Manufacturing process **without** recycling

- **Landfill or Incinerator**
- **Natural Resources**

- **CONSUMER**
- **COLLECTOR**

- **MANUFACTURER**
- **PROCESSOR**
Manufacturing process with recycling

- Landfill or Incinerator
- Natural Resources
- Consumer
- Collector
- Manufacturer
- Processor
Natural Resource Extraction

- Removal of resources takes a tremendous amount of energy.
- Can release carbon trapped in carbon sinks.
- Temporarily or permanently eliminates carbon sinks and their ability to remove carbon from the atmosphere.
- Leaves behind significant pollution which causes long-term damage to ecosystems and can further damage carbon sinks.
Processing

- Takes a tremendous amount of direct energy.

- Takes a significant amount of “hidden” energy and resources to create the equipment and facilities to do this processing.

- Leaves behind significant pollution which causes long-term damage to ecosystems and carbon sinks.
Manufacturing

- Takes a tremendous amount of direct energy.
- Takes a significant amount of “hidden” energy and resources to create the equipment and facilities to do this processing.
- Leaves behind significant pollution which causes long-term damage to ecosystems and carbon sinks.
Disposal

- Organic materials (food, paper & wood) in a landfill rot anaerobically, and produce significant amounts of methane, a greenhouse gas 20-25 times more damaging than CO2.

- The construction of a landfill is basically the digging of a giant pit (from as little as 20 acres to over 100 acres). This digging releases any carbon that had been trapped in those soils, as well as removing any trees or other vegetative carbon sinks that were previously on the land.
Transportation

• Takes a tremendous amount of direct energy, fossil fuels, and generates a significant amount of CO2.

• Often tremendous mileage between point of resource extraction and product consumption.

• Takes a significant amount of “hidden” energy and resources to create the equipment and infrastructure for this transportation.
• Recycling
  – Reduces the need for or the impact of many steps in the manufacturing process.
  – Provides resources for the manufacture of future products.

• Waste/Consumption Reduction (including reuse)
  – Not consuming products eliminates most steps in the manufacturing process and their impacts.
  – Does not provide resources for the manufacture of future products.