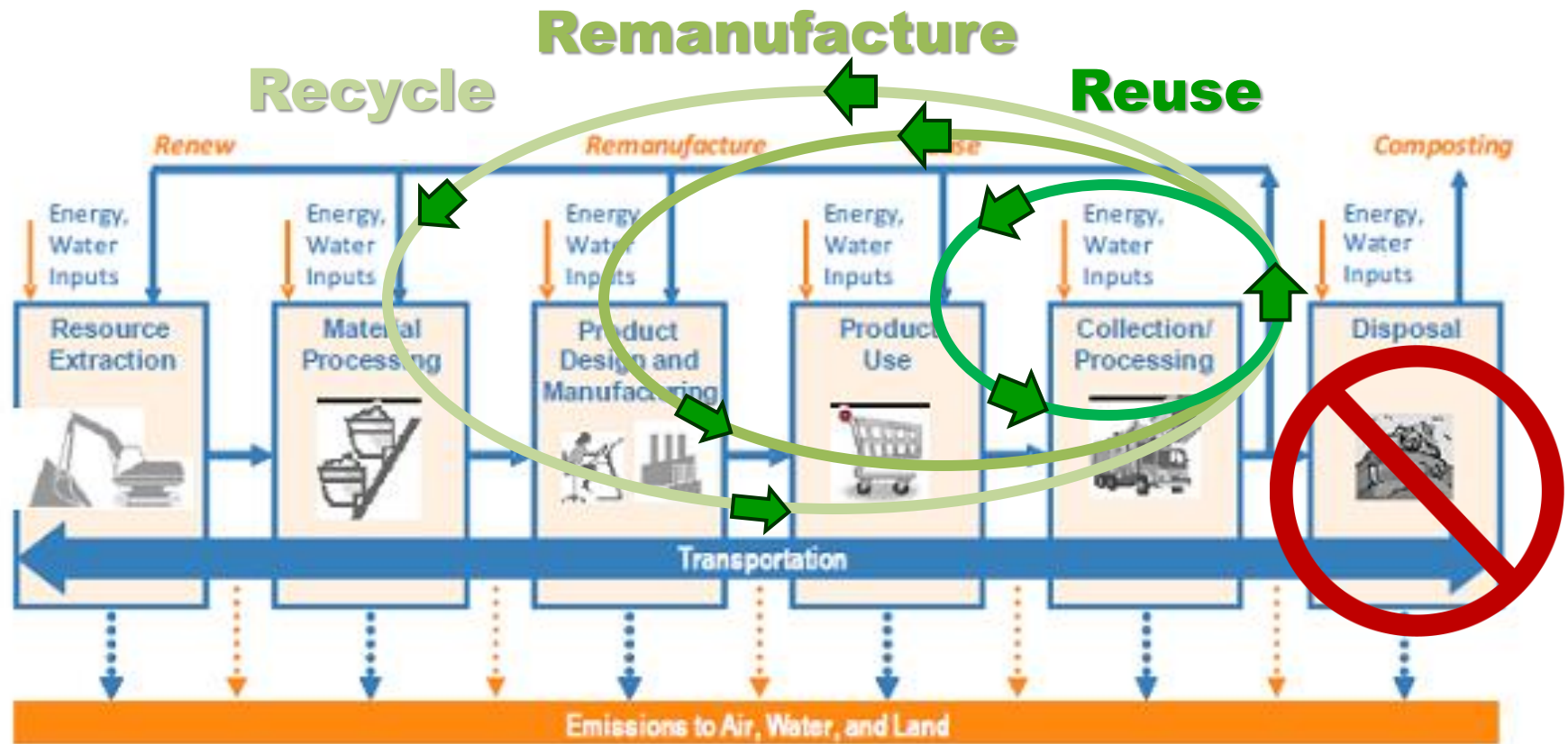


**Wasteberg is made up of
greenhouse gas emissions
as well as scrap solid waste.**



Sustainable Materials Management

Shorter loops avoid more upstream emissions and waste



The Flow of Materials
Source: State/EPA 2020 Vision Workgroup

RELATIVE COST (PER MTCO2E) AND COVERAGE – “RECYCLING” VS ENERGY EFFICIENCY

| | Relative Cost | Implement Time |
|-------------------------------|--|--|
| | Normalized Multiplier for Cost per MTCO2E (SERA) | Speed to implement and full scale implementation coverage |
| Commercial Energy Efficiency | 1.0 – the baseline | 1-3 years; fraction of customer base |
| Residential Energy Efficiency | 3 times as expensive as com'l EE | 1-3 years; fraction of customer households |
| Wind | 7-8 times as expensive as com'l EE | TBD, Phase 2 |
| PhotoVoltaic (PV) | 18-25 times com'l EE | TBD, Phase 2 |
| Curbside Recycling | 0.6-0.7 times the cost of com'l EE | 0.5- 2 years; covers all households (HH) in area |
| Pay As You Throw (PAYT) | 0.2-0.3 times cost of com'l EE | 3-9 months after political approval; covers all single family HH |
| Prevention & reuse | 0 cost | No lag; education |
| Yard Waste program | 0.5 +/- times cost of com'l EE (Phase 2) | 1-2 years, Phase 2 |

NOTE: Conservative estimates (Source: Skumatz Economic Research Associates SERA 2007-2008; DRAFT);
may be used with permission of author

Austin Zero Waste Master Plan Goes Beyond Recycling

- New Material Management Policies:
 - ❑ Extended Producer Responsibility
 - Take-back
 - Redesign for easier, higher reuse, or recycling
 - ❑ Reduce single-use non-recyclable products & packaging
- Reuse Recovery Centers
- Composting facilities for Organics
- Eco-Industrial Park – help create markets for recyclables