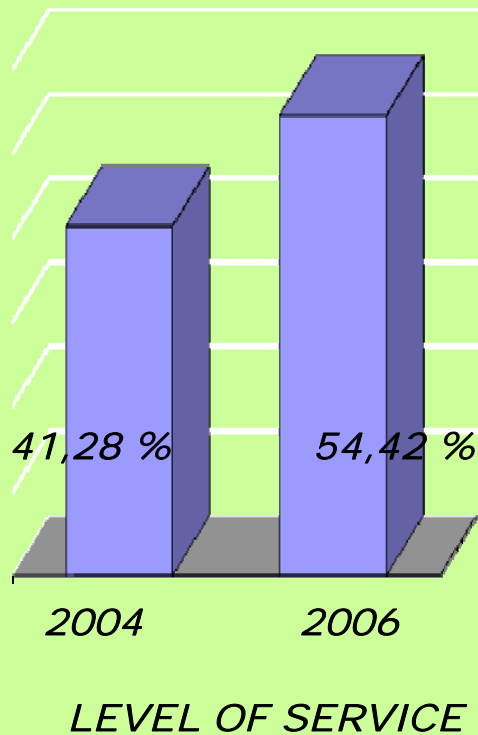


GOVERNMENT OF INDONESIA

The for Inaugural Meeting of the Regional 3R Forum in Asia  
Tokyo, 11-12 November 2009

AUSTRALIA

# Current Situation of Solid Waste Management in Indonesia



- Solid waste generated is 0.5 kg/cap/day (total 100,000 ton/day)
- Limited level of service (55 %)
- Limited budget for investment & O/M
- Lack of human resources
- 90 % open dumping (polluted)
- Recycling by informal sector
- 3R 5-6 % (pilot project in 200 cities, with community based)
- Economic value of solid waste (60 % organic & 40 % non organic)



# Existing National Five Year Plan (2004-2009) on Municipal Solid Waste Management (MSWM)

## National Target (2005-2009)

1. Level of service 75%
2. Improvement of Final Disposal Site Performance



## Policy and Strategic Plan

1. Municipal solid waste reduction at sources (3R)
2. Improvement of community and private participation as a partnership on MSWM
3. Improvement quality and level of service
4. Institutional and human resources development
5. Improvement regulation, standard, guideline, criteria and law enforcement .
6. Funding source alternatives



## Program

1. 3R Program promotion
2. Campaign & Education
3. Encourage Institutional Development & Training
4. Development infrastructure & equipment
5. Revitalization of Final Disposal Site (Open Dumping to Sanitary/Controlled Land Fill) and development Regional Landfill
6. Private investment promotion

# LEGAL FRAMEWORK DEVELOPMENT, 3R IMPLEMENTATION AND FUTURE ACTION PLAN

## National Progress

- The Act No. 18 Year 2008 regarding MSW Management.
- Government Regulation regarding MSW Minimisation (drafting in progress).
- MoE's Regulation No. 02 Year 2008 regarding Utilization of Hazardous Waste.
- MoPW Regulation No. 21 Year 2006 regarding National MSW's Policy & Strategy Until 2009 (need revising).
- National 3R Strategy (finishing in progress)
- 3R Implementation:
  - Community-scaled
  - City-scaled
  - Company's Action (for industrial solid waste)

## National Action Plan 2008-2014 and 2014-2019

- 3R targeting
- Preparing national regulation & guidelines
- Capacity building
- Socialization & campaign

# INSTITUTIONAL CONDITION AND REVITALISATION

- Since 1998 → decentralization and local government autonomy
- City/District/Local Government is responsible for solid waste management
- Variation of local institution in solid waste management
- Community and Private sector is starting to involve.
- Separation responsibilities from single institution to regulator body and operator body → to develop solid waste management professionally and its institution auditable.

# DRAFT OF NATIONAL 3R STRATEGY FORMULATION

## Sectors :

- ✓ **Municipal Solid Waste,**
- ✓ **Solid waste of Agro Industry,**
- ✓ **Solid waste of Manufacture Industry,**
- ✓ **Other Specific Solid Waste such as Handicraft and E-waste**

## Introducing of 3R Principles :

- ✓ **Involvement of Manufacturers and Public Awareness,**
- ✓ **Municipal and Industrial Solid Waste are seen as Resources,**
- ✓ **Polluter Pays,**
- ✓ **Shifting Paradigm of End of Pipe to 3R Approach,**
- ✓ **Revenue Generation from Waste Recycling,**
- ✓ **Continuous Improvement**

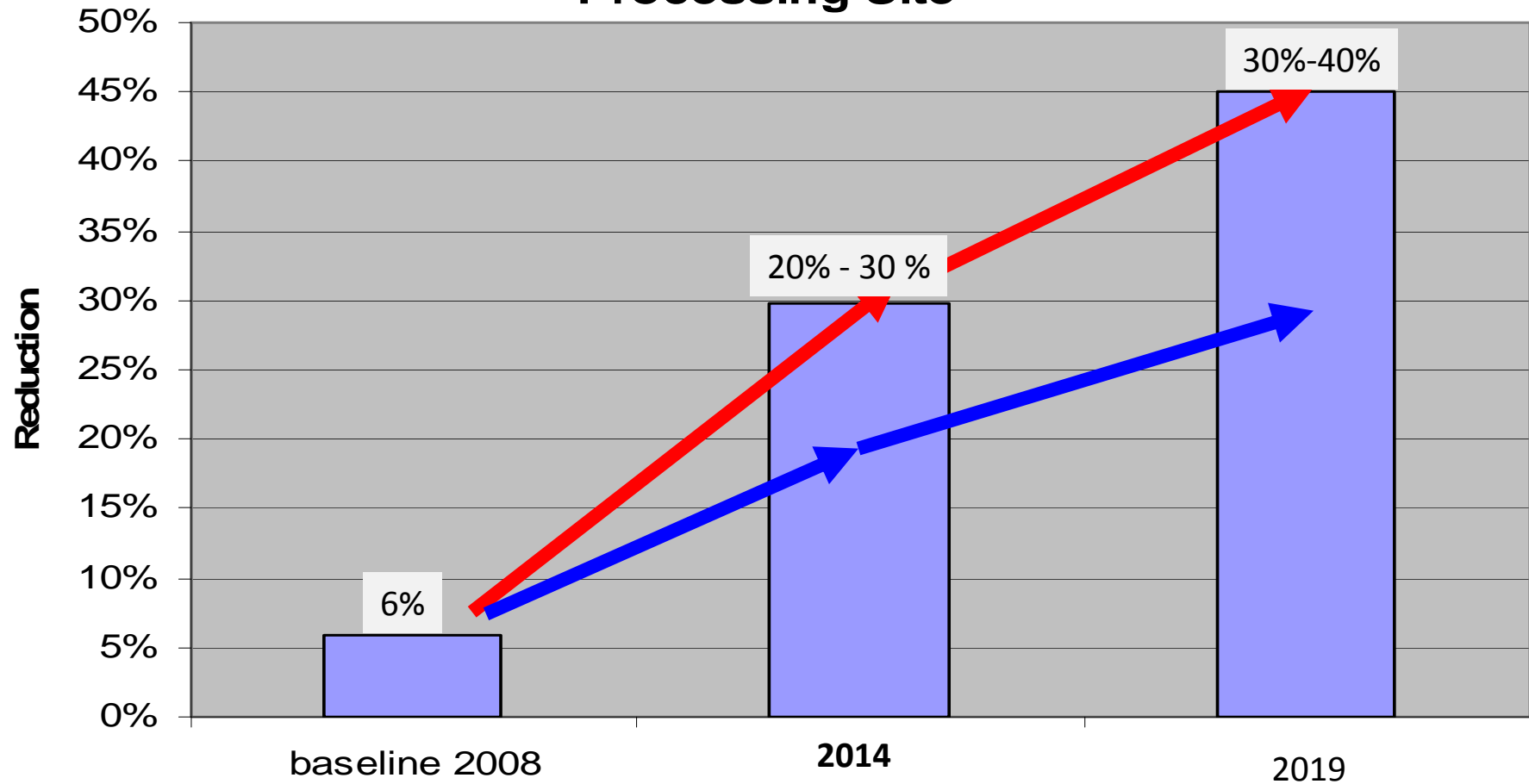
## 3R Scenario :

**Public campaign, empowerment & education**  
**Institutional strengthening,**  
**Establishment of Regulation and Policy ,**  
**Development of Technology and Information System,**  
**Enhancement of stakeholders' role,**  
**Financial Arrangement,**  
**Enhancement of Global Cooperation**

# **Draft of Action Plan (2010 – 2019)**

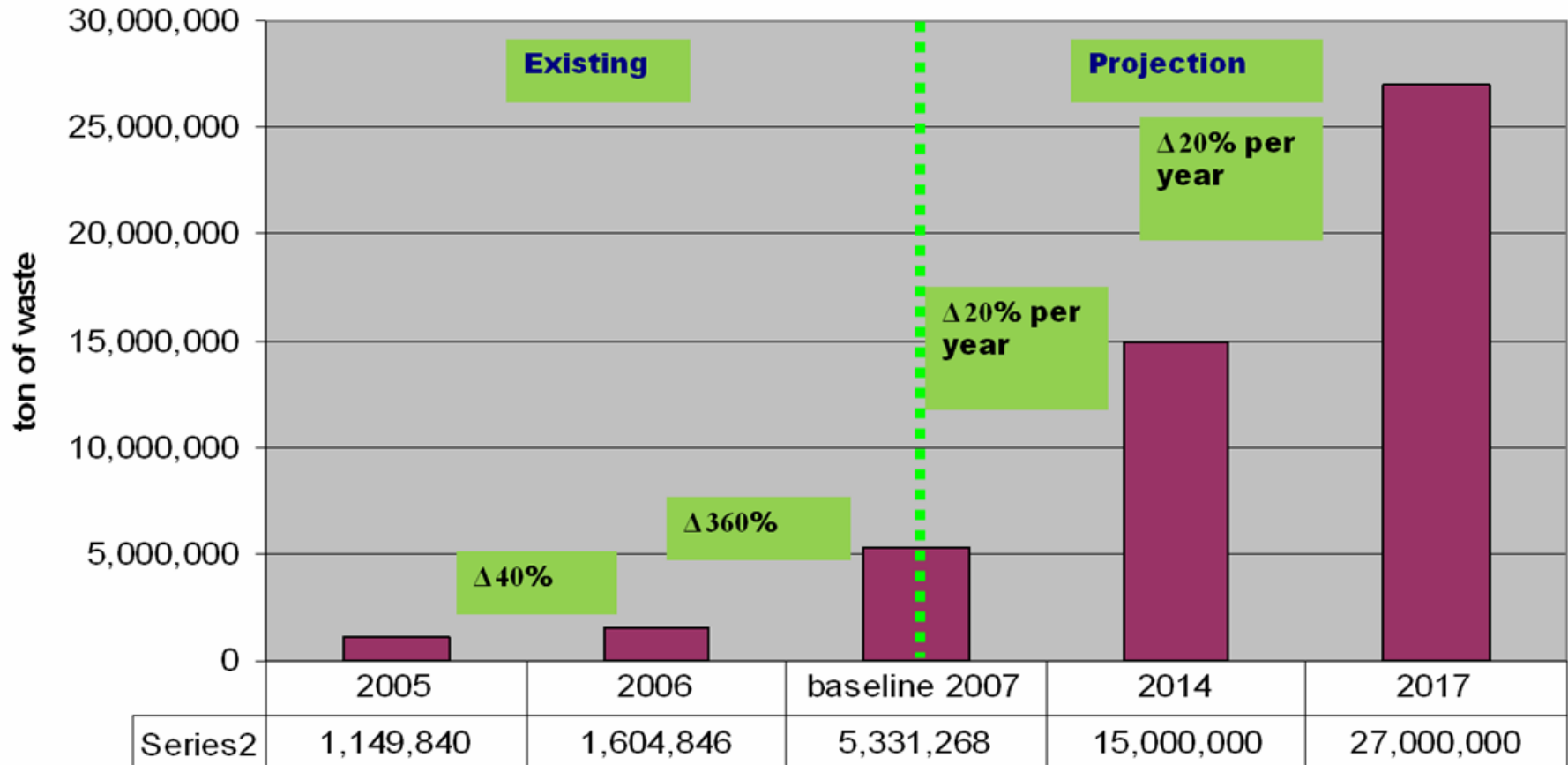
- **Coordination among stakeholders**
  - **Mapping data of information system for domestic & industrial solid waste ( incl. recycling industry, and scavenger activities)**
  - **Capacity building**
  - **Establishment of regulation, policy, standard & economic instrument**
  - **Socialization, campaign and education on 3R**
  - **Research & Development**
  - **International cooperation & technical assistant**
- 
- **Increase number of PROPER & ADIPURA participants**
  - **Implementation of EPR and CSR regarding 3R in industry**

### Reduction of MSW Disposal to Final Processing Site





Target of Hazardous Waste 3R



**11 government regulations (GR) should be formulated that stipulated by the Solid Waste Act, including:**

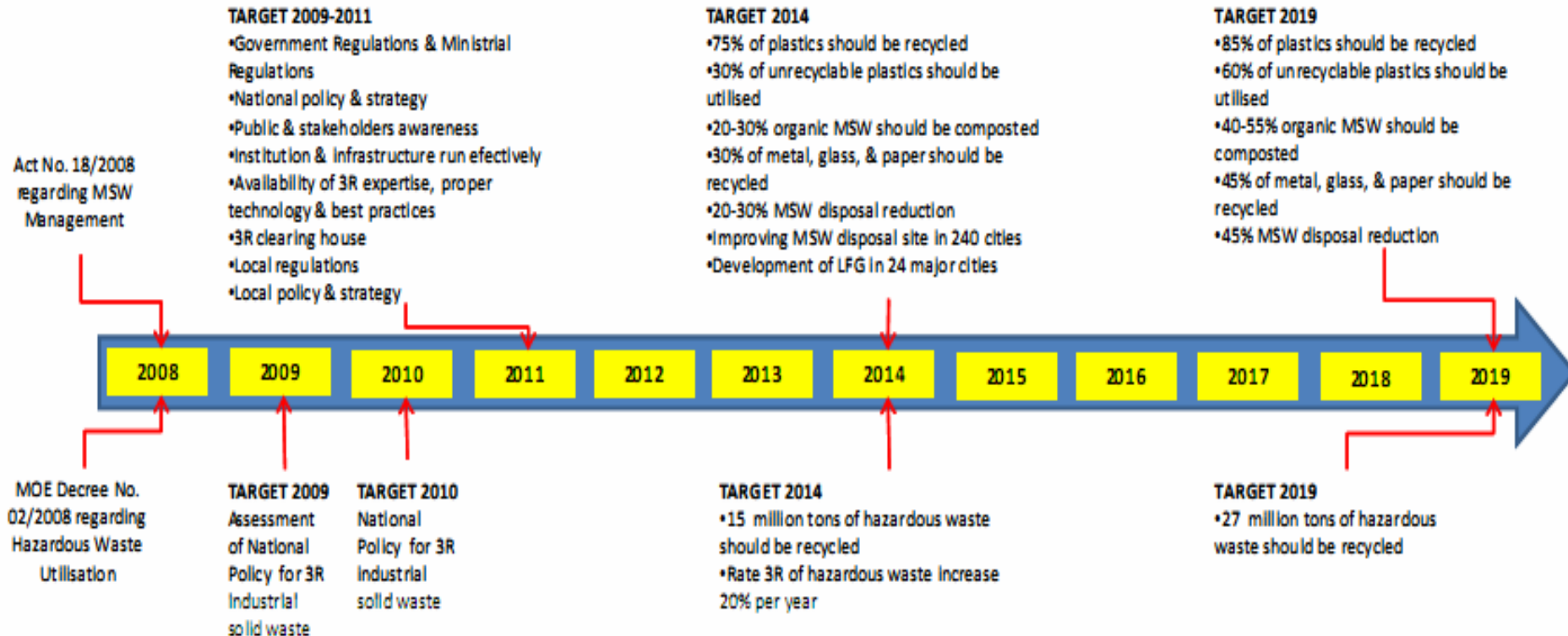
1. GR concerning Waste Minimisation
2. GR concerning Public Right Mechanism
3. GR concerning Waste Facilities, Labelling & EPR
4. GR concerning Incentive & Disincentive Mechanism
5. GR concerning Waste Handling
6. GR concerning Budgeting
7. GR concerning Negative Impact & Compensation
8. GR concerning Compensation Mechanism
9. GR concerning Public Participation
10. GR concerning Prohibitions
11. GR concerning Specific Waste

## **National Target of Facilitation for Local Government (Guideline Preparation, Empowerment and Stimulation ) :**

- Improvement of Solid Waste Management and Final Disposal for 240 cities.
- 3R promotion & campaign and public awareness development
- Standard and Regulation Development and Capacity Building
- Proposed landfill gas project in 24 cities (CDM)
- Improvement of waste collection system.

# INDONESIA 3R ROADMAP

## MUNICIPAL SOLID WASTE



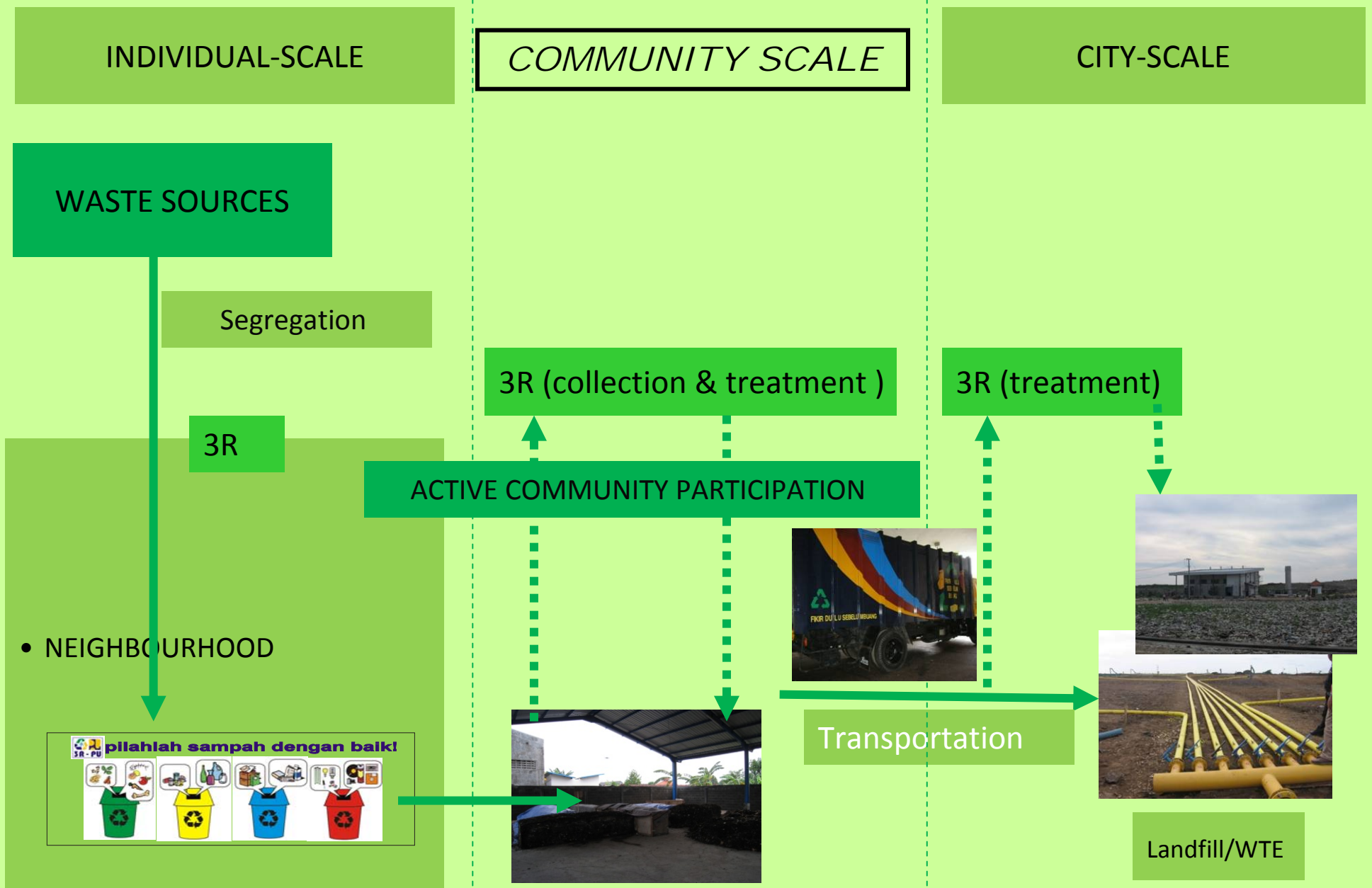
## INDUSTRIAL SOLID WASTE

# MUNICIPAL SOLID WASTE

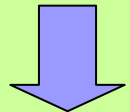
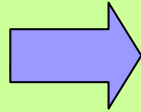
| Target   | Strategy  |
|--|---|
| 75 % Recyclable Plastic recycled                 | <b>Reduce</b> <ul style="list-style-type: none"><li>•EPR scheme</li><li>•prevention campaign</li></ul> <b>Recycling</b> <ul style="list-style-type: none"><li>•segregation</li><li>•providing recycle facilities</li><li>•developing environmentally friendly technology</li><li>•developing incentive and disincentive programs</li></ul> <b>Reuse</b> <ul style="list-style-type: none"><li>•reuse campaign</li></ul> |
| 30% non recyclable plastics reduced & utilized   | <b>Reduce</b> <ul style="list-style-type: none"><li>•EPR scheme</li><li>•prevention campaign</li></ul> <b>Energy Recovery</b> <ul style="list-style-type: none"><li>•segregation</li><li>•used as refuse derived fuel (RDF)</li></ul>   |
| 20% organic MSW reduced & utilized               | <b>Reduce</b> <ul style="list-style-type: none"><li>•green consumer campaign</li></ul> <b>Recycling</b> <ul style="list-style-type: none"><li>•segregation</li><li>•composting program</li><li>•animal feed</li></ul> <b>Energy Recovery</b> <ul style="list-style-type: none"><li>•anaerobic digestion</li><li>•waste to energy</li><li>•landfill gas</li></ul>  |
| 30% metal, glass, paper waste reduced & recycled | <b>Reduce</b> <ul style="list-style-type: none"><li>•implementation of eco-office for paper</li></ul> <b>Recycling</b> <ul style="list-style-type: none"><li>•Segregation</li><li>•Implementation of EPR scheme for metal and glass packaging</li></ul>   |

| Target                 | Strategy   |
|------------------------|--|
| Sludge from WWTP       | <p><b>Reduce</b></p> <ul style="list-style-type: none"><li>–Implementation of appropriate technology (such as biological treatment)</li></ul> <p><b>Recycling</b></p> <ul style="list-style-type: none"><li>–Encouraged as alternative fuel</li><li>–Encouraged as construction materials</li></ul>        |
| Fly ash and bottom ash | <p><b>Reduce</b></p> <ul style="list-style-type: none"><li>–Application of environmentally friendly coal combustion technology</li></ul> <p><b>Recycling</b></p> <ul style="list-style-type: none"><li>–Encouraged as alternative fuel</li><li>–Encouraged as construction materials</li></ul>             |
| Biomass                | <p><b>Recycling</b></p> <ul style="list-style-type: none"><li>–Segregation at source to avoid environment burden</li><li>–Developed as other kinds of product</li><li>–Encouraged as alternative fuel</li><li>–Composting</li></ul>  |
| E-waste                | <p><b>Reduce</b></p> <ul style="list-style-type: none"><li>–Awareness Campaign on Sound Material Cycle Society (3R Society)</li></ul> <p><b>Recycling</b></p> <ul style="list-style-type: none"><li>–Assistance for e-Waste Recycle Industry to assure human health and environmental protection</li></ul> |

# INTEGRATION OF 3R IN MSW MANAGEMENT



# Sample : 3R activitiy in Yogyakarta City



*Thank you*