The for Inaugural Meeting of the Regional 3R Forum in Asia

Tokyo, 11-12 November 2009

GOVERNMENT OF INDONESIA
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

**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

**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
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.
- National 3R Strategy (finishing in progress)
- 3R Implementation:
  - Community-scaled
  - City-scaled
  - Company’s Action (for industrial solid waste)


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

MoE: Minister of Environment
MoPW: Minister of Public Work
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.
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

- 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
WASTE REDUCTION TARGET

Figure 5.2 Reduction of MSW Disposal to Final Processing Site

Reduction of MSW Disposal to Final Processing Site

Baseline 2008: 6%
2014: 20% - 30%
2019: 30%-40%
Target of Hazardous Waste 3R

- **Existing**
  - 2005: 1,149,840
  - 2006: 1,604,846
  - Baseline 2007: 5,331,268

- **Projection**
  - Δ20% per year
  - 2014: 15,000,000
  - 2017: 27,000,000

Series 2
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.
<table>
<thead>
<tr>
<th>Target</th>
<th>Strategy</th>
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<tbody>
<tr>
<td>75% Recyclable Plastic</td>
<td><strong>Reduce</strong></td>
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<tr>
<td>recycled</td>
<td>• EPR scheme</td>
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<td>• prevention campaign</td>
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<td><strong>Recycling</strong></td>
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<td>• segregation</td>
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<td>• providing recycle facilities</td>
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<td>• developing environmentally friendly technology</td>
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<td>• developing incentive and disincentive programs</td>
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<tr>
<td>30% non recyclable plastics</td>
<td><strong>Reduce</strong></td>
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<tr>
<td>reduced &amp; utilized</td>
<td>• EPR scheme</td>
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<td>• prevention campaign</td>
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<td>20% organic MSW reduced</td>
<td><strong>Energy Recovery</strong></td>
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<td>&amp; utilized</td>
<td>• segregation</td>
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<td>• used as refuse derived fuel (RDF)</td>
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<td>30% metal, glass, paper</td>
<td><strong>Reduce</strong></td>
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<td>waste reduced &amp; recycled</td>
<td>• green consumer campaign</td>
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<td></td>
<td><strong>Recycling</strong></td>
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<td>• segregation</td>
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<td>• composting program</td>
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<td>• animal feed</td>
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<td><strong>Energy Recovery</strong></td>
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<td>• anaerobic digestion</td>
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<td>• waste to energy</td>
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<td>• landfill gas</td>
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<td></td>
<td><strong>Reduce</strong></td>
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<td>• implementation of eco-office for paper</td>
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<td><strong>Recycling</strong></td>
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<tr>
<td></td>
<td>• Segregation</td>
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<td></td>
<td>• Implementation of EPR scheme for metal and glass packaging</td>
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<td><strong>Target</strong></td>
<td><strong>Strategy</strong></td>
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<td>Sludge from WWTP</td>
<td>Reduce</td>
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<td>–Implementation of appropriate technology (such as biological treatment)</td>
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<td>Recycling</td>
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<td>–Encouraged as alternative fuel</td>
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<td>–Encouraged as construction materials</td>
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<td>Fly ash and bottom ash</td>
<td>Reduce</td>
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<td>–Application of environmentally friendly coal combustion technology</td>
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<td>Recycling</td>
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<td>–Encouraged as alternative fuel</td>
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<td>–Encouraged as construction materials</td>
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<td>Biomass</td>
<td>Recycling</td>
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<td>–Segregation at source to avoid environment burden</td>
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<td>–Developed as other kinds of product</td>
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<td></td>
<td>–Encouraged as alternative fuel</td>
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<td>–Composting</td>
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<td>E-waste</td>
<td>Reduce</td>
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<td>–Awareness Campaign on Sound Material Cycle Society (3R Society)</td>
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<td></td>
<td>Recycling</td>
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<td></td>
<td>–Assistance for e-Waste Recycle Industry to assure</td>
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<td>human health and environmental protection</td>
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INTEGRATION OF 3R IN MSW MANAGEMENT

INDIVIDUAL-SCALE

WASTE SOURCES

Segmentation

3R

• NEIGHBOURHOOD

COMMUNITY SCALE

ACTIVE COMMUNITY PARTICIPATION

3R (collection & treatment)

Transportation

CITY-SCALE

3R (treatment)

Landfill/WTE
Sample: 3R activity in Yogyakarta City

Thank you