



MINISTRY OF ENVIRONMENT AND FORESTRY
REPUBLIC OF INDONESIA

NINTH REGIONAL 3R FORUM IN ASIA AND THE PACIFIC DI BANGKOK, THAILAND

Directure of Solid Waste Management
Bangkok, 5 March 2019

PROFILE OF INDONESIA



Indonesia is the world's fourth largest country by population, with the current population is 268,573,492 in 2019 or equivalent to **3.49%** of the total world population, the sprawling Southeast Asian archipelago encompasses more than 17,000 islands. Largest islands are Sumatra, Java, Borneo, Sulawesi and Papua.

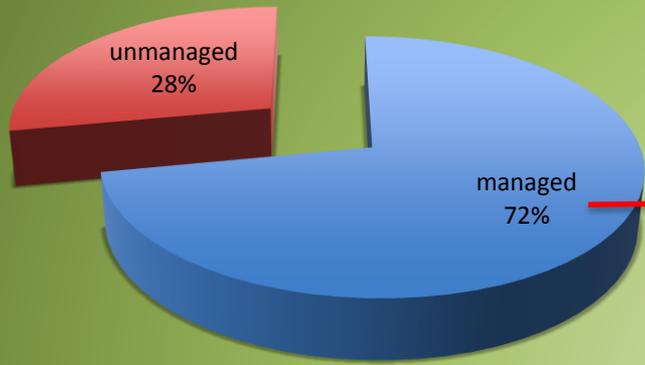
[About 56.7% of Indonesia's population](#) lives on Java, the most populous island, and **56.0 %** of the population is **urban** (150,870,274 people in 2019)

The National Waste projection increases. In year 2015 the national waste is 65 million tons / year and in year 2018 the waste generation reaches 65,79 million tons / year.

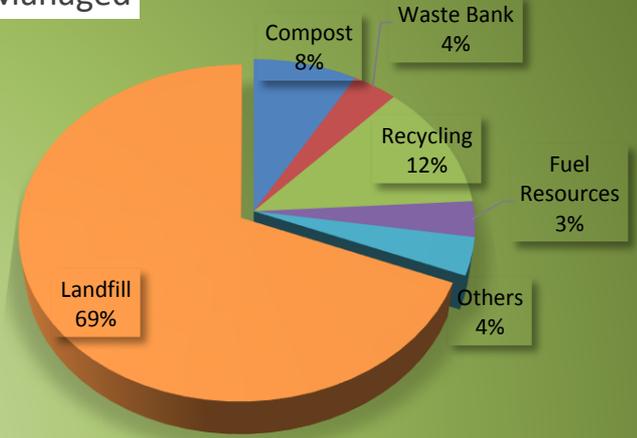


Current Situation on Waste Mangement in Indonesia

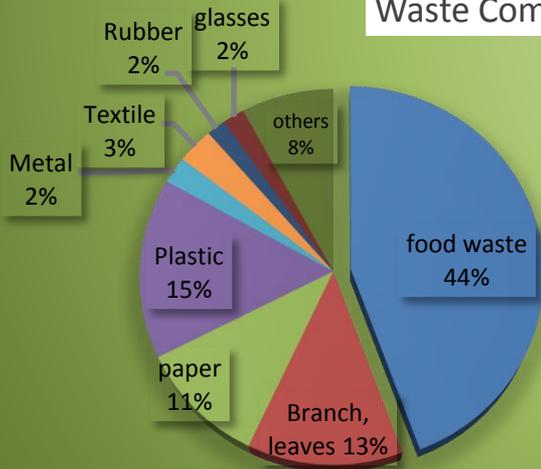




Waste Managed



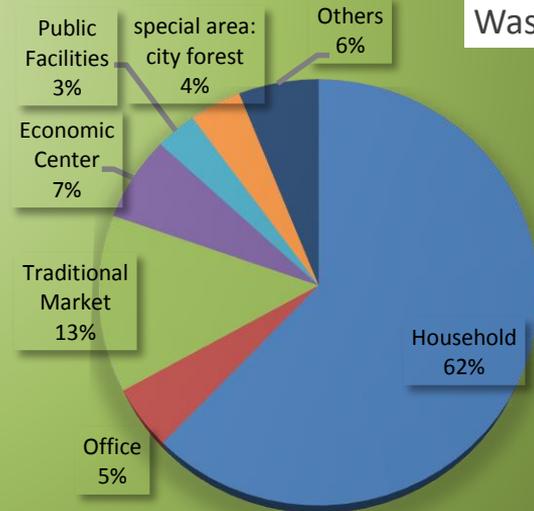
Waste Composition



NATIONAL
WASTE
DATA,

SOURCE:
MOEF 2018

Waste Sources



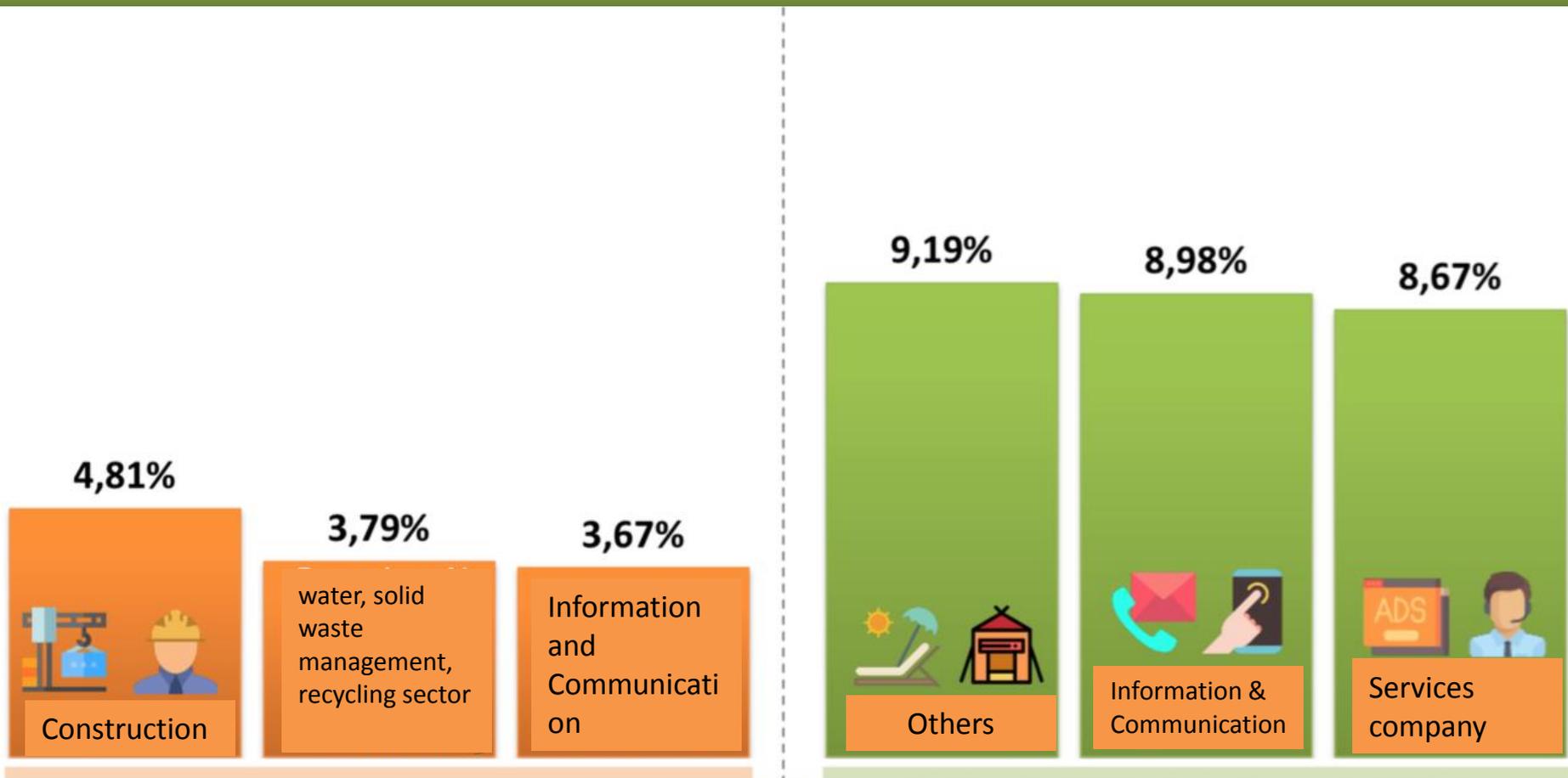
SOLID WASTE POTENTIAL AS RESOURCE MATERIAL

NO	Composition		Amount (tons)	Usage
	Types	%		
1	Compostable organic	57	37,500,000	Compost, Biogas, Heat/Electricity
2	Plastic	15	9,868,500	Raw material, Heat/Electricity
3	Paper	11	7,236,900	Raw material
4	Metal	2	1,315,800	Raw material
5	Rubber	2	1,315,800	Refuse derived fuel
6	Textile	3	1,973,700	Raw material
7	Glass	2	1,315,800	Raw material
8	Others	8	5,263,200	Others

Economic Growth Quarterly-2018 (Increasing 5,17%)



National Revenue Growth from Business Sector (Livelihood)





CIRCULAR ECONOMY THROUGH WASTE BANK IN INDONESIA (Ministerial Decree No. 13/2012)

7.488
Waste
Bank

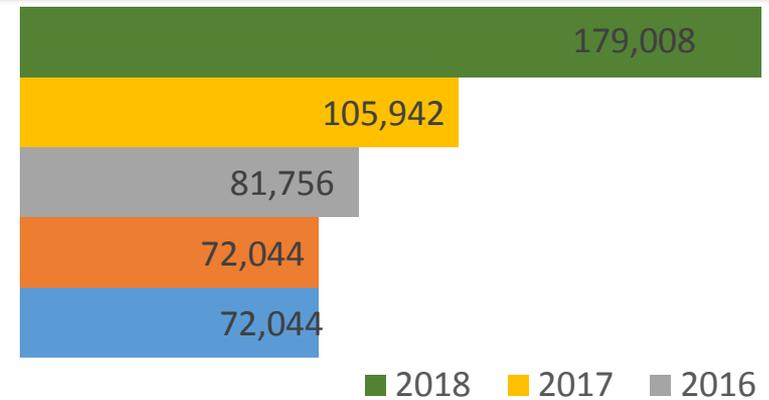
- Integrated solid waste management is managed from the sources to the final treatment (TPA) with promoting the 3R (reduce-reuse-recycle) and economic circular concepts by using Waste Bank mechanism
- Waste Bank is a kind of solid waste facility managed by community (informal sector) to collect recyclable solid waste by educating people to do segregation the waste from the source and bring its waste to the Waste Bank
- People get economical benefit by segregating the waste and waste is handled from the sources (circular economy and environmental conservation concept)



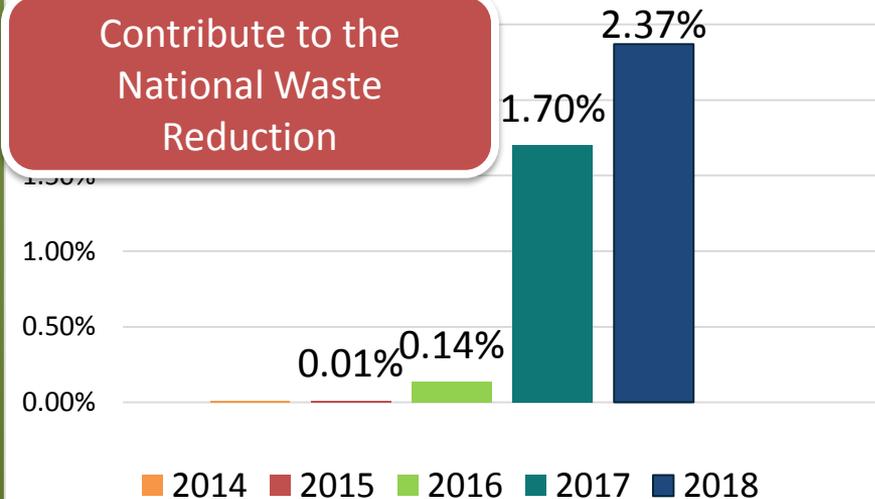
The Increase of Number of Waste



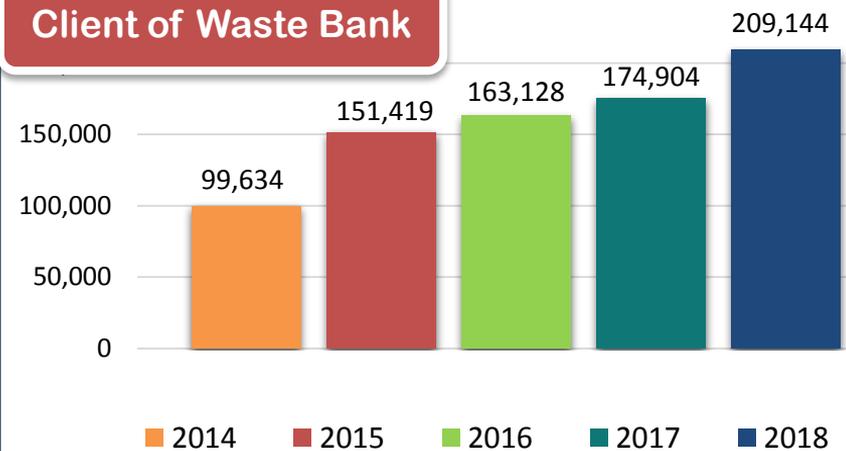
Circular Economy (Income from Waste Bank) (USD/Month)



Contribute to the National Waste Reduction



Client of Waste Bank



Challenges

- Create incentive and disincentive program for the successful of implementation circular economy and material recovery program of solid waste management,
- Improve national capacity building including infrastructure and HRD,
- Develop national technical guideline on circular economy and potential material recovery of solid waste

Thank You



CIRCULAR ECONOMY DEVELOPMENT IN INDUSTRIAL SECTOR

Regional 3R Forum in Asia-Pacific
Bangkok, 4-6 March 2019



Agency of Research and Development of Industry

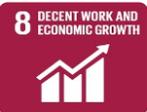
Making

Indonesia 4.0

Sustainable Development Goals /SDGs

Global goals that initiated by UN. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. We achieve each Goal and target by 2030.

6 (SIX) SDGs related to Industrial Sector:

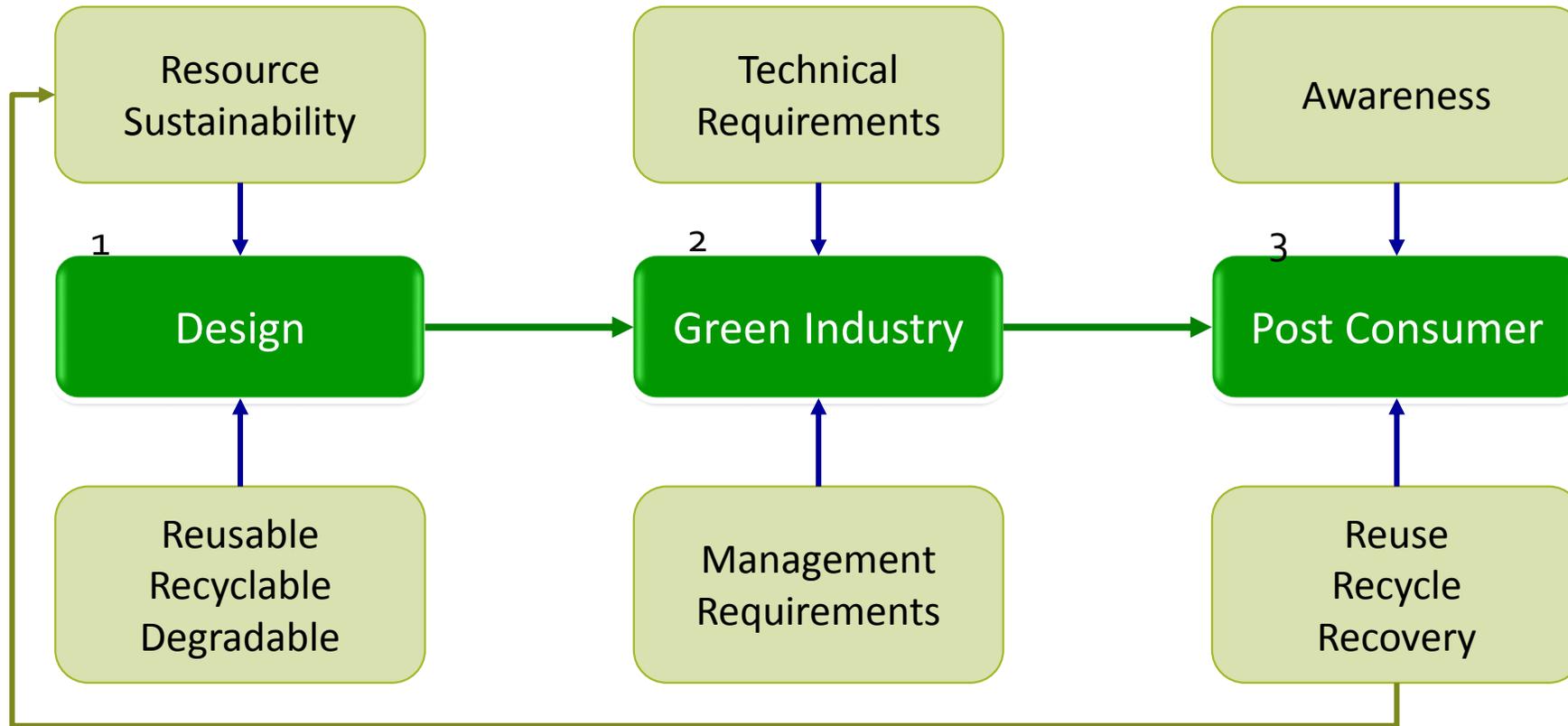
	Goal 6 : Ensure availability and sustainable management of water and sanitation for all.
	Goal 7 : Ensure access to affordable, reliable, sustainable and modern energy for all
	Goal 8 : Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
	Goal 9 : Build resilient infrastructure, promote sustainable industrialization and foster innovation
	Goal 12 : Ensure sustainable consumption and production patterns
	Goal 13 : Take urgent action to combat climate change and its impacts

Green Industry

ENVIRONMENT REGULATION RELATED TO INDUSTRIAL SECTOR

1. Law No 32 year 2009 Environment Protection and Management
2. Law No 3 year 2014 Industry
3. Law No 18 year 2009 Waste Management
4. President Regulation No 97 year 2017 National Policy and Strategy for Management of Household Waste and Similar Household Waste
5. Government Regulation No 81 year 2012 Management of Household Waste and Similar Household Waste
6. Government Regulation Number 41/2015 on Industrial Resources Development
7. Minister of Industry Regulation No 18 year 2016 Green Industry Award
8. Minister of Industry Regulation No 51 year 2015 Guideline on Developing Green Industry Standard

Sustainable Consumption & Production



Law No. 3 of 2014 on Industry

Definition:

“Industry with a production process which places priority on efficiency and effectiveness in the sustainable use of resources, to enable harmonization between Industrial development and the preservation of environmental functions as well as to grant benefits to the community”

(Article 1, no.3)

Green Industry as one of national industry goal

“Industrial Affairs shall be undertaken c. to realize an independent, competitive and advanced Industry and the Green Industry”

(Article 3 Point C)

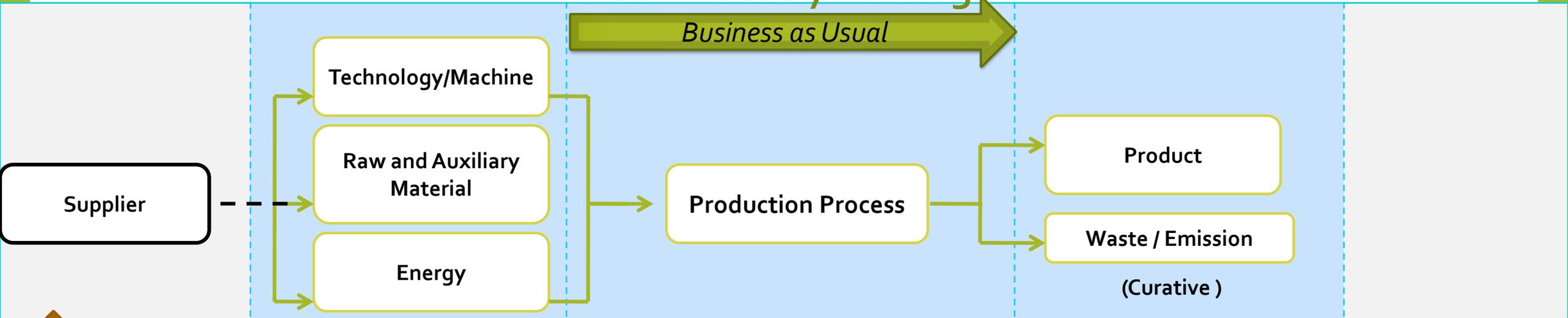
- In order to actualize Green Industry, Industrial Company shall gradually:
 - build mutual commitment and formulate company policies for Green Industry development;
 - implement policies for Green Industry development;
 - implement an environmentally friendly management system; and
 - develop business networks to acquire raw materials, auxiliary materials and environmentally friendly technologies.

- Green Industry also focus on production process through clean production and 4R Implementation (reduce, reuse, recycle, and recovery)

Government Regulation Number 41/2015 on Industrial Resources Development

Industrial and industrial estate company are required to utilize natural resources efficiently, environment friendly and sustainably, by implementation of waste reduction, reuse, recycling and recovery.

Green Industry Paradigm



Green Industry Components

(1)

Changing raw material input to the industrial system, mainly reducing the use of toxic chemicals and non-renewable resources (fossil energy)

(2)

Waste minimisation by implementing efficient industrial system in order to change raw material into product and waste into useful by product

(3)

Changing design, composition and product packaging to create eco product or preferably environmental friendly product, thus minimize the risk to health and environment while the products are distributed

Green Industry Principle

1. Raw Material Efficiency
2. Using renewable and environment friendly material
3. Implementing Process Technology
4. 3R Implementation (*Reduce, Reuse, Recycle*);
5. Using environment friendly packaging

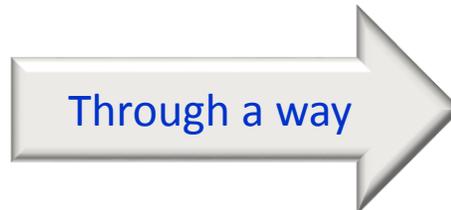
Green Industry Development

Minister of Industry Regulation No 5 year 2011 Green Industry Award Program

Develop existing industries towards the Green Industry



Develop a new industry with the principles of Green Industry



Minister of Industry Regulation No 39 year 2018 on Green Industry Certification Procedures



Requirements of Green Industry Standard

Technical Requirement



- Raw materials
- Energy
- Water
- Production process
- Product and package
- Waste management
- GHGs emission

Management Requirement



- Policy & structure
- Strategy plan
- Implementation & monitoring
- Management review
- Corporate social responsibility
- Safety, health, and environment

Potency of Circular Economy Development

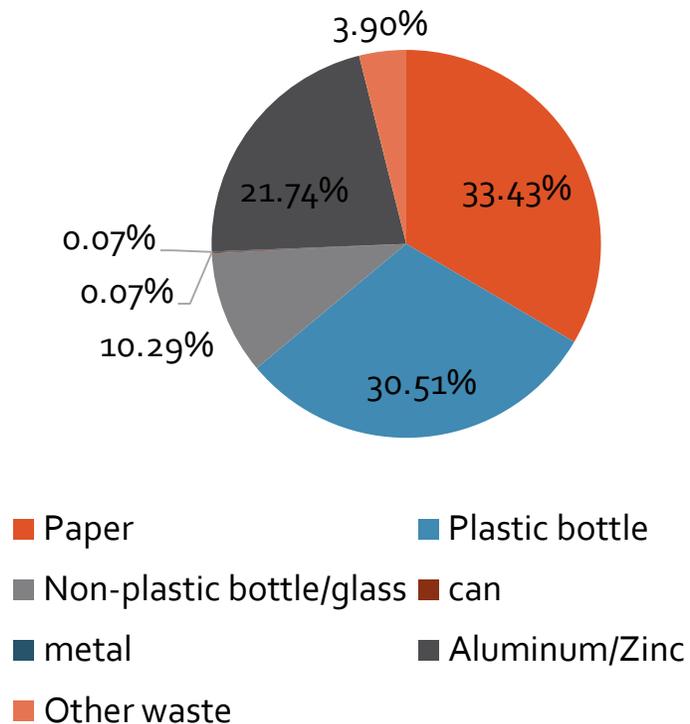


Policy for Circular Economy Development

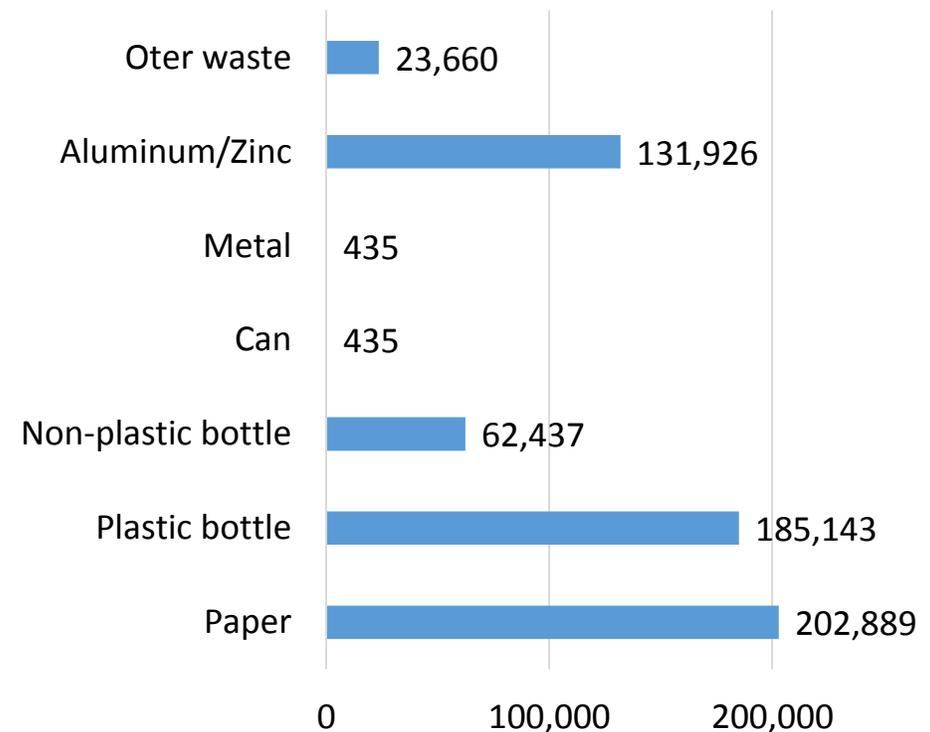
1. Raw material efficiency.
2. Encourage the production of reusable, recyclable, and biodegradable goods
3. Encourage the growth of recycling industry
4. Support the utilization of waste as alternative energy
5. Create incentive for innovation and eliminate the obstacles
6. Build the cooperation among stakeholder

Types of waste managed in 5,244 garbage banks in Indonesia

Percentage of waste management in the Waste Bank (Bank Sampah)



Amount of Waste that managed by the Waste Bank (Bank Sampah)



Industries' Efforts to Manage Plastic Waste

Waste Reduction at the source and Reuse



1. Design modification for product or packaging to reduce using more plastics



14,6
gram



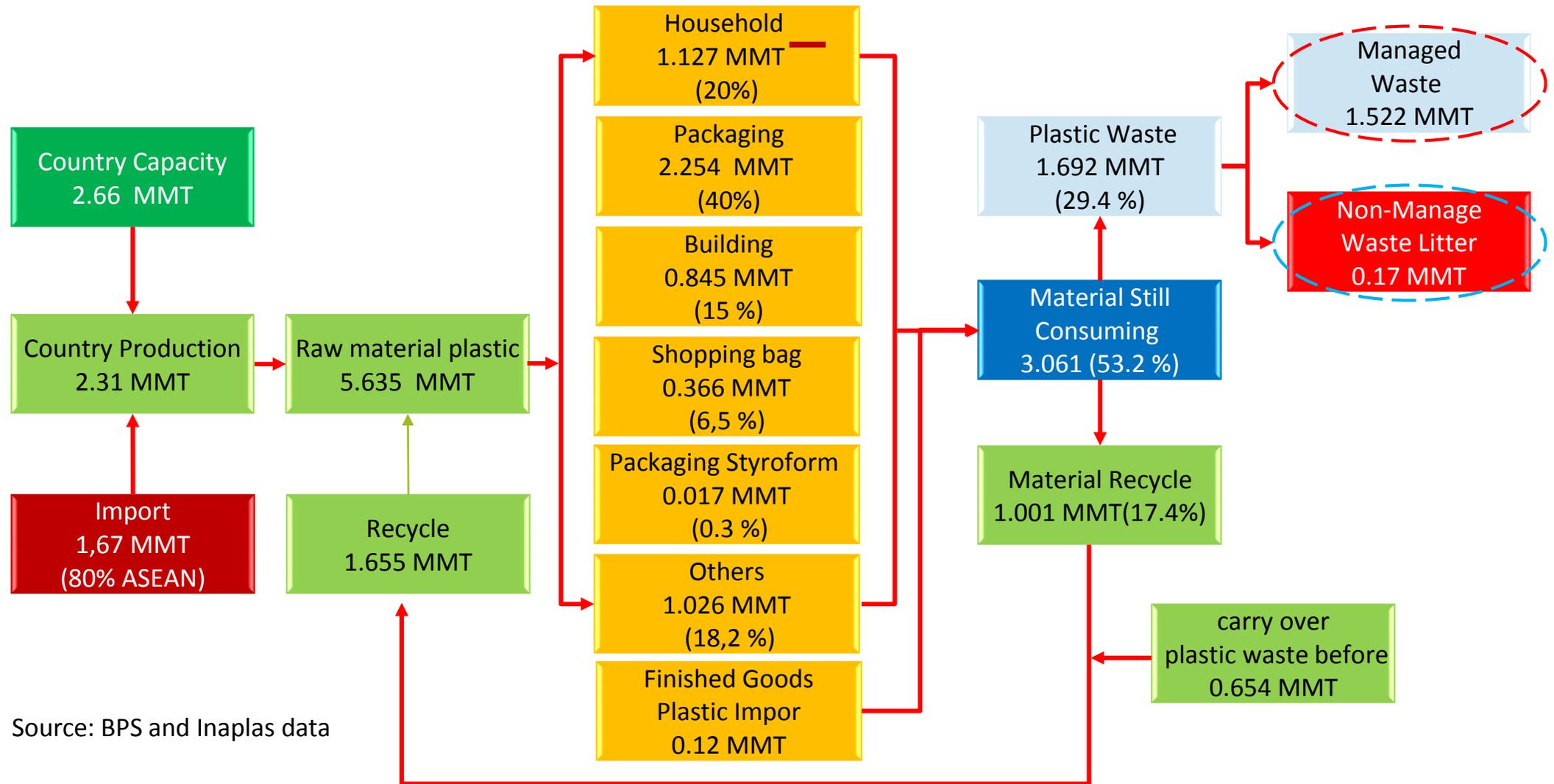
9,2
gram

2. Modification or changing plastic raw material so less plastic needed
(Example: *Aqua*)

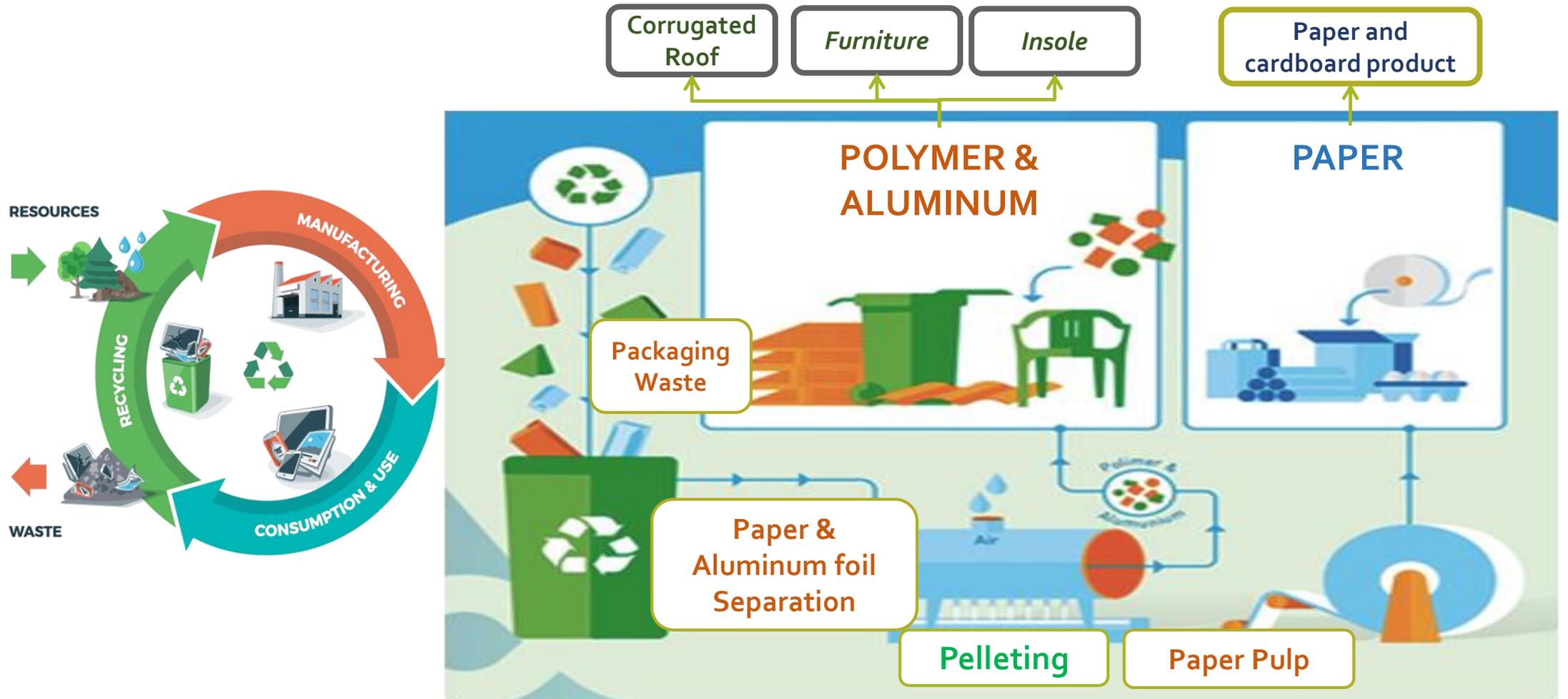


3. Restrict the number of packaging by selling large volume products or high concentrate products
4. Using reusable plastic materials
5. Using biodegradable plastic materials and additive to produce packaging

Development of Circular Economy in The Plastic Industry



Development of Circular Economy in Paper Industry



Potential Commodities in Development of Circular Economy from Several Product Types

1. Electronic
2. Packaging
3. Paper
4. Textile
5. Metal
6. Home Appliance
7. Automotive and other transportation vehicle
8. Tyres/rubber
9. Furniture

Challenges on Circular Economy Implementation



Waste Management System
(separation/sorting,
collection, and
transportation)



Comprehensiveness and
accuracy of waste data
(quantity and location).



Regulation on specific waste
management is not available



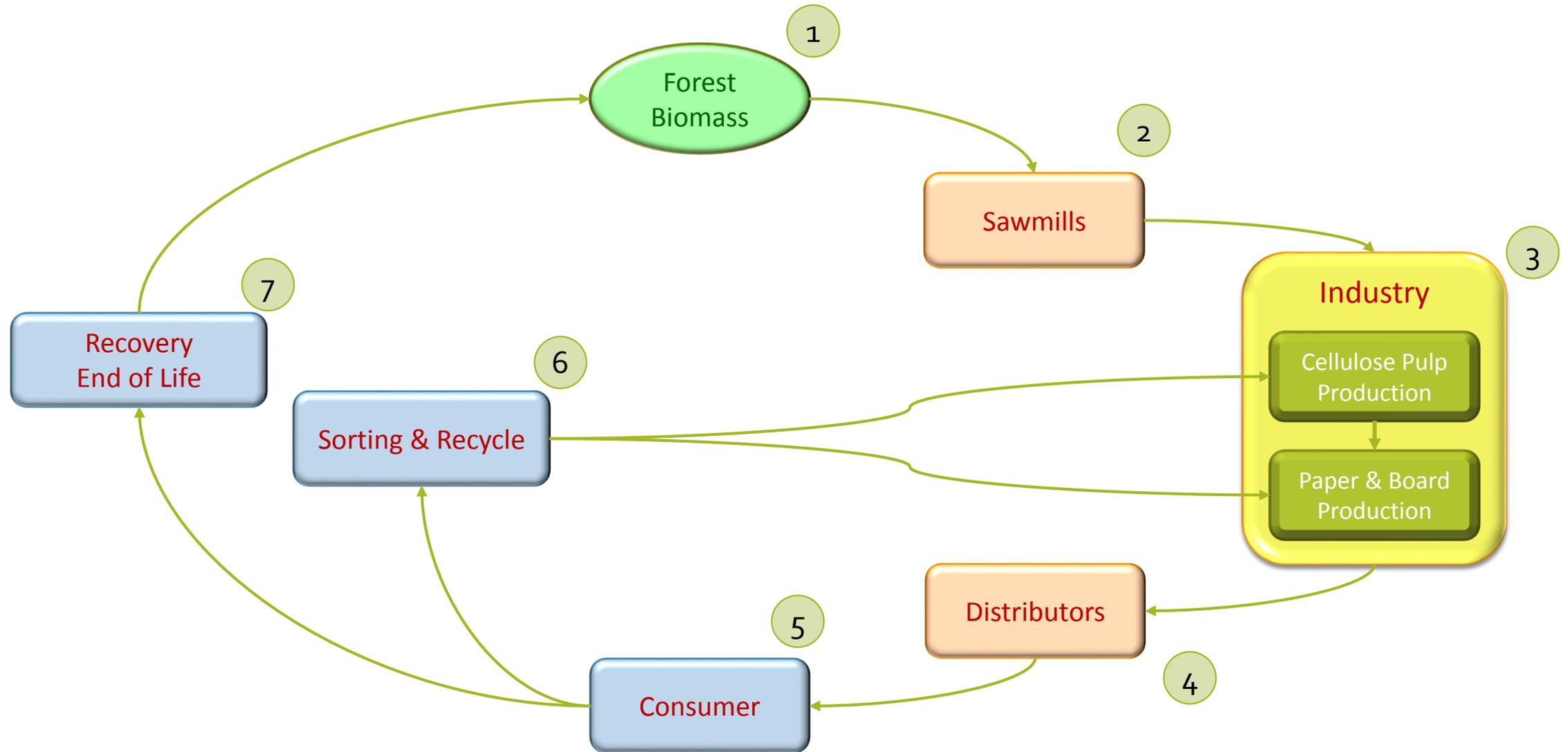
Incentive to encourage the
growth of recycle industry



Thank You

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Potencial Development of Circular Economy in Paper Industry



Indonesian Government's Target

Indonesia is to Reduce wastes through reduce-reuse-recycle up to 30% until 2025 and targeting reduction of marine plastic debris as much as 70% by 2025

Green Industry Certification Scheme

Application to Green Industry Certification Body (GI-CB)

Conformity Audit by site audit

Certification Issued Valid for 4 years

