# Circular Economy at Jamshedpur

## Jamshedpur-Alto Minho-IURC India Meeting

## on March 11, 2022

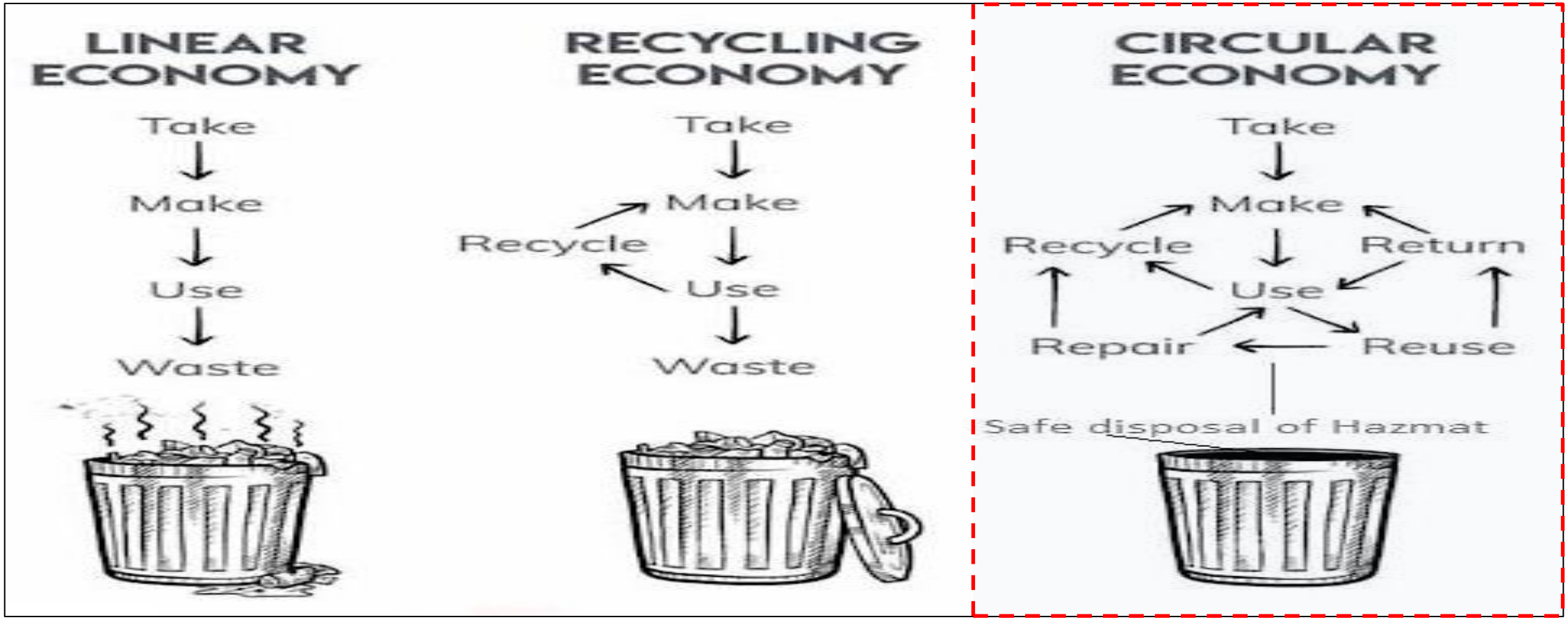


**Rajiv Kumar**

# Agenda

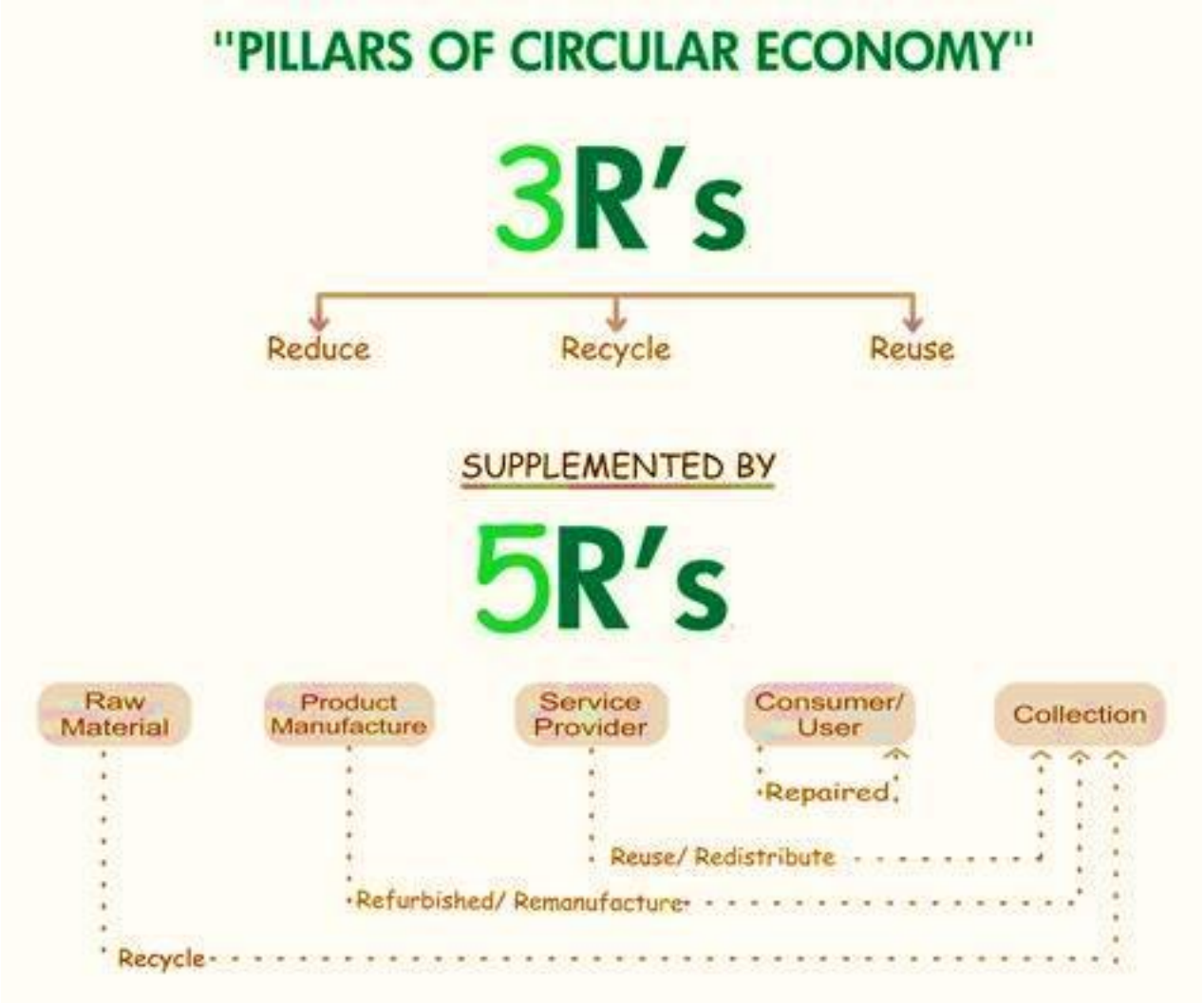
- **Background**
- Waste Management
  - E Waste Management  Centre
  - Converting fly ash dumped areas into Water bodies
  - Converting MSW legacy dump into Green cover and Parks & Gardens at Marine Drive
  - Using demolition waste ( engineering debris) into construction of two wheelers parking area for contractor’s workers
  - Using demolition waste and MSW dump site into Biodiversity Park at Kadma
- Waste Water
  - Setting up Tertiary Treatment Plant to recycle water for steel making

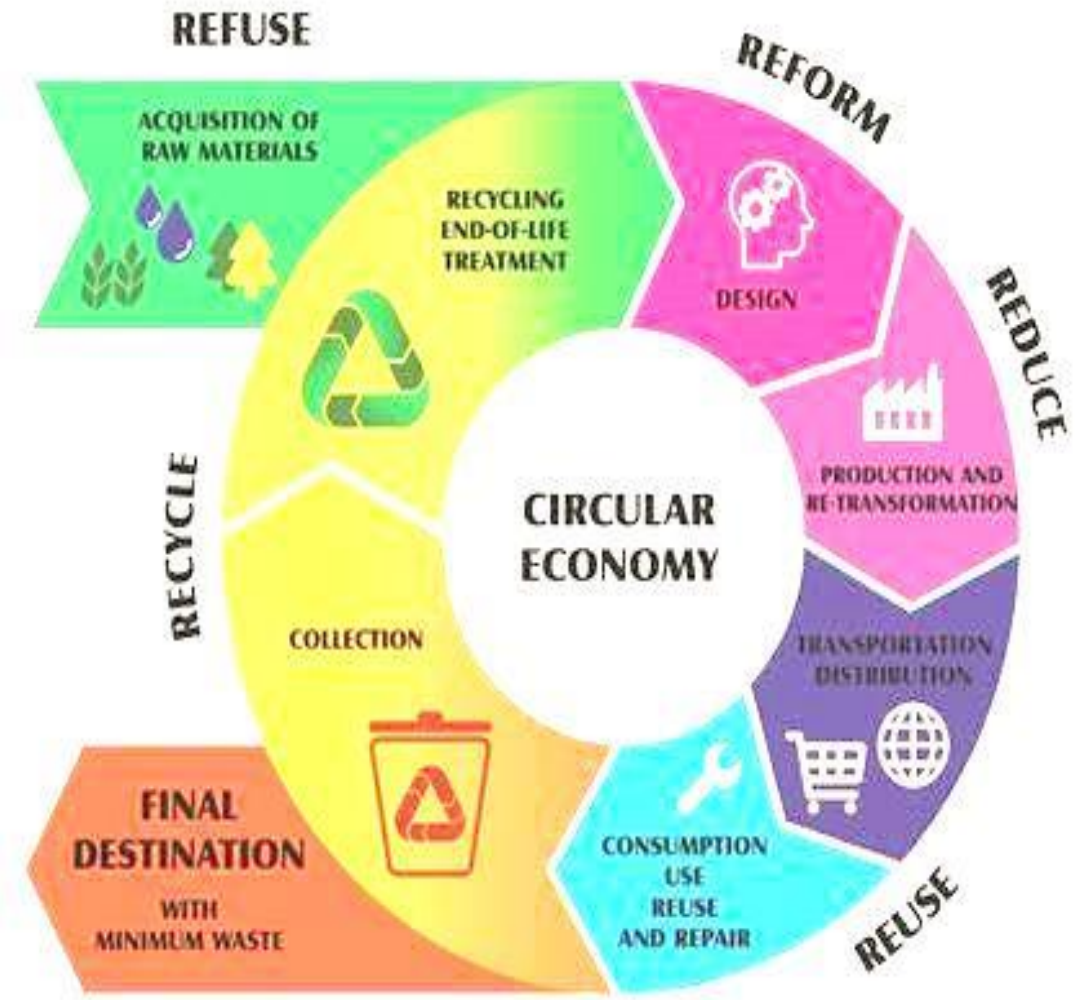
# What is Circular Economy



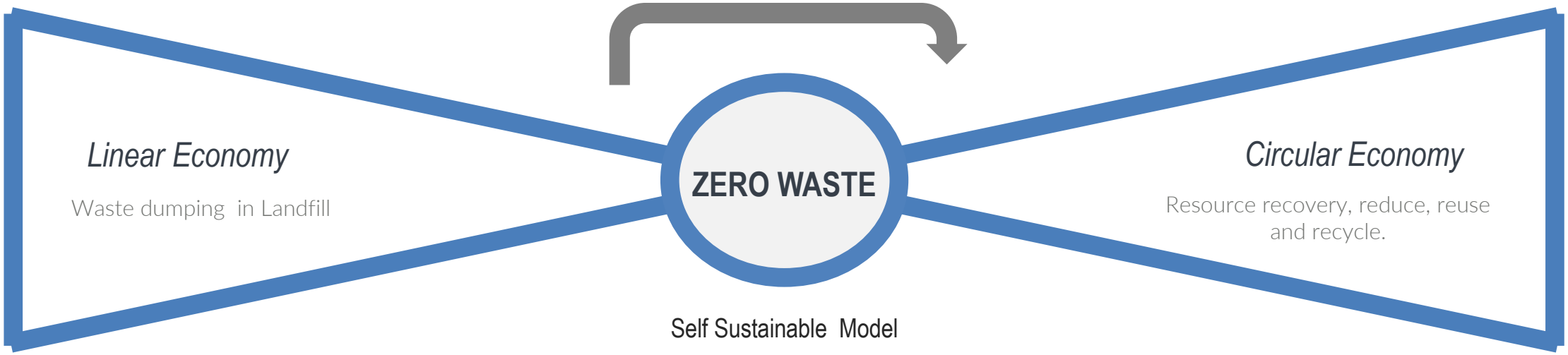

- **Circular Economy which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible.**
- **The circular economy, which promotes the elimination of waste and the continual safe use of natural resources, offers an alternative that can yield up to $4.5 trillion in economic benefits to 2030.**

# Characteristics and principles of circular economy



# Objective of Circular Economy in Waste Management




Self Sustainable Model

Disposal of Waste in Landfill creating Environmental Problems and no Income Generated

Does

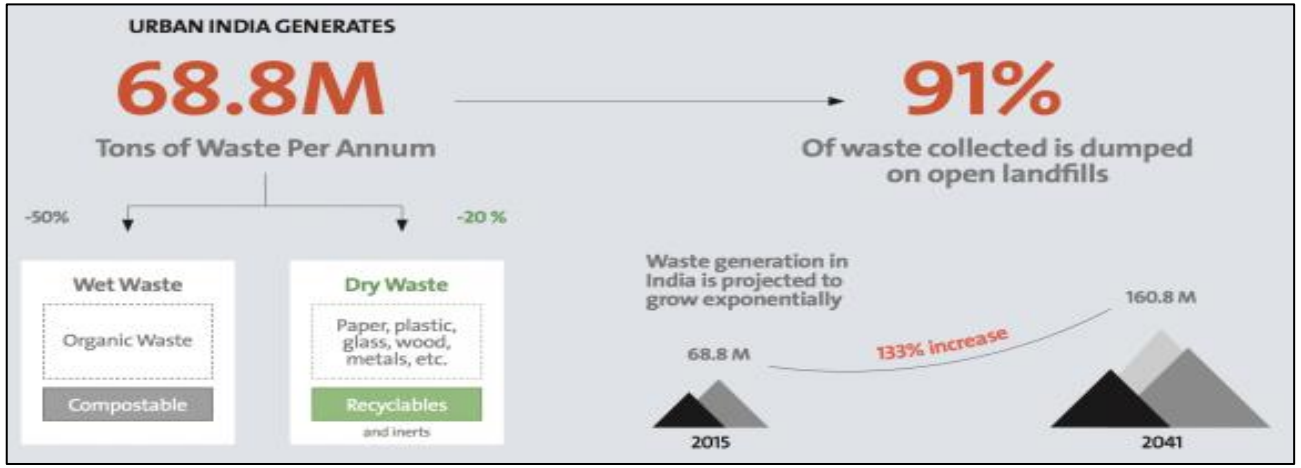
**PAIN**

**GAIN**

Economy On waste and Zero waste to Landfill

Objective is to Implement circular Economy concept for proper streaming of Solid, Plastic, e-waste, C&D Waste of townships to achieve Zero waste Model ( Until LVM – Life vehicle Machine) ensuring no waste to landfill and also thereby enabling societies to become sustainability champion.

# Indian scenario of Circular Economy

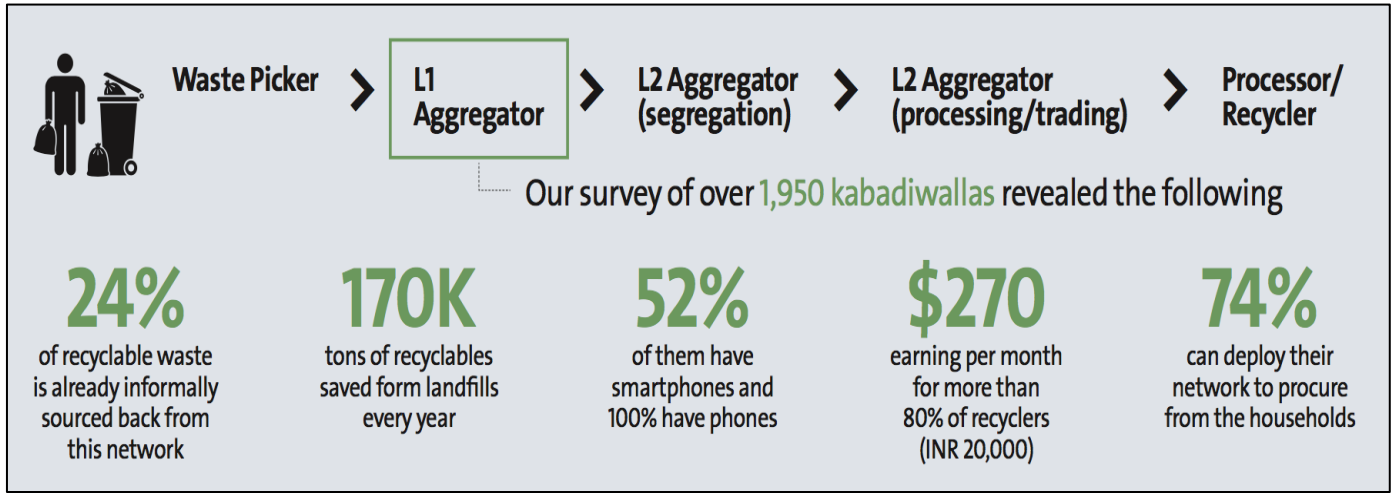



**At the landfill sites**

Carbon emission

Water Pollution

Green House Gas Emission




Source: Niti ayog

# Legal Framework

**The Rules mandate for effective solid waste management by bulk waste generators**


Hotels

Market Places

Commercial Buildings


Hospitals


Local Bodies and Government Buildings

Gated Communities

## RULES AND REGULATIONS

**01** **Solid Waste Management Rules 2016**

- ❑ Source Segregation should be done
- ❑ Bulk Waste Generators should manage organic waste on site

**02** **Plastic Waste Management Rules, 2016**

- ❑ Dry waste should be sent for Proper Recycling Facilities

**03** **E-Waste Management Rules - 2016**

- ❑ Electronic waste should be Recycled

**04** **Construction Waste Management Rules - 2016**

# Legal Framework - EPR

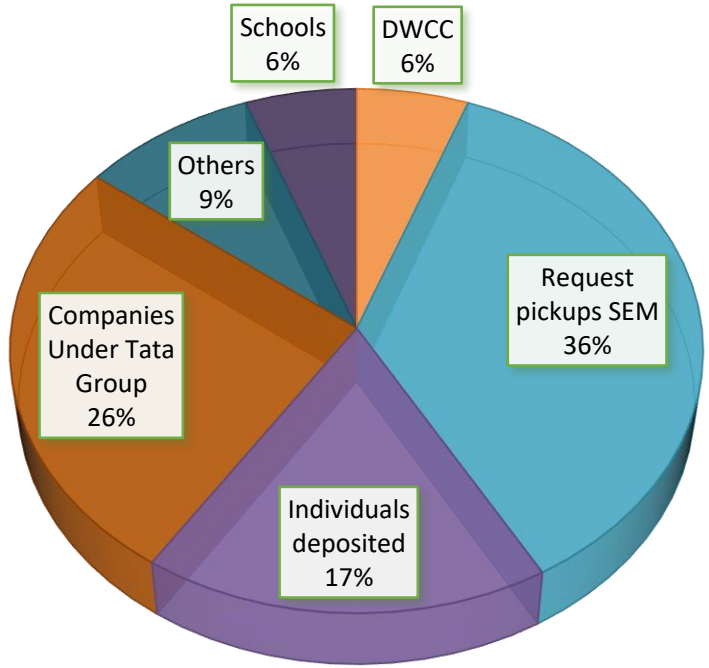
- **Extended producer responsibility (EPR)** is a critical policy mechanism that **helps advance the circular economy**, decreases the environmental impact from a product and its packaging, and promotes the principle of "polluter pays" by holding the producer accountable for the entire lifecycle of the product.

- The objectives of EPR are as follows:
  - Integration of environmental costs
  - Improved waste management
  - Reduction of disposal
  - Reduction of burden on municipalities
  - Design of environmentally sound products

**Producer responsibility Organisation (PRO)**

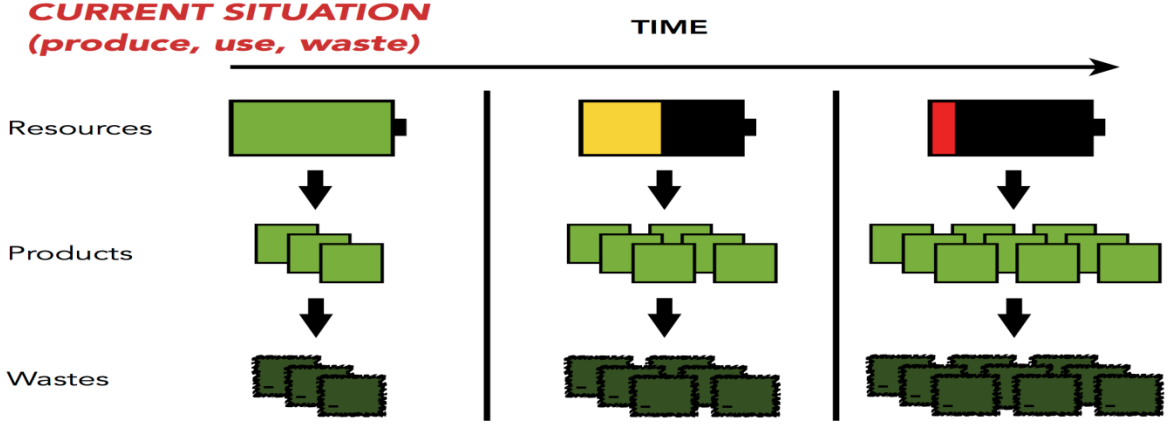
# E- Waste Management Center –Circular Economy


**Collected 318 MT In Three years of Operations.**



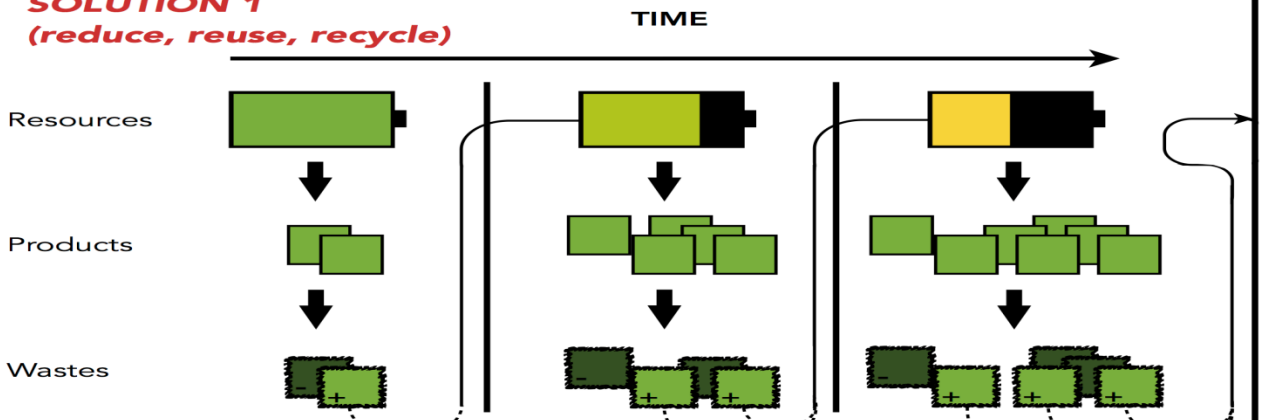

# New Approach - Cradle to Cradle

## CURRENT SITUATION (produce, use, waste)



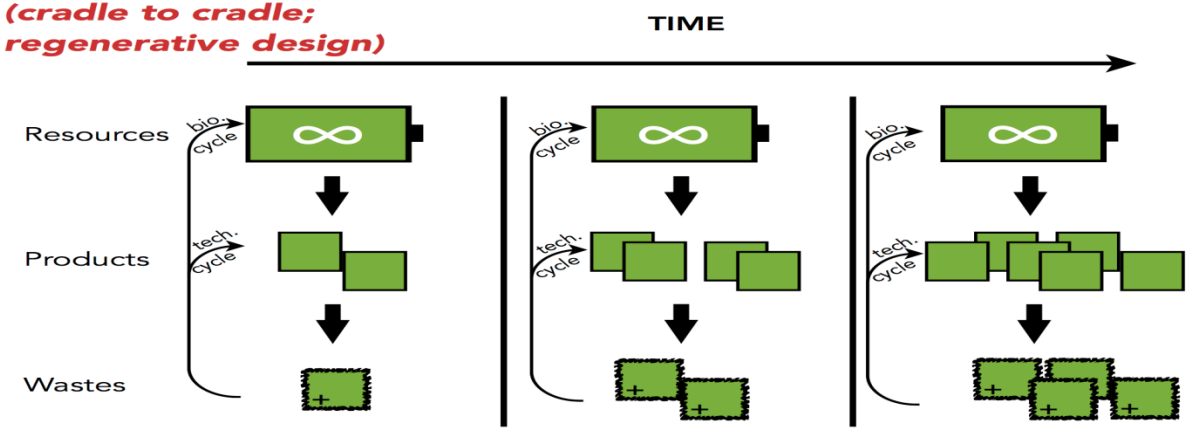

- The Earth's resources are being depleted.
- Population is increasing, which drives up production of goods.
- Increased production leads to increased waste.

## SOLUTION 1 (reduce, reuse, recycle)




- Resources deplete, just more slowly (reduce production)
- Waste recycled for new products, but waste still grows
- It's just a matter of time before resources are totally depleted.

## SOLUTION 2 (cradle to cradle; regenerative design)




- Completely healthy for the Earth and its inhabitants
- All power comes from renewable sources only
  - Solar energy, wind power, water current
- Production only uses harmless technical or biological nutrients
  - T: Inorganic or synthetic materials that can be fully reclaimed
  - B: Organic matter that, when broken down, harms nothing
- Waste re-enters the system as a technical or biological resource
- Sample biological cycle
  - A tree is planted. It grows and is harvested, carved into a shovel handle, and a sapling is planted to replace it.
- Sample technical cycle
  - Old vehicles are dismantled. The metals are safely refined. The resulting metal is used to replace the outmoded cars.
- Cycles often combine for efficiency and better products