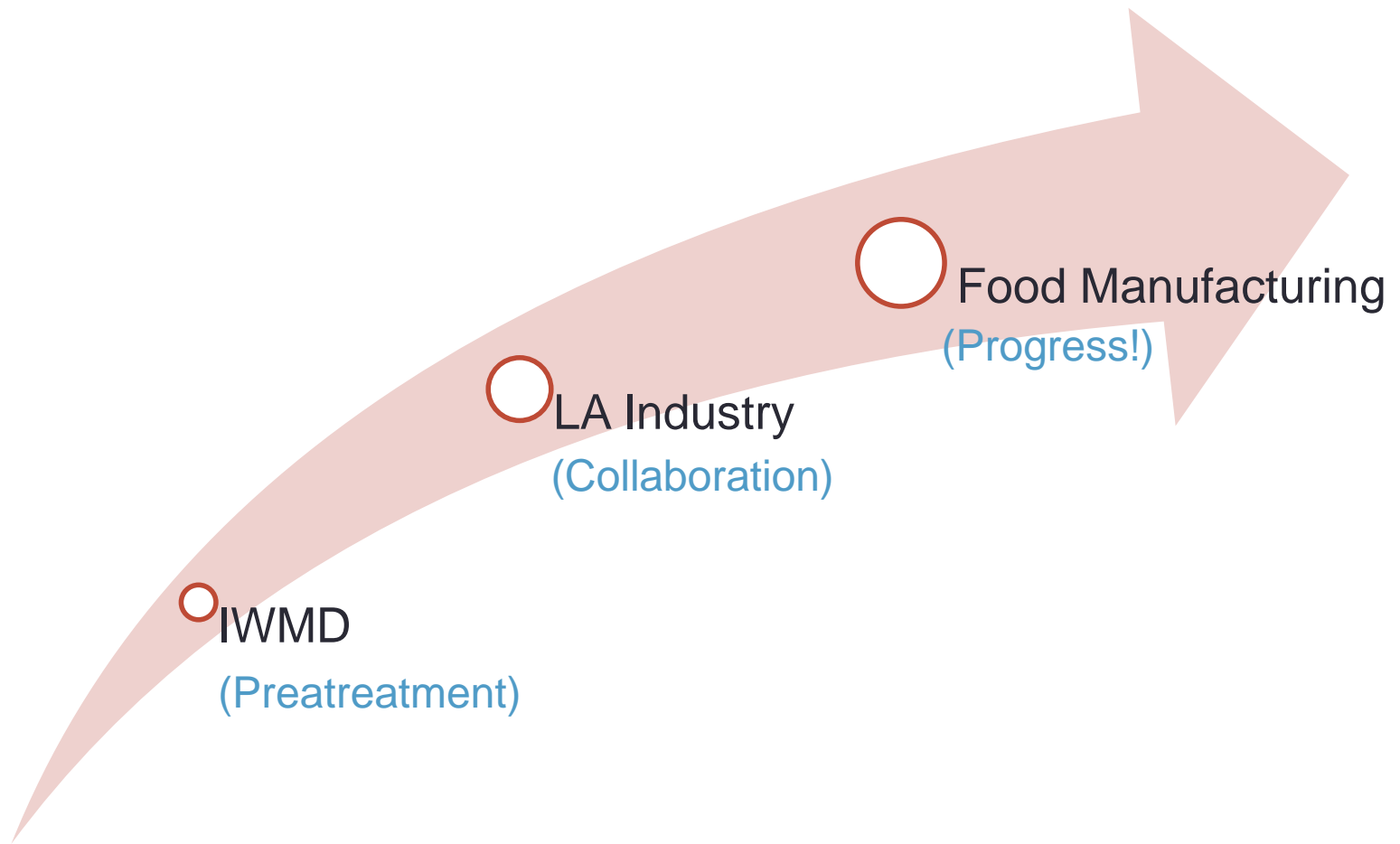




Michael Simpson, P.E.  
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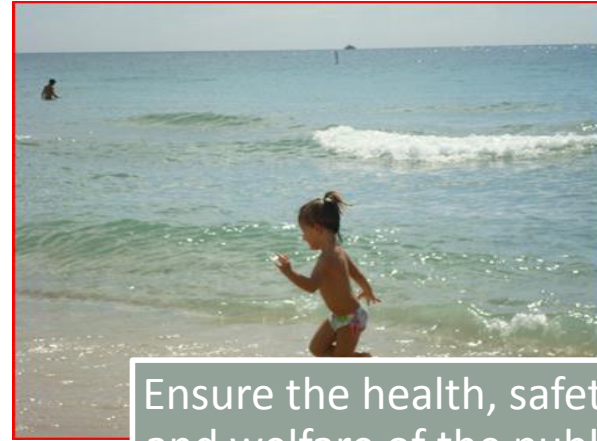
# Today's Objectives



# Pretreatment Program Objectives



Protect the treatment plants



Ensure the health, safety, and welfare of the public

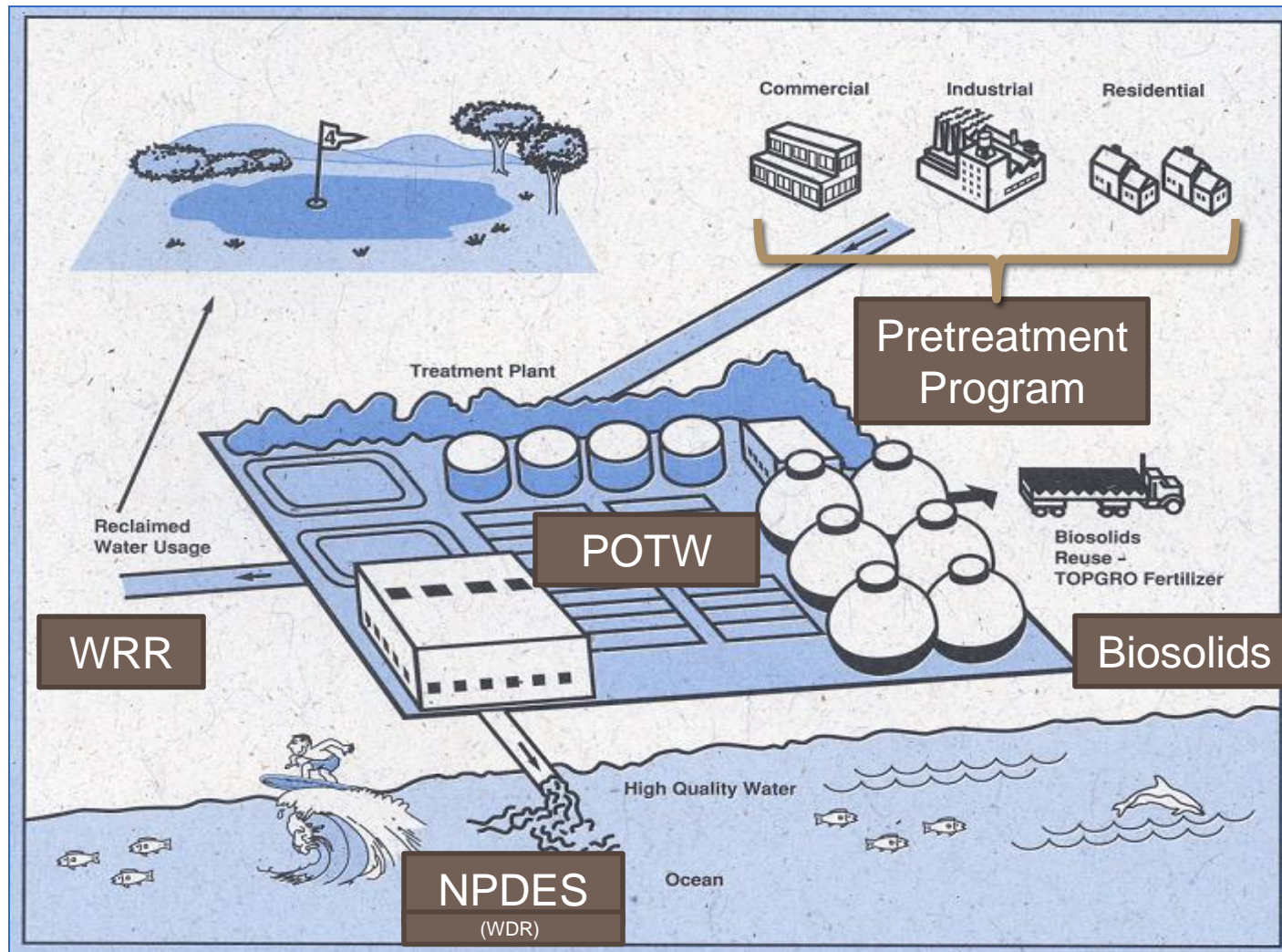


Provide opportunities for biosolids re-use



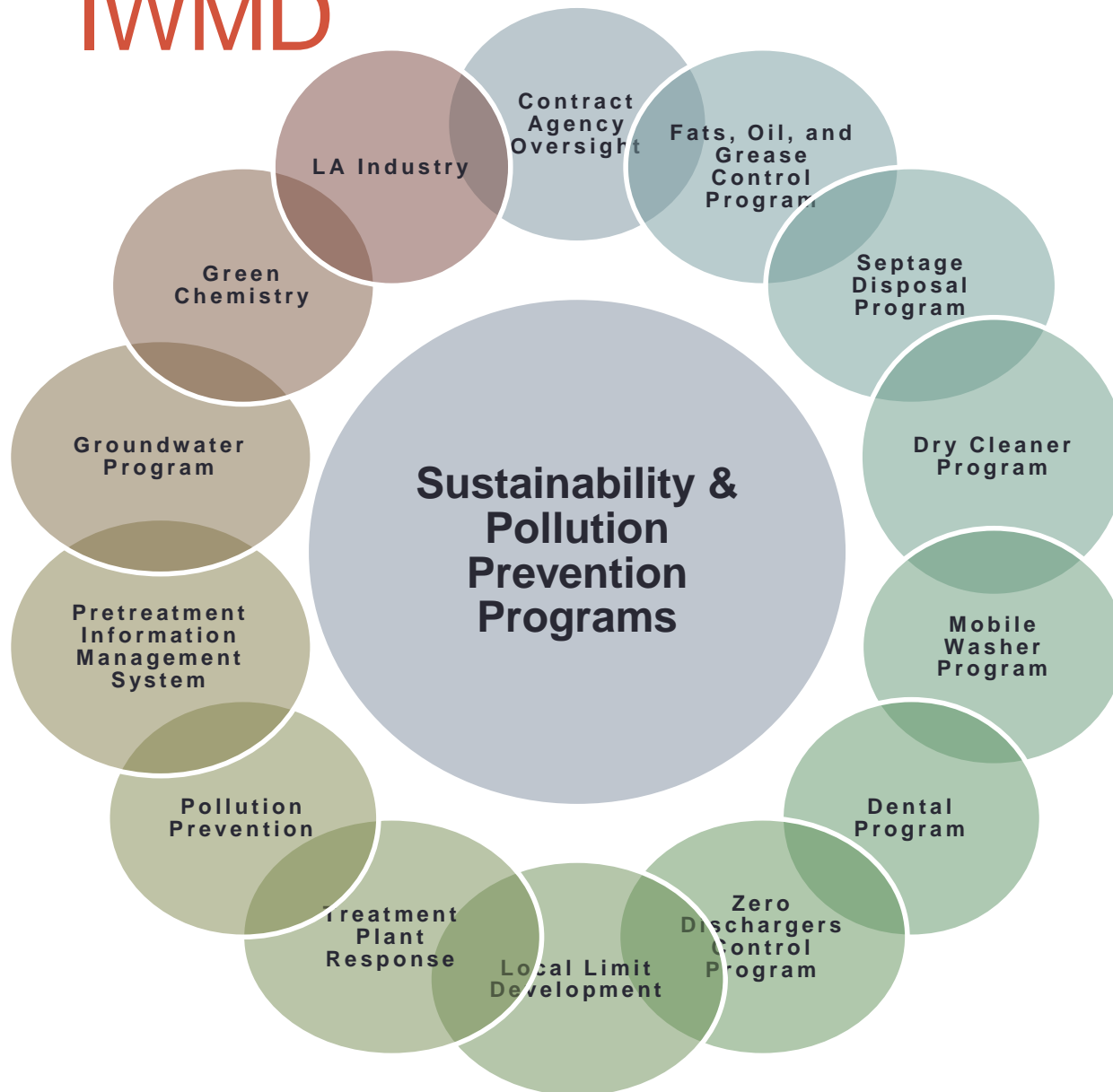
Provide the opportunity for water reclamation

# NPDES & Pretreatment Program



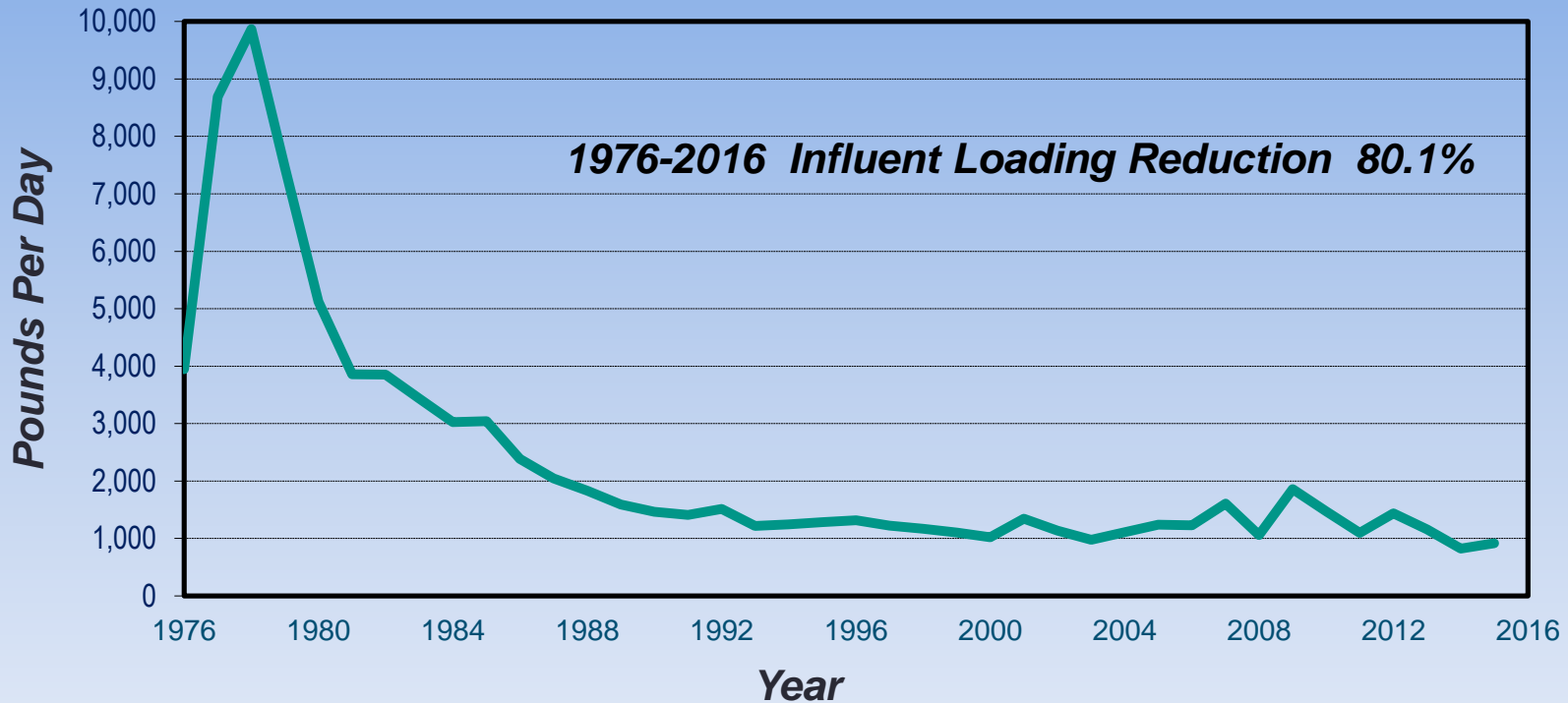


# IWMD



- **16,000 permitted facilities that discharge into the sewers**
- **15% of the City's wastewater is of industrial origin**
- **93% compliance rate**
- **140 staff members**

# Heavy Metals Reduction at Hyperion Treatment Plant



- Heavy metals include: cadmium, chromium, copper, lead, mercury, nickel, silver, zinc

# Mayor's Sustainability pLAn



## 2017 Outcomes

- Expand local organic waste-collection program
- Anaerobic digestion facility
- Waste franchise system to reach 80% diversion



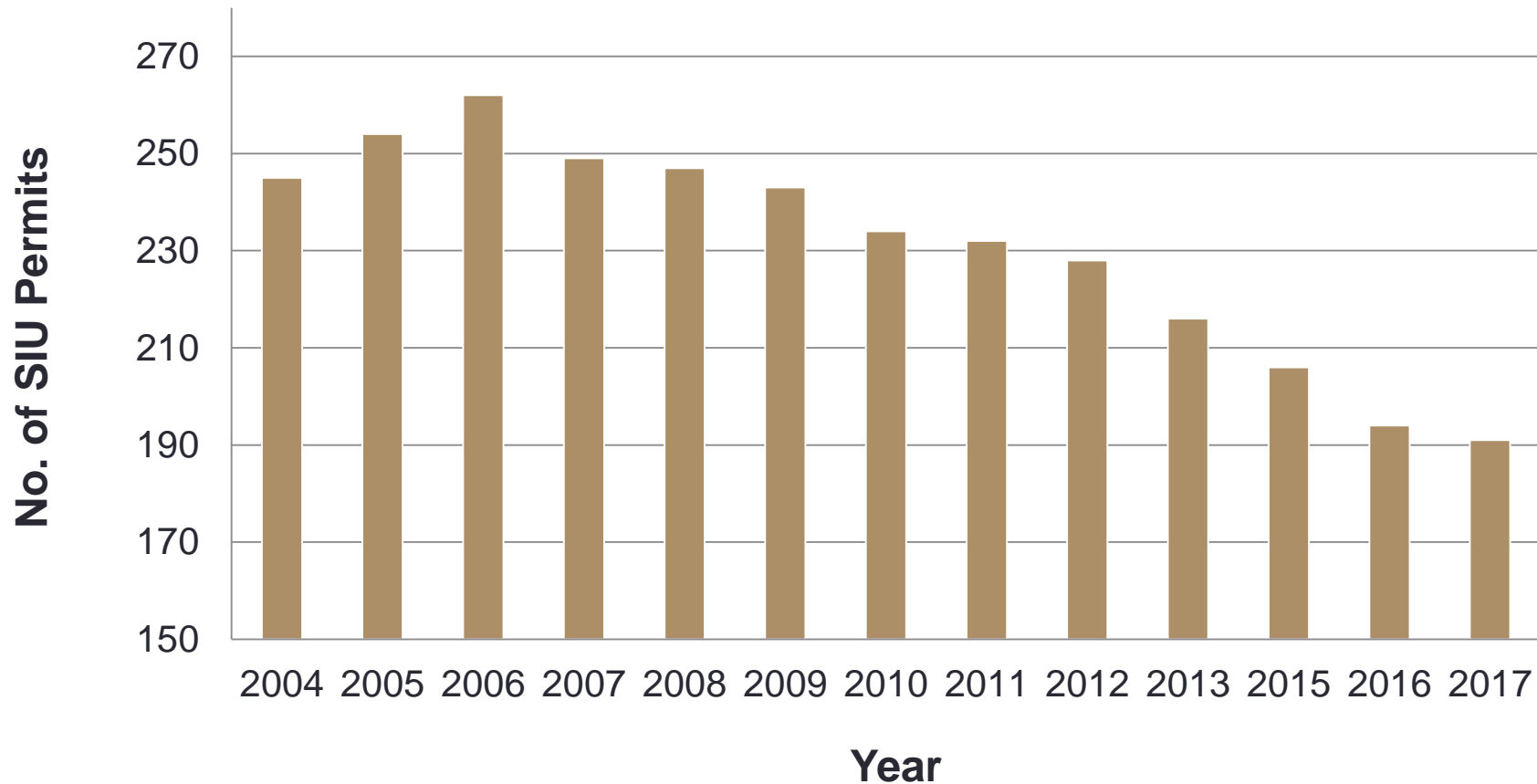
## Landfill Diversion



## Local Reuse



# Challenge 1: Significant Industrial Users (SIUs) Declining



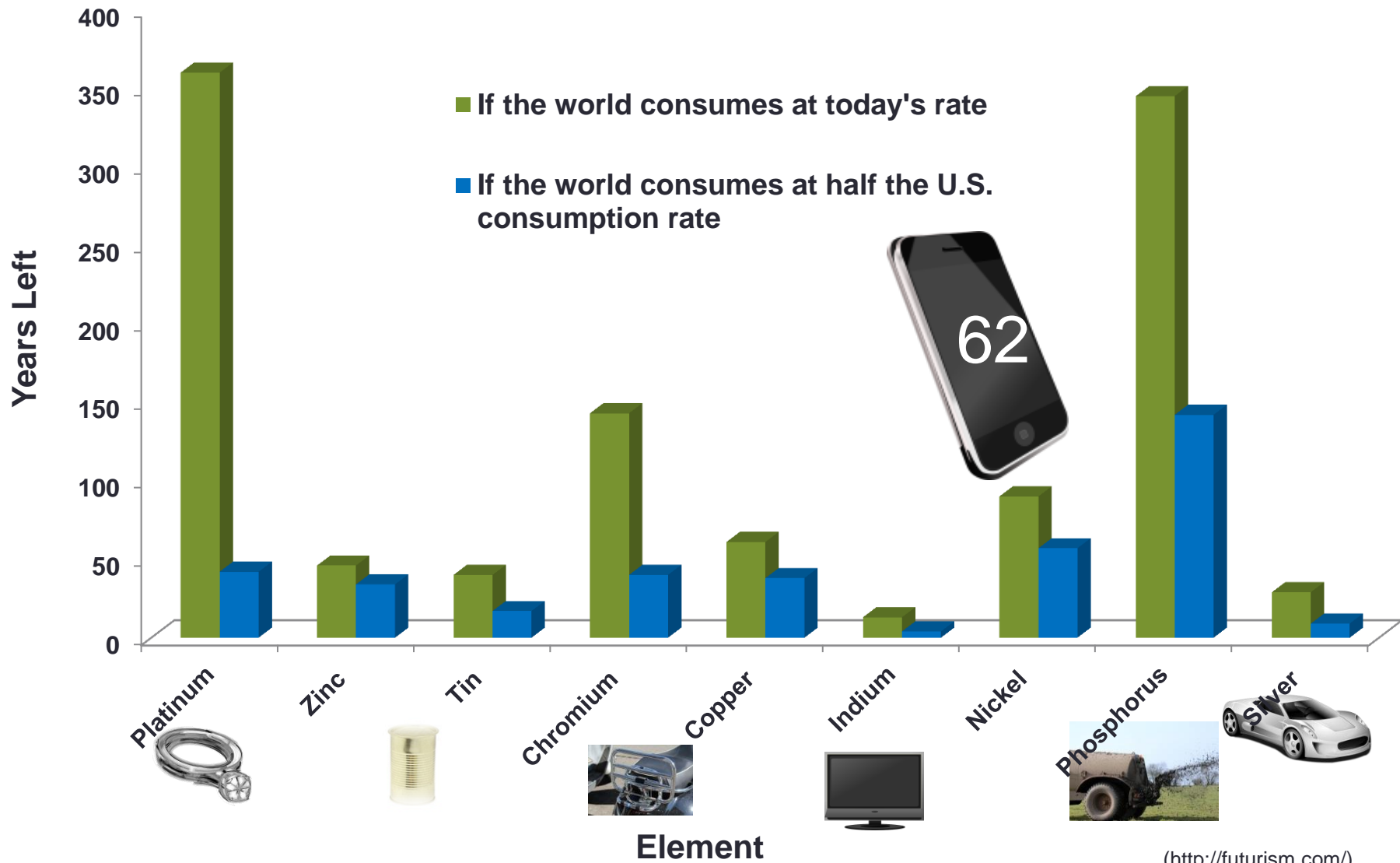


# Challenge 2: Linear Economy

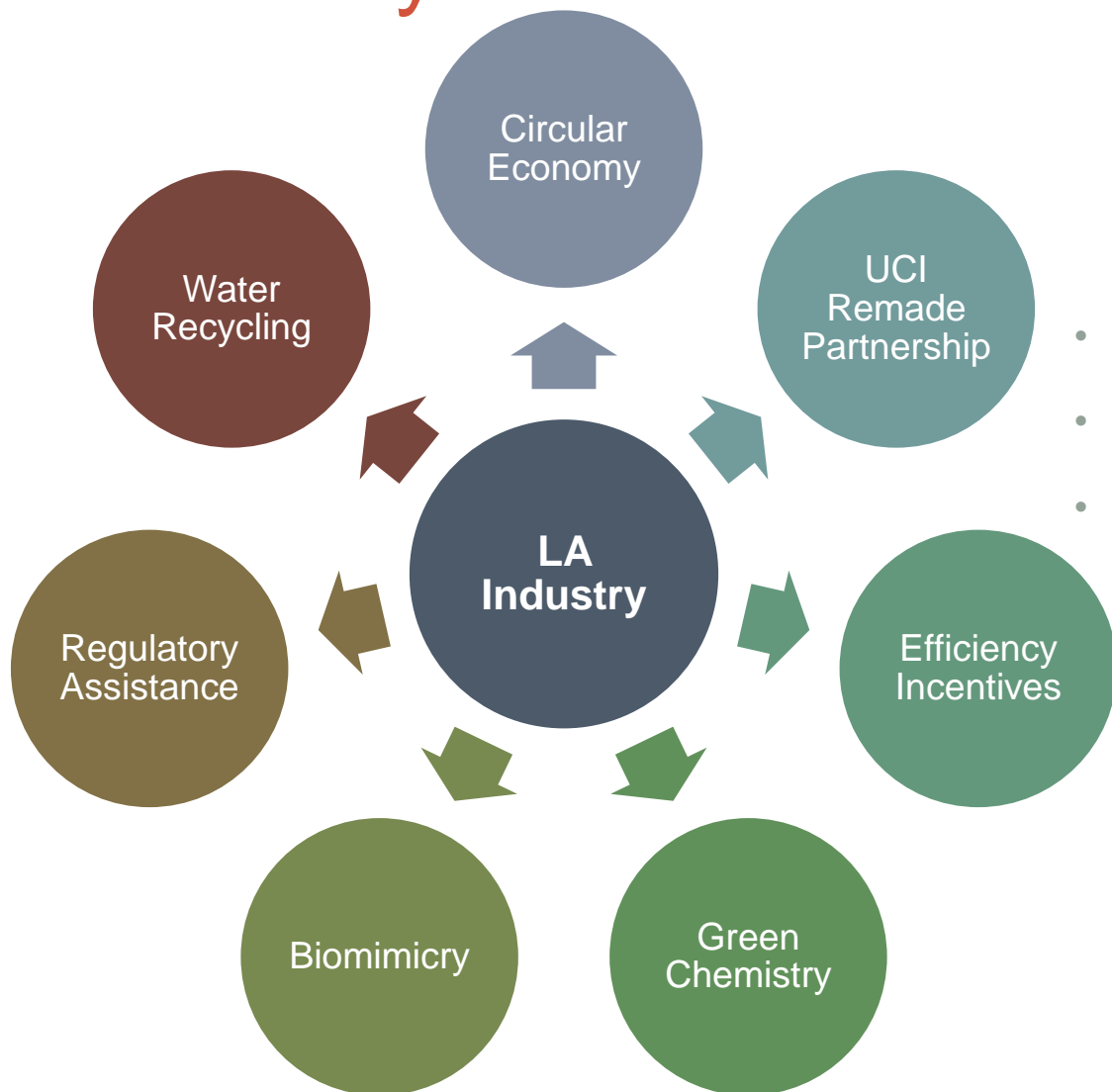
- Economy based on production and consumption
- Leads to economic losses and structural waste
- Increased risk
  - Resource prices
  - Supply uncertainty



# Challenge 3: How Long Will it Last?



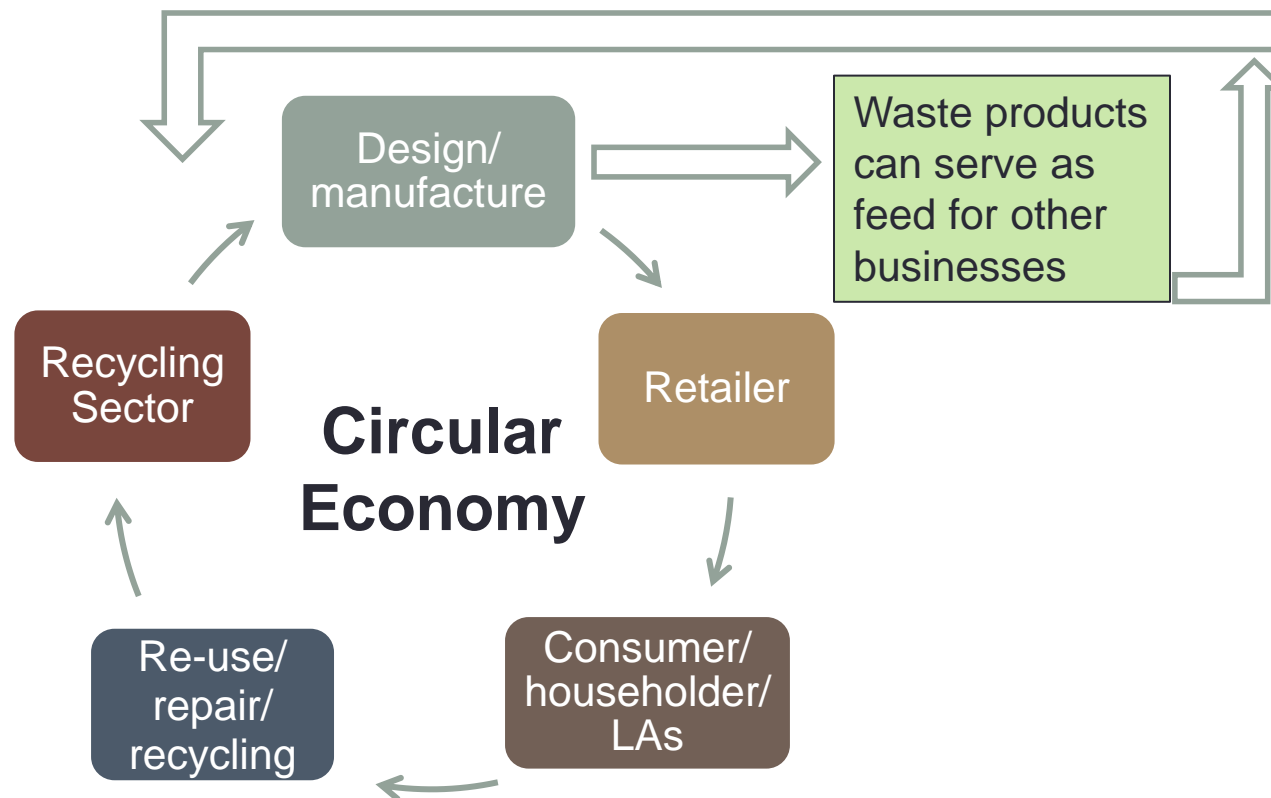
# Solution: LA Industry Business Friendly Pathways for Collaboration



- Regulatory excellence
- Create business friendly pathways
- aGREENment

# IWMD and Circular Economy

IWMD aims to promote circular economy by identifying opportunities to disintegrate abundance of spent waste, integrate back into products, while maintaining highest value.



# LA Industry at Work

- Golden Road Brewing Case Study

- Use circular economy framework to reintegrate spent yeast generated from the brewing process to integrate into another process

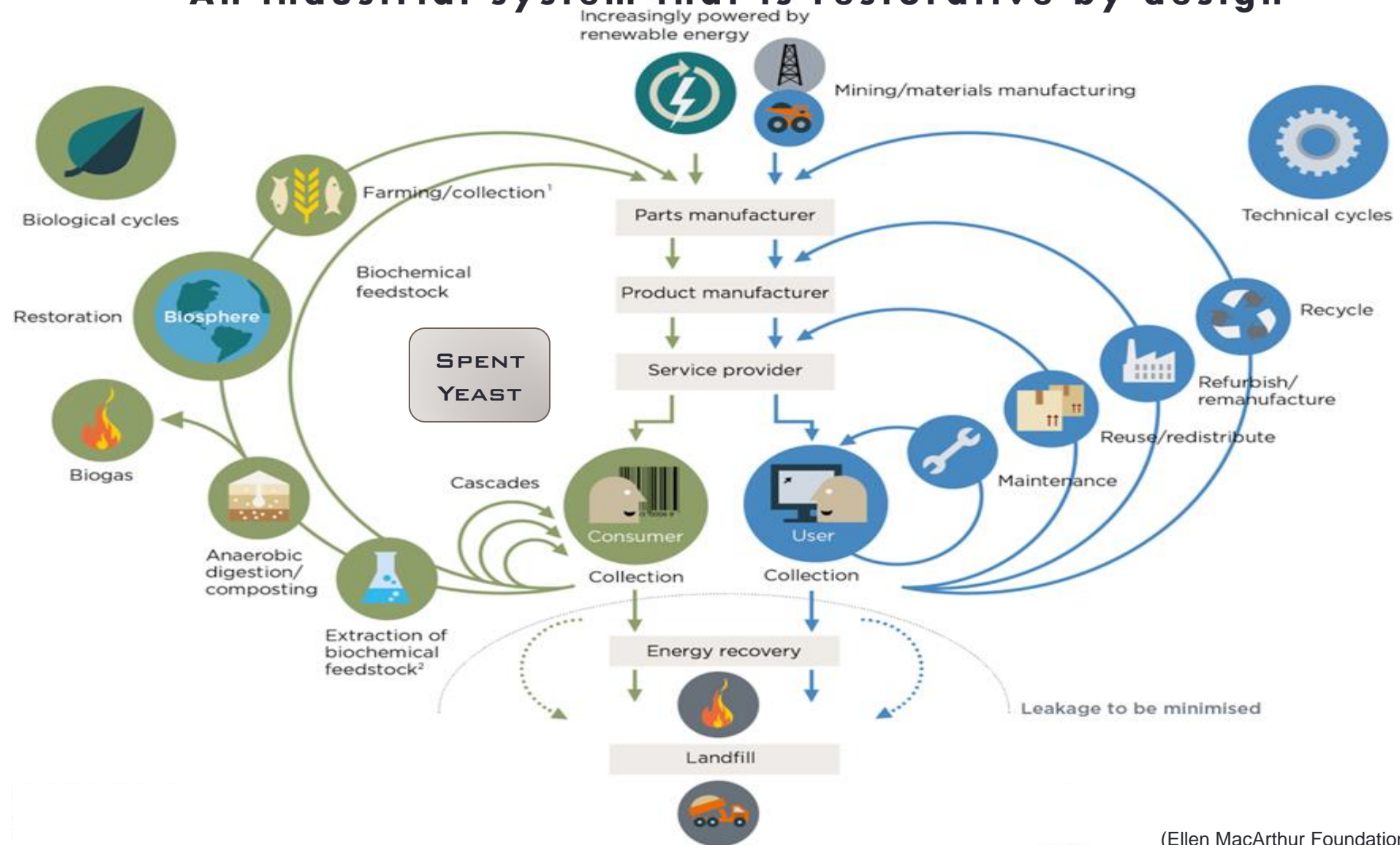


## Outcomes

- Integrate into animal feed
- Nutritional supplement
- Discharge to sewer
- ECOR
- Economy scale
  - USBC
  - CAL RECYCLE

# Circular Economy

**An industrial system that is restorative by design**

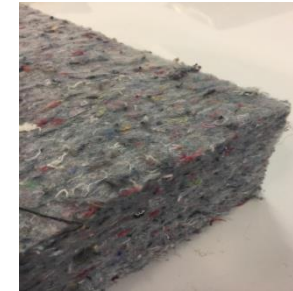
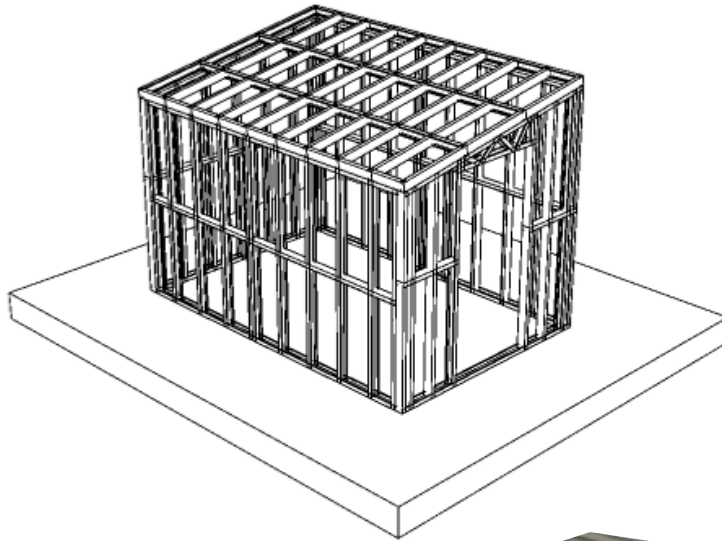




# Locally Sourced Building Materials

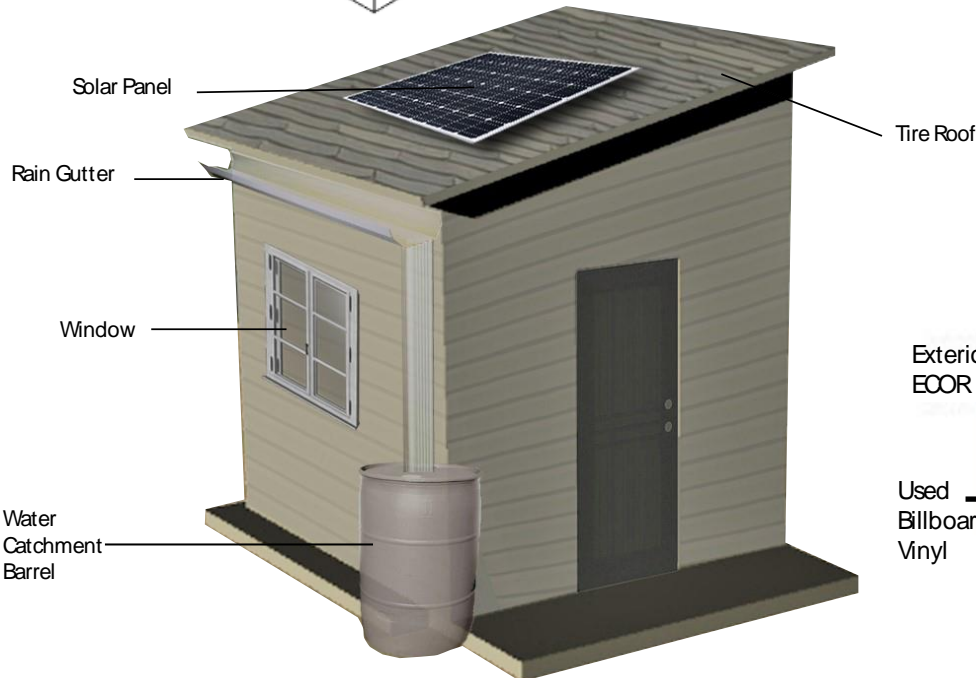
Used Banner Vinyl

Light Gauge Recycled Steel Frame Kit



Unused Paint

Recycled Fabric



Tire Roof

Steel Frame

Wallpaper or Paint

Exterior  
ECOR

Interior  
ECOR

Used  
Billboard  
Vinyl

Recycled Textile Insulation  
or Convention Signage



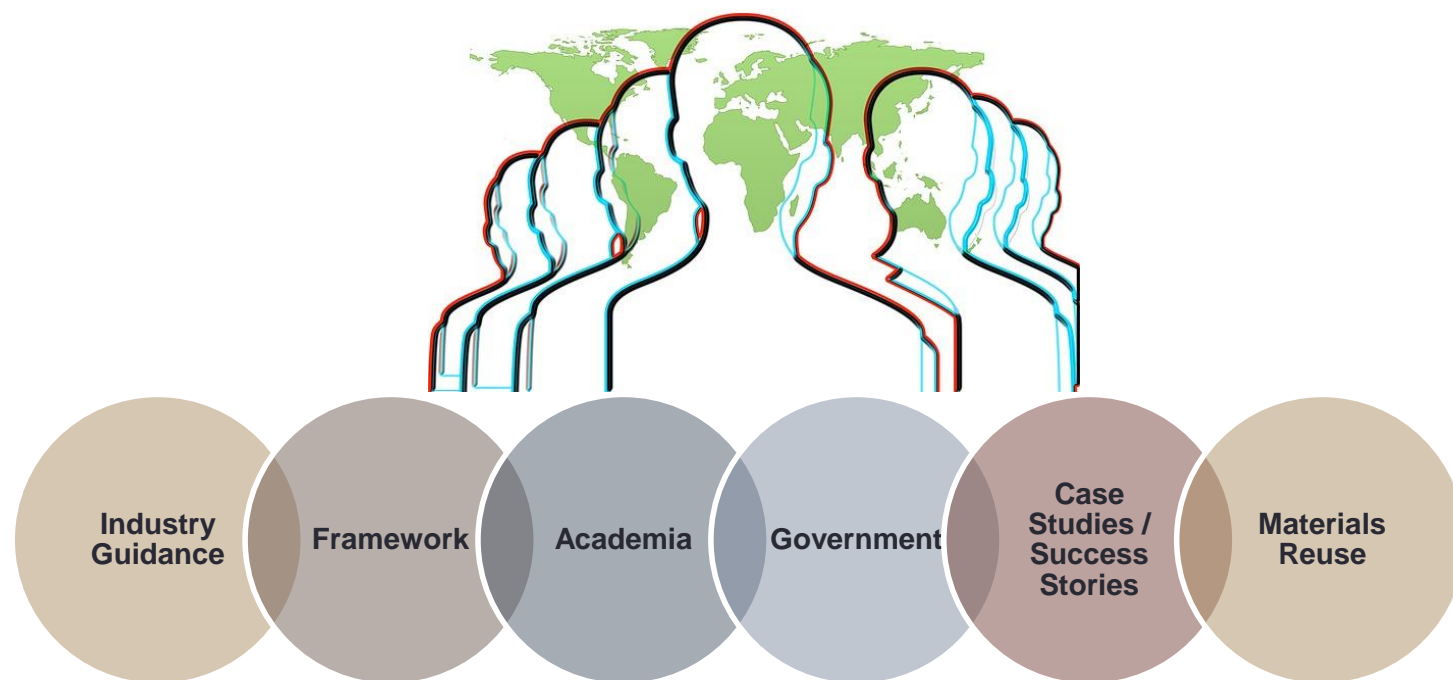
Recycled Signage



Light Gauge Steel  
Frame Connection

# Future collaborations on:

- Spent waste
- Educational materials to mainstream understanding of circular economy and green chemistry/ green chemistry checklist
- New technology opportunities
- Material Exchange Marketplace



# IWMD Cultural Reformations

- Business Friendly Strategies
- Speakers' Club
- Each One Reach One Campaign
- Green Chemistry Guide
- Pollution Prevention Training
- Biomimicry for Industrial Application
- Pre-development Collaboration on Large Scale Projects

# LA Industry