



BOGOR CITY : TOWARDS LOW CARBON CITY

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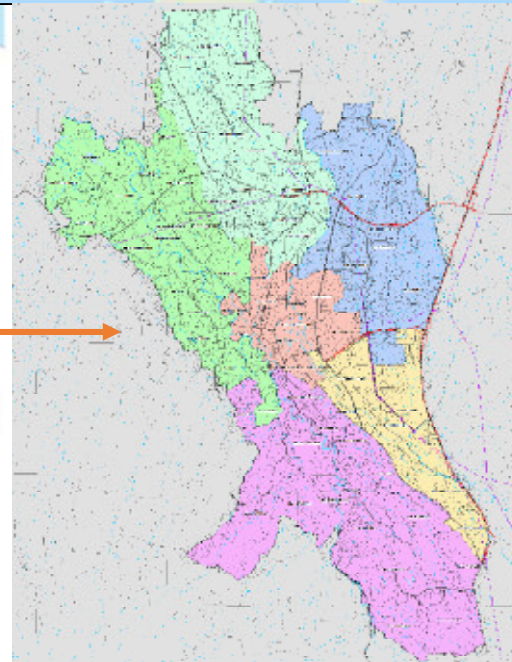
REGIONAL DEVELOPMENT PLANNING AGENCY
BOGOR MUNICIPALITY GOVERNMENT - INDONESIA



OVERVIEW OF BOGOR CITY



Jakarta Metropolitan



- Altitude : 190 – 330 m dpl
- Temp : 22,7-31,6 °C
- Precipitation: 333,0-630,2 mm
- Area : 11.850 ha.
- 6 Kecamatan, 68 Kelurahan
- Greater Jakarta Metropolitan
- Hilly, flat with a Ciliwung River and Cisadane River cutting across the city



- Mayor : Bima Arya
- Population : 1,081,099 inhab (BPS, 2017) 1.5%/year
- Density : 9,122 inhab/km²
- Poverty : 7.11%
- Settlement : 4.972,13 Ha or 41,96 %
- Slump area 128,85 ha in 17 location





Relevant Mid Term Development Plan Policy (2015-2019)



Vision :
“Create a comfortable city, faithful and transparent”



| | |
|---|---|
| Improving the quality of spatial planning | Establishment of sustainable spatial planning policies |
| | Increased implementation of the spatial plan and control the utilization of space |
| | Increasing the extent and quality of green open space |
| Improving the quality of carrying capacity of city environment | Reduced levels of pollution caused by urban activity |
| | Increasing the recovery and conservation of natural resources |
| | The realization of the arrangement and preservation of the Watershed |
| Develop urban transport that promotes mass transit, pedestrians, and cyclists | Increasing community participation in environmental conservation |
| | The realization of the city's public transport system which is comfortable and environmentally friendly |
| | Increasing the quality of infrastructure for pedestrians and cyclists |
| Encouraging the development of city responsive disaster risk and climate change | Reduced traffic jams |
| | Increased disaster prevention and preparedness |
| | Increasing emergency response |
| Increased solid waste services | Increased post-disaster recovery |
| | Increased management of climate change mitigation and adaptation |
| | Applying an integrated and sustainable waste management |
| | Increasing Waste Management Based on 3R (Reduce, Reuse, Recycle) |
| | Internalization of waste management as part of the culture of life |



Low Carbon Strategy



Energy

- Mode shift to Bus, walking and bicycle
- Smart control Energy efficiency in public and commercial facilities
- Smart control energy efficiency in settlements

Land Use

- Improve Green Open Space
- Improve low emission agriculture and livestock

Waste

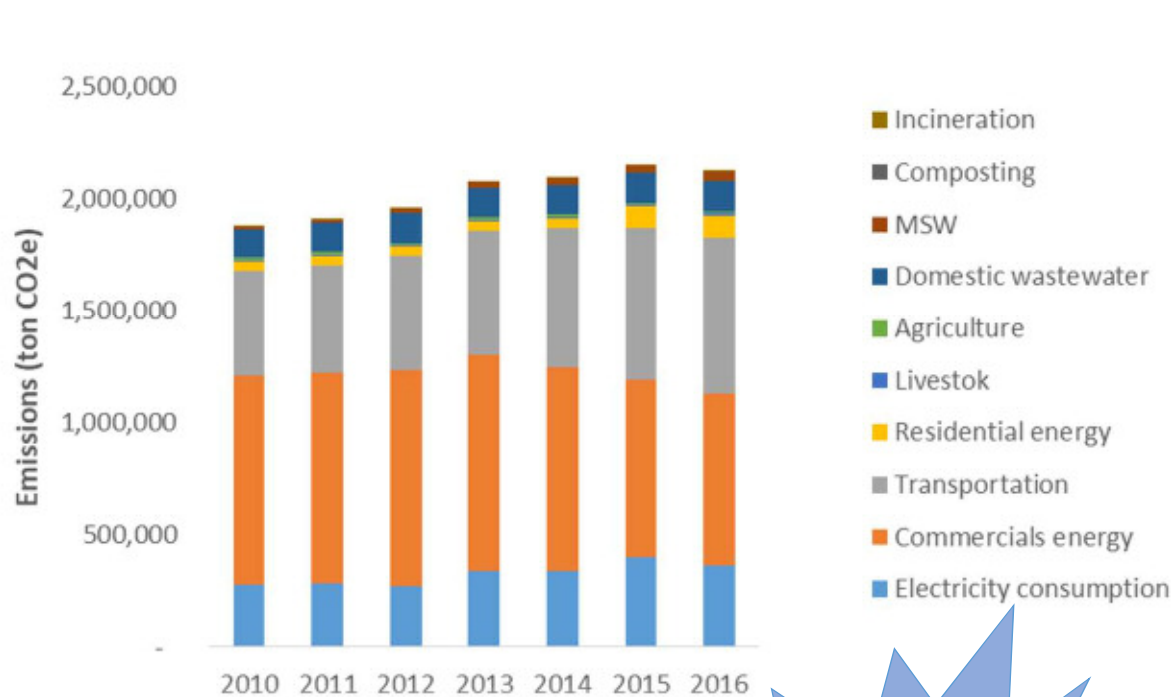
- Improve solid waste management
- Improve 3R of Solid Waste system
- Improve domestic wastewater facilities



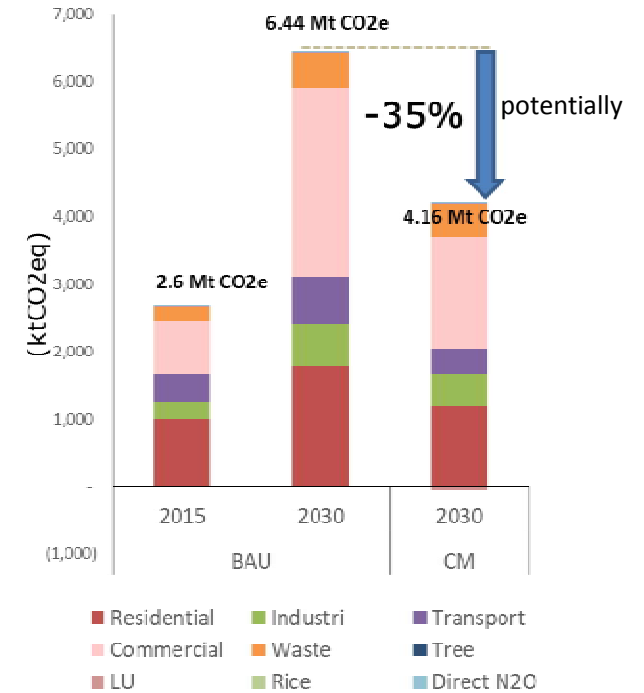
GHG Emission



Bogor City Emission Profile 2010-2016



GHG Emission



More than 95% of the city's emissions come from energy sector (primarily energy in commercials and transportation)

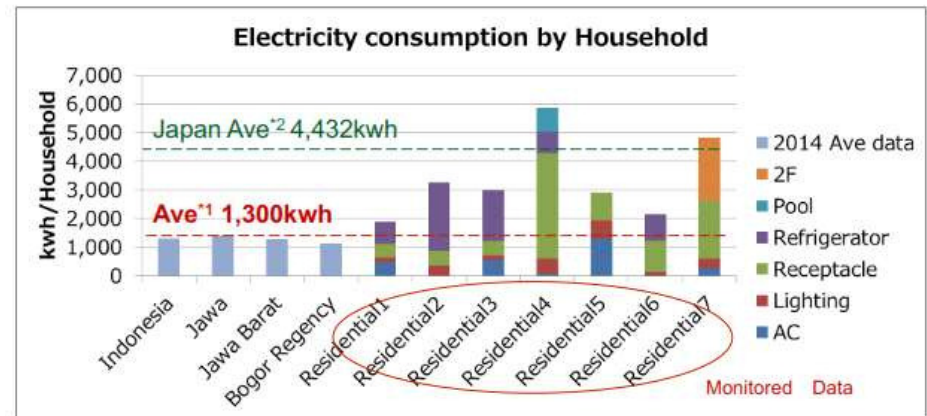
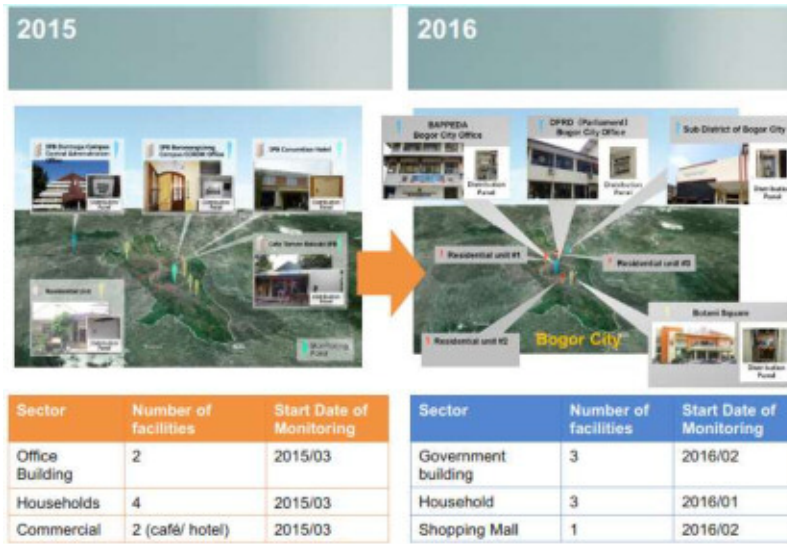


Relevant Development Programs in 2015 - 2019

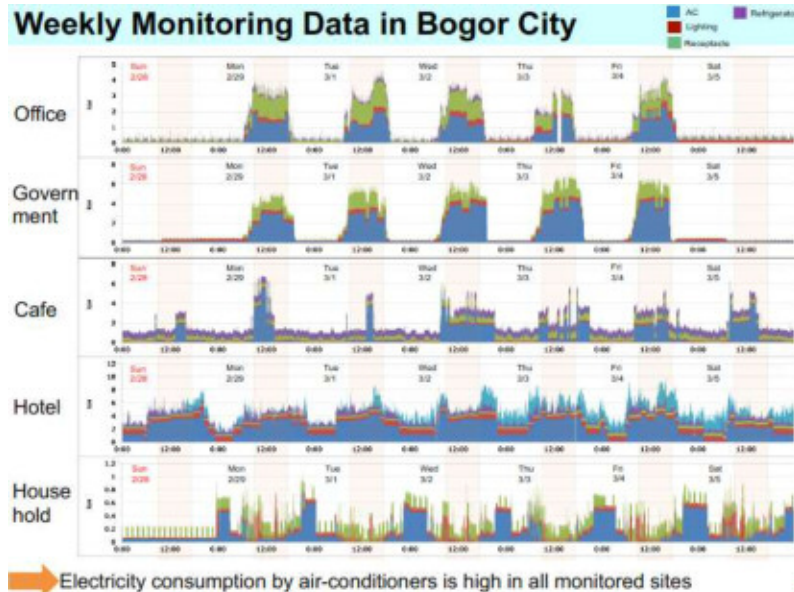


| No | Program | Activities | Responsible agency |
|---|---|--|---------------------------------|
| 1 | Policy umbrella for climate change related programs | Implementation of mitigation and adaptation actions | Development Planning Agency |
| | | Monitoring and evaluation of mitigation and adaptation actions | |
| | | Environmental pollution and damage control | Environmental Agency |
| | | Vulnerability analysis to support identification of relevant adaptation options | BPBD |
| 2 | Energy efficiency | Establishment of climate change working group to support implementation of mitigation and adaptation actions | Development Planning Agency |
| | | at household level | Settlement Agency |
| | | at commercial facilities at government facilities | Public Works and Housing Agency |
| 3 | Transportation | Conversion to BRT | Transportation Agency |
| | | Conversion to cleaner fuel | |
| | | Parking policies e.g high parking tariff and no street parking policy to encourage people using public instead of private transportation | Public Works and Housing Agency |
| Improvement and development of pedestrian and bike lane to encourage shifting from using motorized transportation for short trips | | | |
| 4 | Low emission agriculture | Climate smart agriculture | Agricultural Agency |
| | | Low emission animal husbandry | |
| 5 | Improvement of green spaces | Quantity (development of new green spaces) | Gardening Agency |
| | | Quality (replanting and rehabilitation of existing green spaces with hardwood trees) | |
| 6 | Waste management | 3R | Environmental Agency |
| | | Waste Bank | |
| | | Composter | |
| | | Development of new IPAL facilities to cover more areas without onsite waste-water management facilities | |

Energy MRV Tools Supported by NIES - CCROM



Display of monitored data in the Green Room at the Bogor City Hall



- Emission data
- Behaviour of electricity consumption
- Supporting for energy city policy strengthening and campaign : Eco Office



Transportation



BRT

Conversion of 796
small city
transport into 252
minibuses



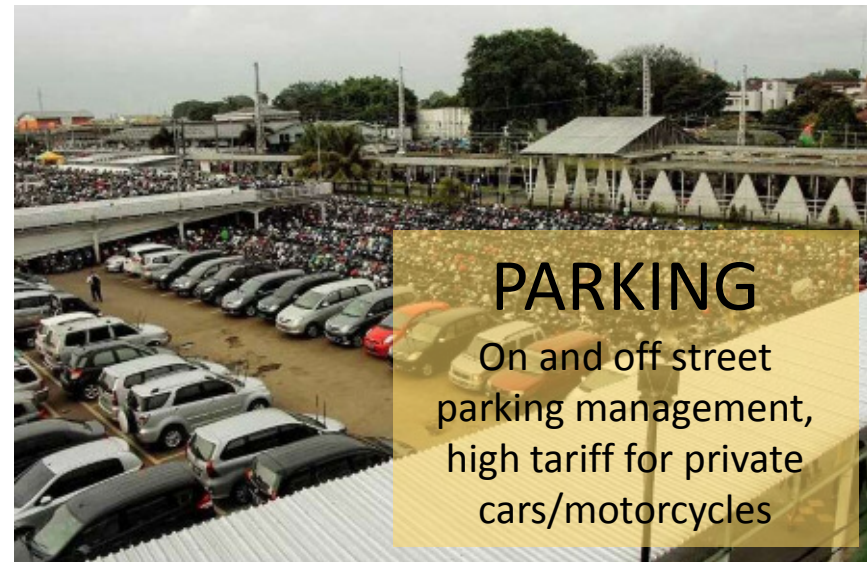
PEDESTRIAN

Expansion of
pedestrian location
and size



FUEL

Conversion into CNG
for public
transportation



PARKING

On and off street
parking management,
high tariff for private
cars/motorcycles



Solid Waste Management : Generation



Source of Solid Waste Generation

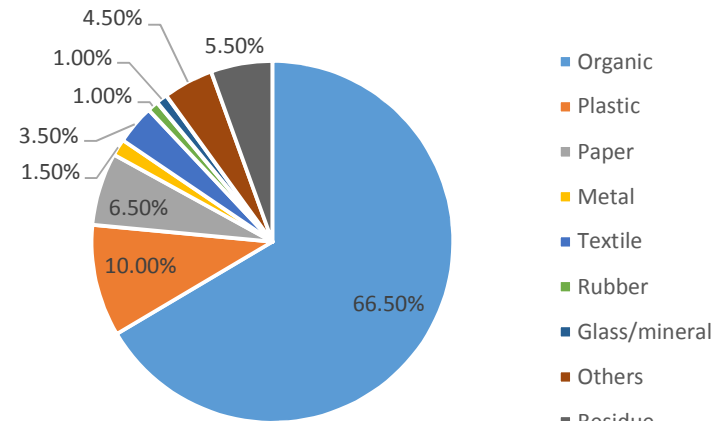
| | |
|---------------------------|----------------------------------|
| Households | • 1777 m ³ /day (60%) |
| Traditional Market | • 598 m ³ /day (20%) |
| Road & Park | • 185 m ³ /day (6%) |
| Commercial Area | • 178 m ³ /day (6%) |
| Industry | • 111 m ³ /day (4%) |
| Others | • 90 m ³ /day (3%) |

Total 2939 m³/day

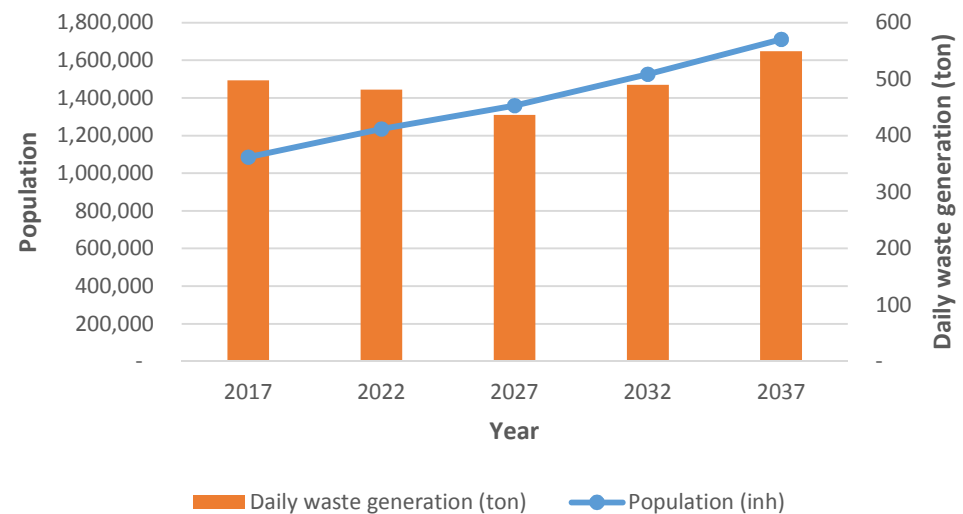


As of now most budget in waste management are allocated for transportation fuel and labor (52 Billion rupiahs/US\$ 3,7 Million in 2018)

Solid Waste Composition



Projected generation of waste

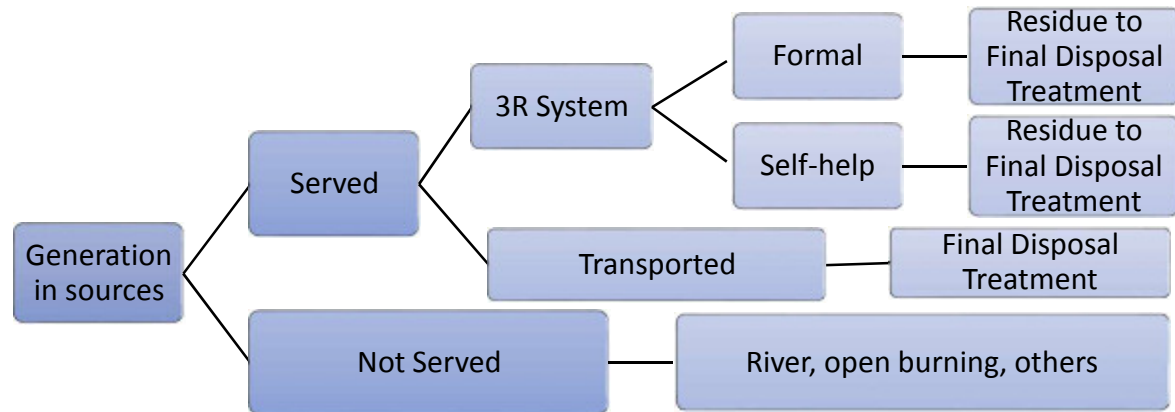
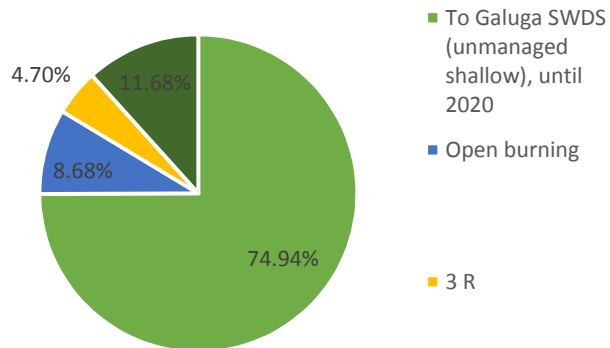




Solid Waste Management : Current Treatment



Solid Waste Treatment (2018)



26 Recycling Stations (TPS 3R) in residential complex

233 Community-based Waste Banks; 1 Waste Bank operated by government officers

Incinerators were installed in 2 locations but ceased to operate due to high cost

15 biodigesters were installed in various locations of traditional market, but its operation were discontinued due to lack of capacity in its maintenance





Community Participation



Our waste, Our responsibility



Mayor Regulation of
Plastic Solid Waste
Reduction

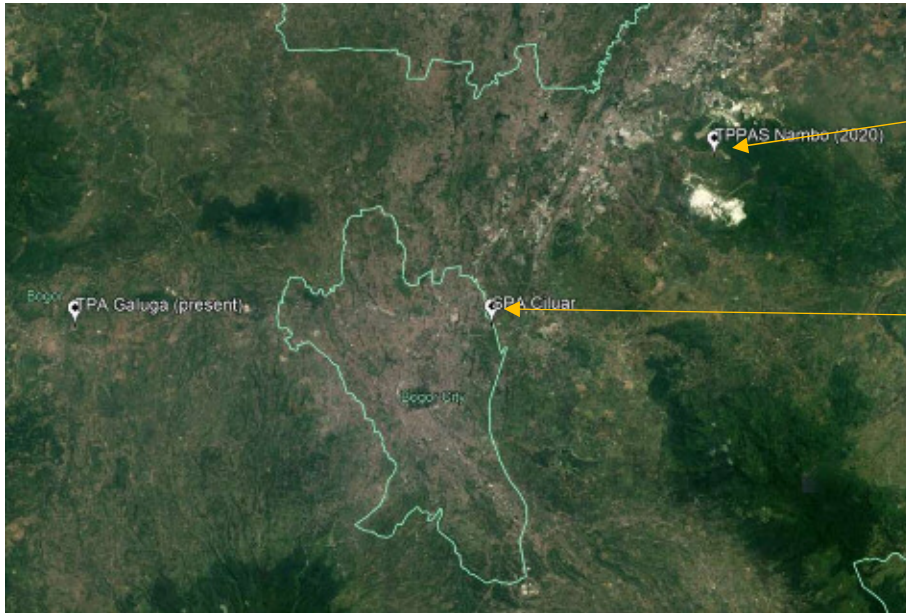


Community Selfhelp Group
involving community leaders



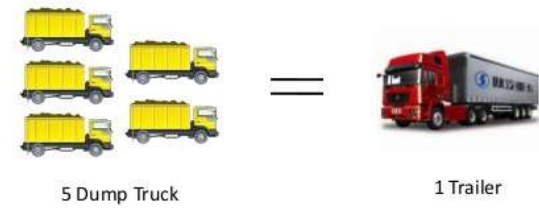
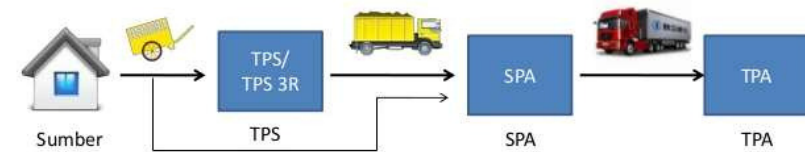


Future Plan



New regional landfill in Nambo (Bogor Regency), operation starts in 2020. Quota for Bogor City is 500 ton/day

SPA/Transfer Station at Ciluar for Supporting to Nambo



Technology at Transfer Station
Technology at Traditional Market
Technology at 3R depot



Challenges



- Need technology in municipal waste management that requires less land, low maintenance, easy to operate, ecologically friendly, can process more waste and faster at SPA, TPS 3R, ITF
- Waste in Bogor are wet thus using incinerator or other combustion-based technology is considered ineffective since higher heat is required hence more fuel and higher operational cost
- Capacity building & campaign to familiarise sustainable waste segregation to local officers and community resulted in slow adoption of the measure
- Excessive and non-biodegradable packaging are still widely used, thus need affordable alternative materials for packaging. The new Mayor Regulation regarding ban of the use of plastic shopping bag in large retail facilities is challenged by plastic processing industry



Thank You

Arigatou Gozaimasu

Terima Kasih

Hatur Nuhun