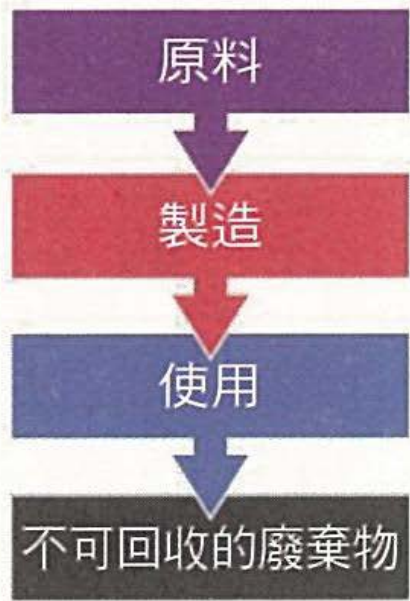
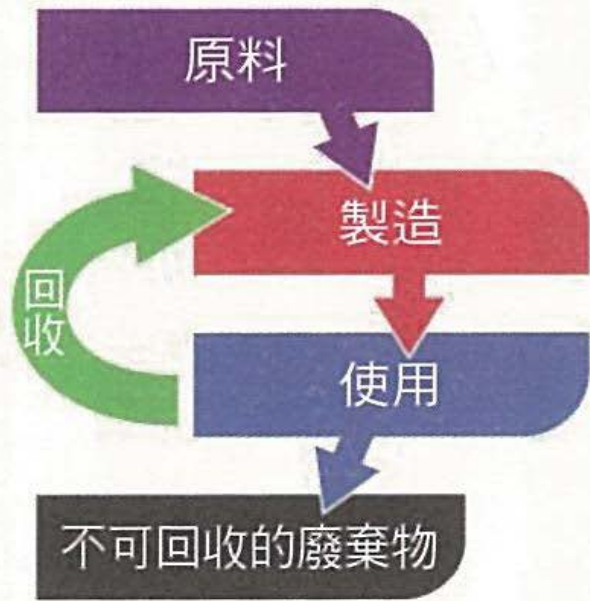


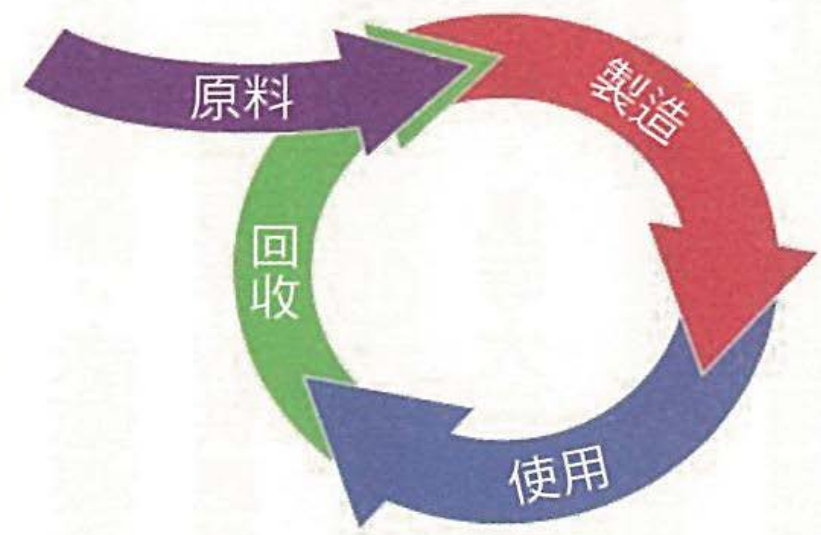
### 線性經濟



### 再利用經濟



### 循環經濟



# <China> Ningbo MSW Minimization & Recycling Action Plan

Solid Waste Management TDD  
Tokyo, Kitakyushu - Japan  
September 24-28, 2018

## <China> Key Takeaways

1. Solid Waste Management is NOT cheap and need substantial support from government fiscal budget
2. Despite various technologies are available, however making the SWM planning right is the first priority
3. From a linear to circular economy present a promising solution for sustainable SWM in Kitakyushu
4. Even for high recycling rate in Japan, recycling not generate revenue and need government subsidy
5. Due to land scarcity, high percentage of incineration seems like unavoidable for China to follow Japan

## <China> Accomplishments Needed in Ningbo

1. Expand the source separation coverage to the entire urban area beyond the target of the on-going project
2. Regulate the waste collection/treatment facilities operators to ensure different waste stream dispose safely
3. Roll out the mandatory waste separation scheme for all the public institutions, private enterprise, schools
4. Complete the drafting of the MSW source separation law for public consultation approval by the congress

## <China> Actions to be Taken in Ningbo

- Short-term:

- Start the operation of the food waste AD plant by the PPP operator (CEHL) by end of October 2018
- Full scale operation of the upgraded waste collection system at household/community level for source separation by November 2018

- Medium-term:

- Approve the MSW source separation law by the people's congress and enacted in 2019
- Improve the community's incentive program to operationalize the waste separation scheme in 2019

- Long-term:

- Increase the coverage from 50% of communities to 100% practicing source separation by end of 2022

## <China> Barriers & Challenges to Implementation in Ningbo

1. Below expectation of the community's incentive program due to complicated design and varied ownership
2. Lack of incentive or penalty to the property management company to support the full scale implementation
3. Difficult in mainstreaming the informal waste recycling sectors and NIMBY discourage the recycling owner
4. Hard to revitalize the non-functioning supply and marketing cooperatives to reform waste recycling sectors
5. Lack of EPR to curb the fast growing MSW generation resulting from the blooming of E-commerce (Tmall)

## <China> Lending and TA - Active or Needed in Ningbo

- Technical Assistance Work Planned under the on-going IBRD lending project (USD 24.21 million):
  - City-wide program for public/community education, awareness raising, and mobilization
  - Output-based incentive payments to Neighborhood Residents' Committees (NRCs)
  - Development of administration rules for waste separation
  - Development of municipal solid waste pricing policies
  - Assessment of bio-chemical characteristics of MSW and new treatment technologies
  - Smart solid waste management information management system
- Investment Work Planned under the on-going IBRD lending project:
  - MSW separation, collection, sorting and transportation, USD 178.7 millions
  - Kitchen waste treatment, USD 41.9 millions, currently under construction by the PPP investor (CEHL)
  - Project implementation Support, USD 1.4 millions

# <Ningbo> Support Needed in Ningbo

- World Bank:
  - Jointly organized the high-level circular economy (SWM) workshop in Ningbo
  - Continued support for the implementation of Ningbo MSW Minimization and Recycling Project
- TDLC Program (Japan)
  - Learning the policy to setup circular economy to support the development of ECO-town in Ningbo
  - Establishment of Environment Trust Fund to support the MSW recycling business in Ningbo
- Knowledge Products (Case Studies, Policy Notes, etc.)
  - Low Carbon Development for Ningbo to excel in sustainable SWM and showcase to other China cities?
  - Piloting of data collection and assessment of Marine Plastics/SW for the coastal cities in China, Ningbo?