10.2 LIFE CYCLE ASSESSMENT AND RECYCLING

Reducing the use of resources

- **Recycle**
  - Separation required
    - Amount depends on properties of final product
      - Scrap steel and iron can be kept together and added to iron in a blast furnace – less iron ore required
  - Metals can be melted down and recast into a new shape
  - Benefits
    - Saves finite metal
    - Less waste in landfill
    - Less energy
- **Reuse**
  - Glass bottles can be reused
  - Other glass products can be melted down and reshaped
- **Sustainable development**
  - Use fewer non-renewable and finite fuels
  - Use lower energy and lower waste processes
  - Limited raw materials are used to make metals, glass, clay ceramics and most plastics

Life cycle assessments

- Obtaining and processing raw materials
- Manufacturing and packaging
- Product operation
- Disposal
- Assess the environmental impact of products
- Compare LCA of plastic bags and paper bags
- Easy to quantify use of water, resources, energy and waste production
- Hard to measure pollutant effects
  - E.g.littering of plastic bags is unattractive
  - Not objective

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