CIRCULAR ECONOMY EXPERTS

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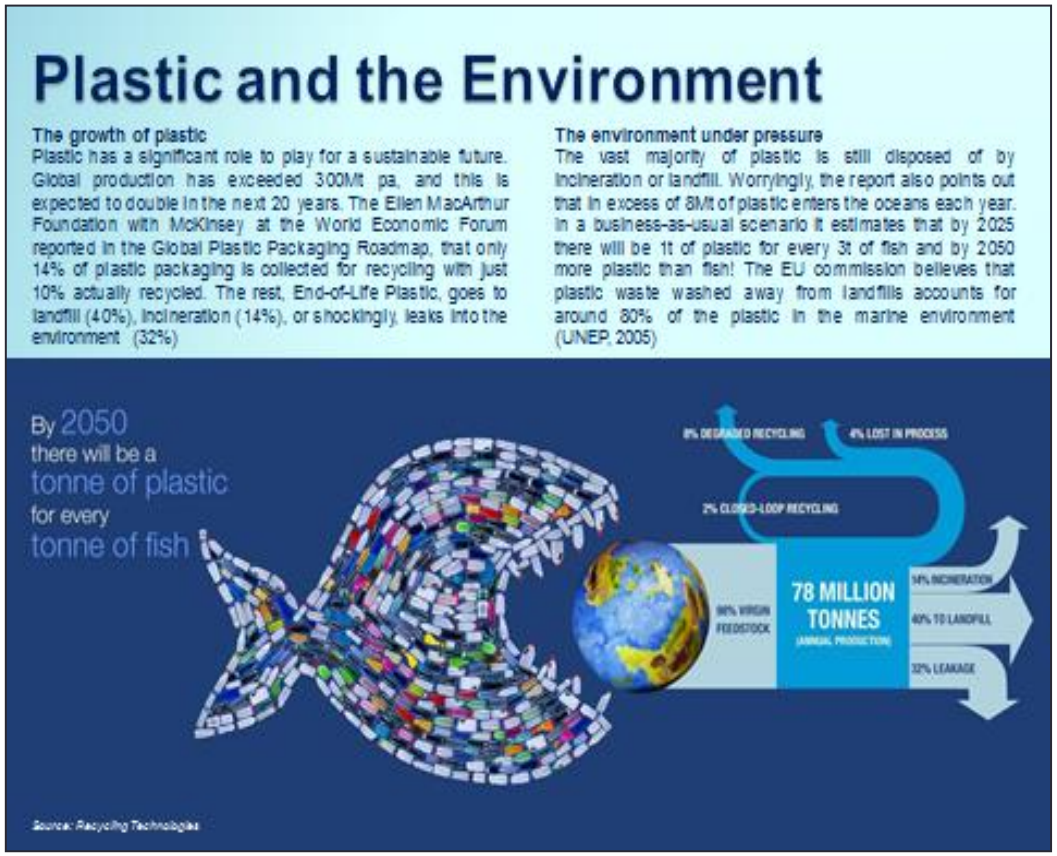
Issues (threat)

MALAYSIA'S ROADMAP TOWARDS ZERO SINGLE-USE PLASTICS 2018-2030

Towards a sustainable future



MALAYSIAN SOLID WASTE GENERATION SCENARIO

		2005	2015
POPULATION		26,200,000	29,700,000
WASTE GENERATION (TON/DAY)		19,000	**38,000**
GENERATION RATE (KG/DAY/PERSON)		0.8	1.15
RECYCLING RATE (%)		5	**17.0**
WASTE COMPOSITION (%)			
WASTE COMPOSITION (%)	FOOD WASTE	45	40.0
	PLASTICS	24	13.2
	DISPOSABLE DIAPERS	-	12.1
	PAPERS	7	8.5
	GARDEN WASTES	-	5.8
	GLASS	24	3.8
	TEXTILES		3.1
	OTHERS		9.5
TOTAL		100 %	100 %

38,000 tons/day:

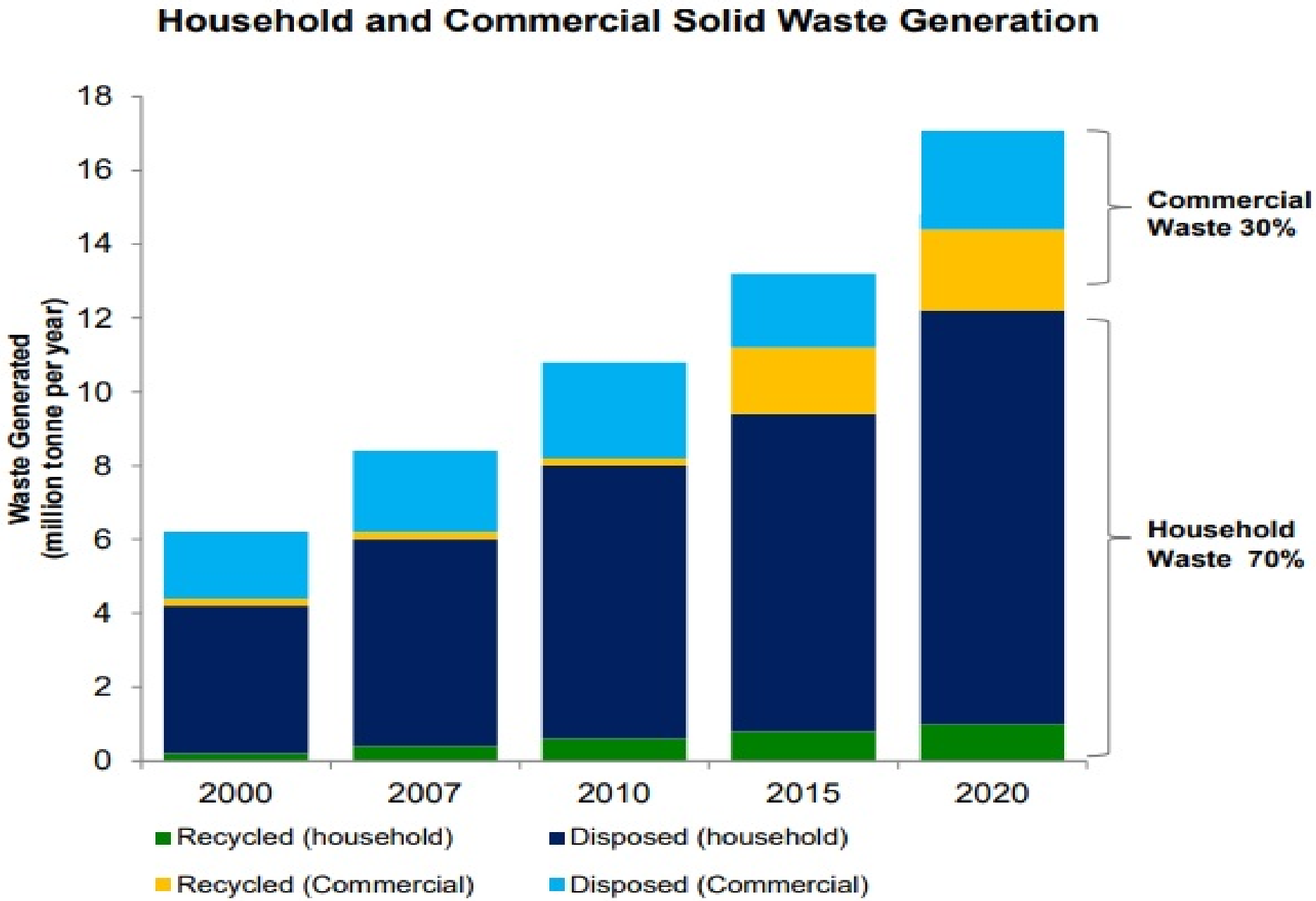
1 day –> 0.183333 km^2 @1meter high
30 days –> 5.5 km^2
44 mths –> Kuala Lumpur (243 km^2), filled with 1 meter high of solid waste

Latest report

- Recycling rate 3.6% to 21% in 2017
- Recycling rate 24.6% in 2018
- National target 30% in 2020
- Separating at Source (SAS) – new regulation applies to commercial sector in 7 states from 1st August 2019
- Commercial, institutions, industries..

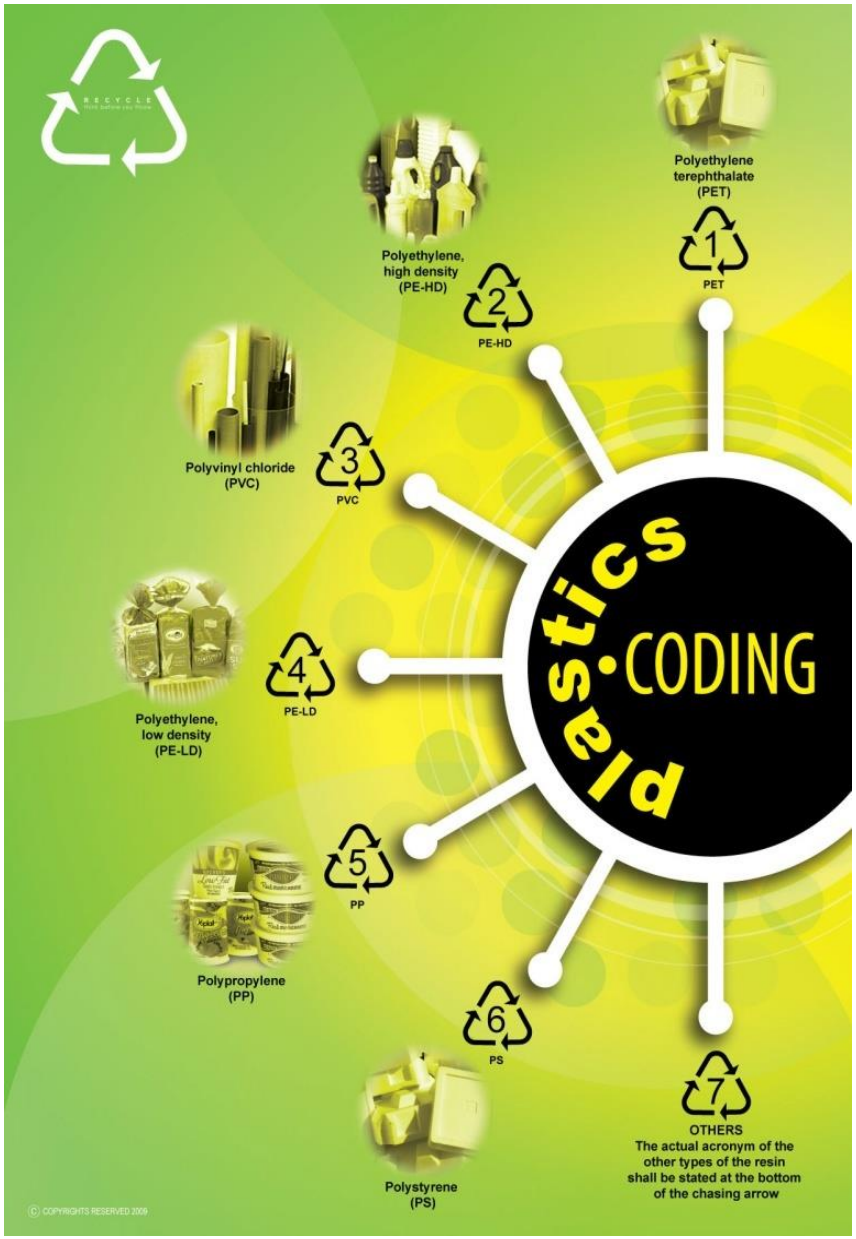
Waste in Malaysia

- **Malaysian households produce 42,672 tonnes of rubbish every day**! That's almost **140 Boeing 747 planes** stuffed all the way up with trash, every single day. (Thailand-39,000 & Philippines-29,000)
- **The average Malaysian throws away 1.64kgs of waste every day,** compared to the worldwide average of 1.2kgs.
- **Household waste has always been on a rise**. A study shows that solid waste generation in Malaysia has **gone up 91%** over the past 10 years, and the main reasons for this are **urban development, higher salaries**, and just a **shift from how we use things as consumers**– for example, with online shopping, there's a lot more packaging that goes to waste.



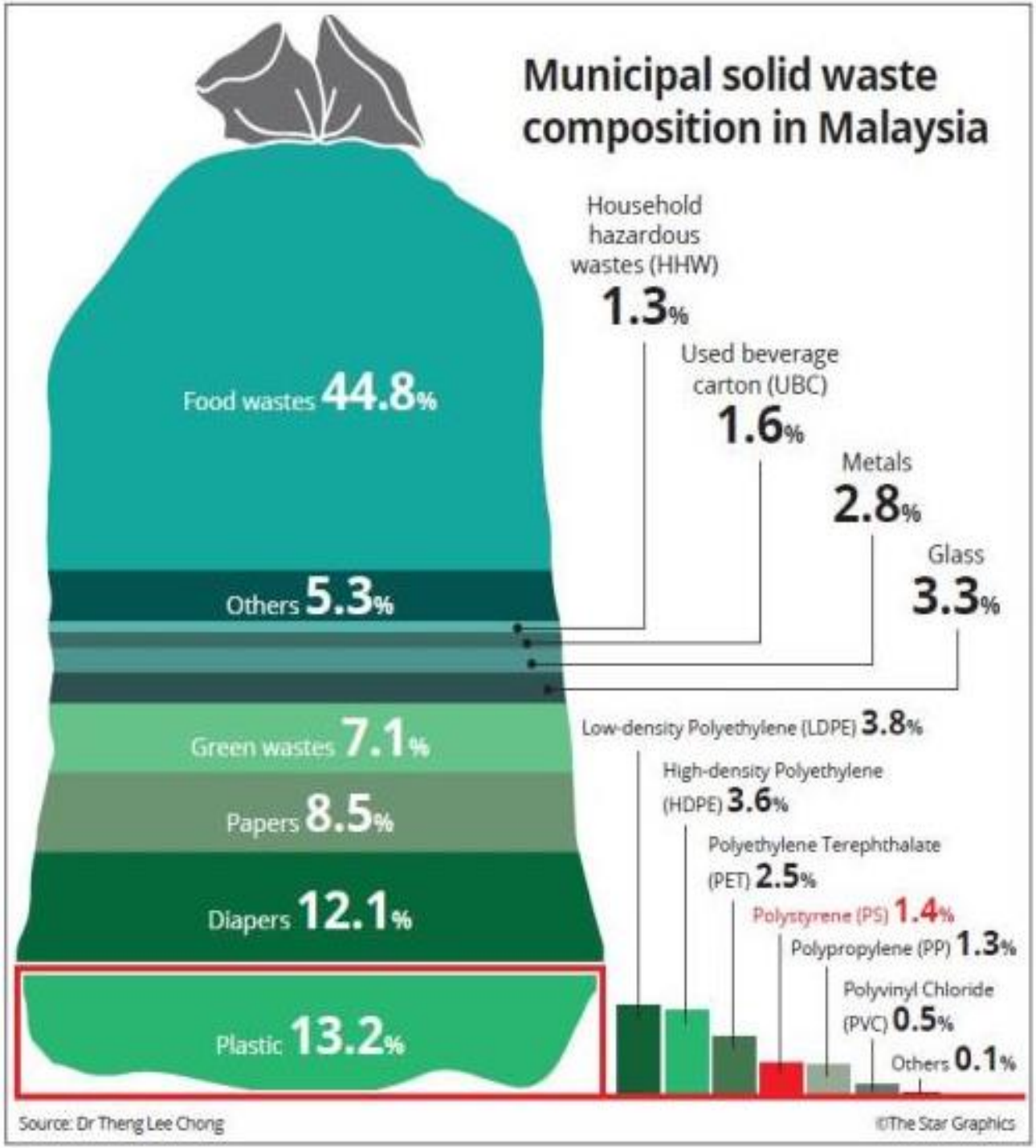
Source: SW CORP Malaysia

Plastics Coding System



- The Malaysian Standards on Coding System for Plastic Products (MS1405:2008), consisting of 7 different resin codes, is aligned to the international coding symbols.
- The Coding System was developed to allow consumers and recyclers to differentiate the various types of plastics while providing a uniform coding system for manufacturers.
- The Coding System is therefore a method of labeling all plastic products with a code to identify the primary resin to make it easier for recyclers to identify and separate plastics for recycling. As such, the Coding System should not be misinterpreted to determine the number of times each plastic product can be used.

MPMA



The Star, 11 July 2016

PLASTICS – 13.2%

- LDPE – 3.8%
- HDPE – 3.6%
- PET – 2.5%
- PS – 1.4%
- PP – 1.3%
- PVC – 0.5%
- Others – 0.1%

RECYCLABLE HOUSEHOLD WASTE

PLASTIC

Current Scenario of Plastic Wastes in Malaysia

1) Plastic Waste Composition – 13.2% of the total MSW
2) Waste based on packaging/product types
3) Waste is calculated based on percentage & average weight
4) Brand Owners are NOT involved
5) NO RRI (Recovery & Recycling Index) analysis – NO Data, NO report
6) NO Sustainability & Circular Economy efforts

Layers of Waste Generators/Recycling Process in Malaysia

1) Brand Owners
2) Manufacturers (Raw Material Suppliers)
3) Suppliers & Distributors
4) Retailers (Hypermarkets, Malls, etc.)
5) Consumers
6) Waste Collectors (Separate – Sell)
7) 1st Recycler (Collect/Buy – Compact – Sell)
8) 2nd Recycler (Buy – Segregate – Crush – Sell)
9) 3rd Recycler (Buy – Wash – Repalletize –Sell)
10) Buyers from several Industries


PEPSICO
GENERAL MILLS
Kellogg's
Associated British Foods plc
Nestlé
Mondelēz International
(formerly Kraft Foods)
Coca-Cola
Unilever
DANONE
MARS
WRIGLEY

Have you thought of…

- What is your carbon emission?
- What happens to your post-product/packaging waste?
- What is your EPR (extended producer responsibility)?
- What is your CSR & CSV?
- Is your product or services polluting the environment?
- Why should we do this?

Types of Waste

- Two types of plastics waste in Malaysia
  - namely, post-industrial waste (generated by the industry) and
  - post-consumer waste (generated by the public).

- The Malaysian recycling industry plays a key role in absorbing and recycling both types of wastes generated locally.

Challenges

- ***Poor Collection System***
- Post-consumer plastics waste is relatively contaminated.
- For recycled plastics to be economically viable, plastics processors require large quantities of plastic scraps, manufactured to tightly controlled specifications, at a competitive price - in comparison to that of virgin polymer.
- This is a challenging task, particularly in view of the diversity of sources of plastics waste, the wide range of polymers used and the high potential for contamination of plastics waste.
- Hence imported waste are necessary to compliment local waste.

Challenges

- As the amount of local post-industrial waste is limited ***(poor collection)*** and post-consumer waste is dirty and contaminated, recyclers have no choice but to import foreign wastes to blend and improve the quality as well as generate ***economies of scale*** to make their businesses viable.

- Certain plastic types, for instance engineering plastics like ABS, PS, etc. are also in short supply in Malaysia.

- There is simply insufficient local wastes available for all recyclers.

EPR
(extended producer responsibility)

- In the field of waste management, **extended producer responsibility** (EPR) is a strategy designed to promote the integration of environmental costs associated with goods throughout their life cycles into the market price of the products.
- According to the OECD (Organisation for Economic Co-operation and Development) :
  - EPR is a concept where manufacturers and importers of products should bear a significant degree of responsibility for the environmental impacts of their products throughout the product life-cycle, including upstream impacts inherent in the selection of materials for the products, impacts from manufacturers' production process itself, and downstream impacts from the use and disposal of the products. Producers accept their responsibility when designing their products to minimise life-cycle environmental impacts, and when accepting legal, physical or socio-economic responsibility for environmental impacts that cannot be eliminated by design.

Material Cycle Society

- Basic concepts for achieving sound Material Cycle Society

1) **Waste Generator's responsibility**

   - responsible to undertake proper cyclical use of, or proper disposal of waste generated by the business or individual, on their own responsibility (via Waste Management and Public Cleansing Law - Act 672)

2) **Extended Producer Responsibility (EPR)**

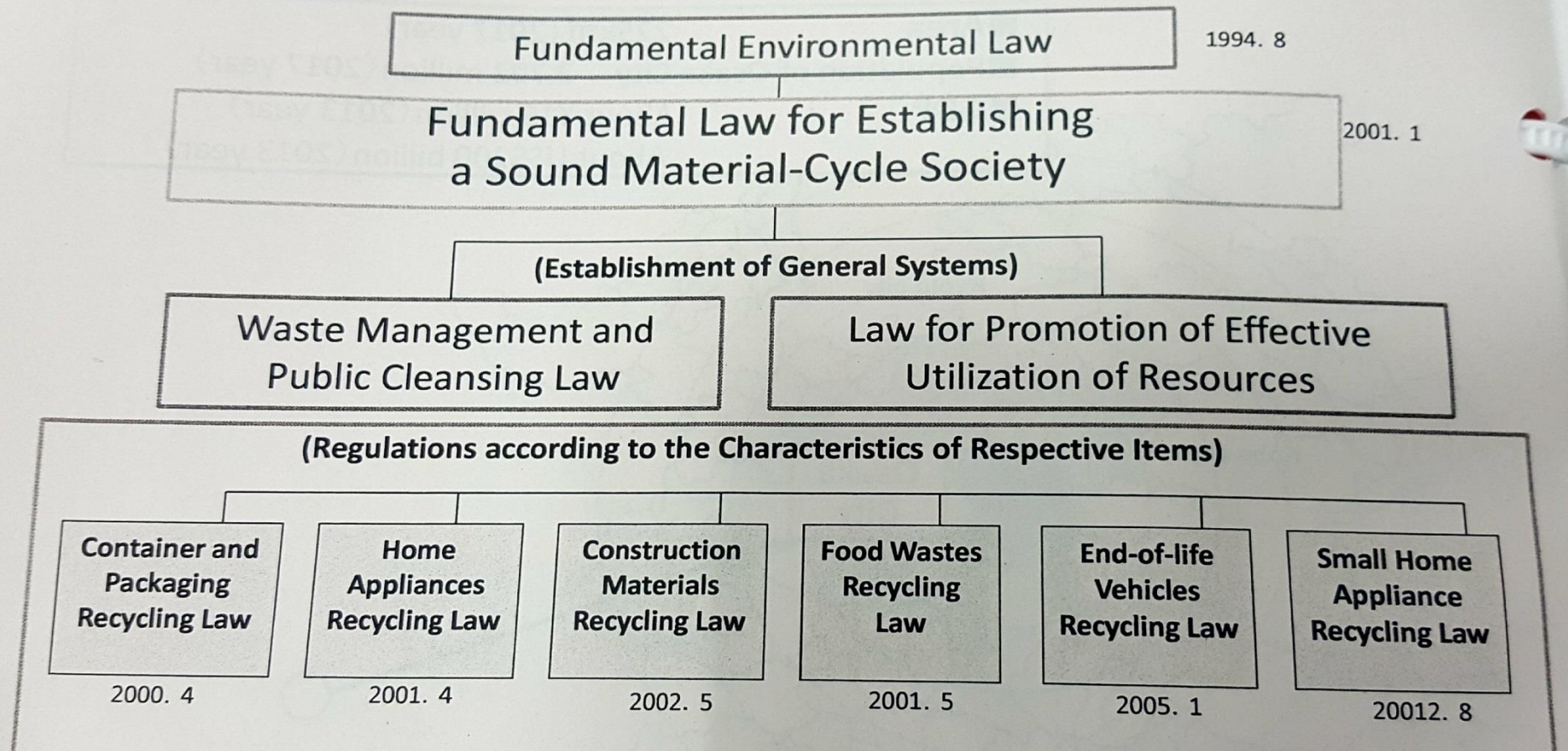
   - A concept that a producer should be responsible for its product, not only in the production and use stages, but also in the waste and recycling stages.

   A producer is responsible for collection, recycle, and disposal of its post-consumer products, and should also bear their cost. It is proposed by **Organization for Economic Co-operation and Development (OECD).**

Material Cycle Society

- If you mix garbage, it is a waste.
- If you separate/sort, it is a resource.
- Do not turn money into waste.
- If it has inevitably turned into waste, replace the waste with money as soon as possible.
- Reduce Waste Generation – Reuse – Recycle – Possible Recycling Treatment – Proper Disposal

Legislative Framework to Establish a Sound Material-Cycle Society



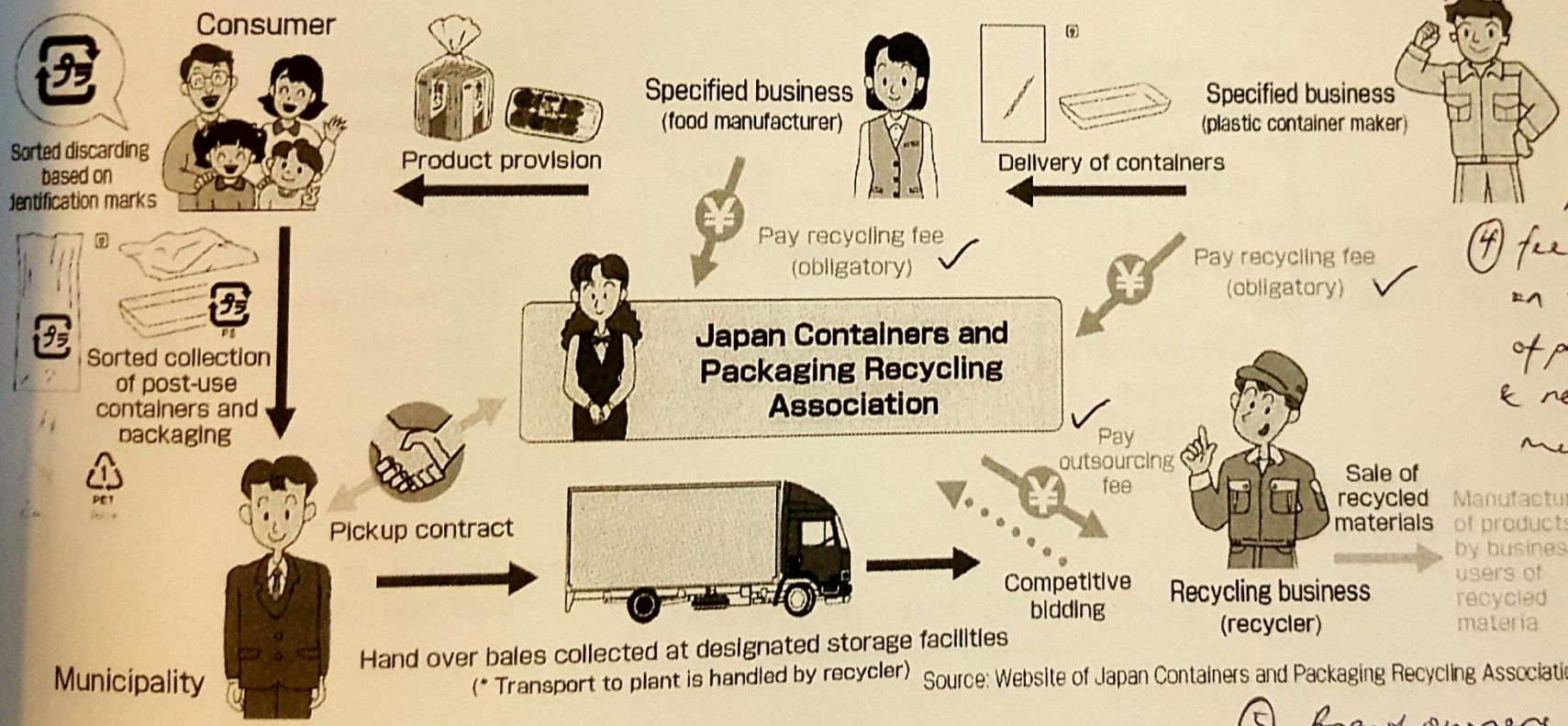
Collection and recycling flow-chart of container & packaging plastic (Containers & Packaging Recycling Law)

based on production volume.

① Recycling fee?

② " fee included in total price?
- yes, consumer pay.

③ importers/traders also pay

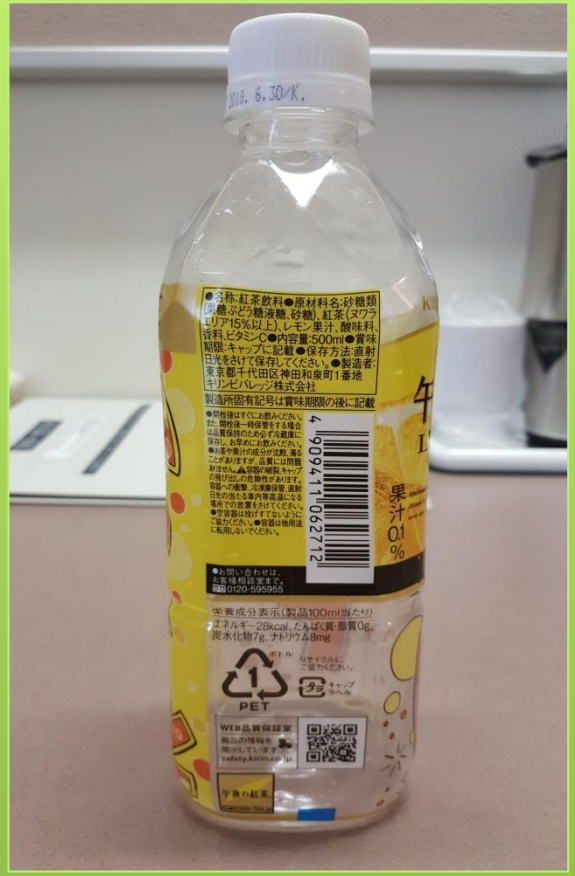


Source: Website of Japan Containers and Packaging Recycling Association

④ Recycling fee depends on the type of products & recycling method.

⑤ Brand owners also contributes to recycling fee.

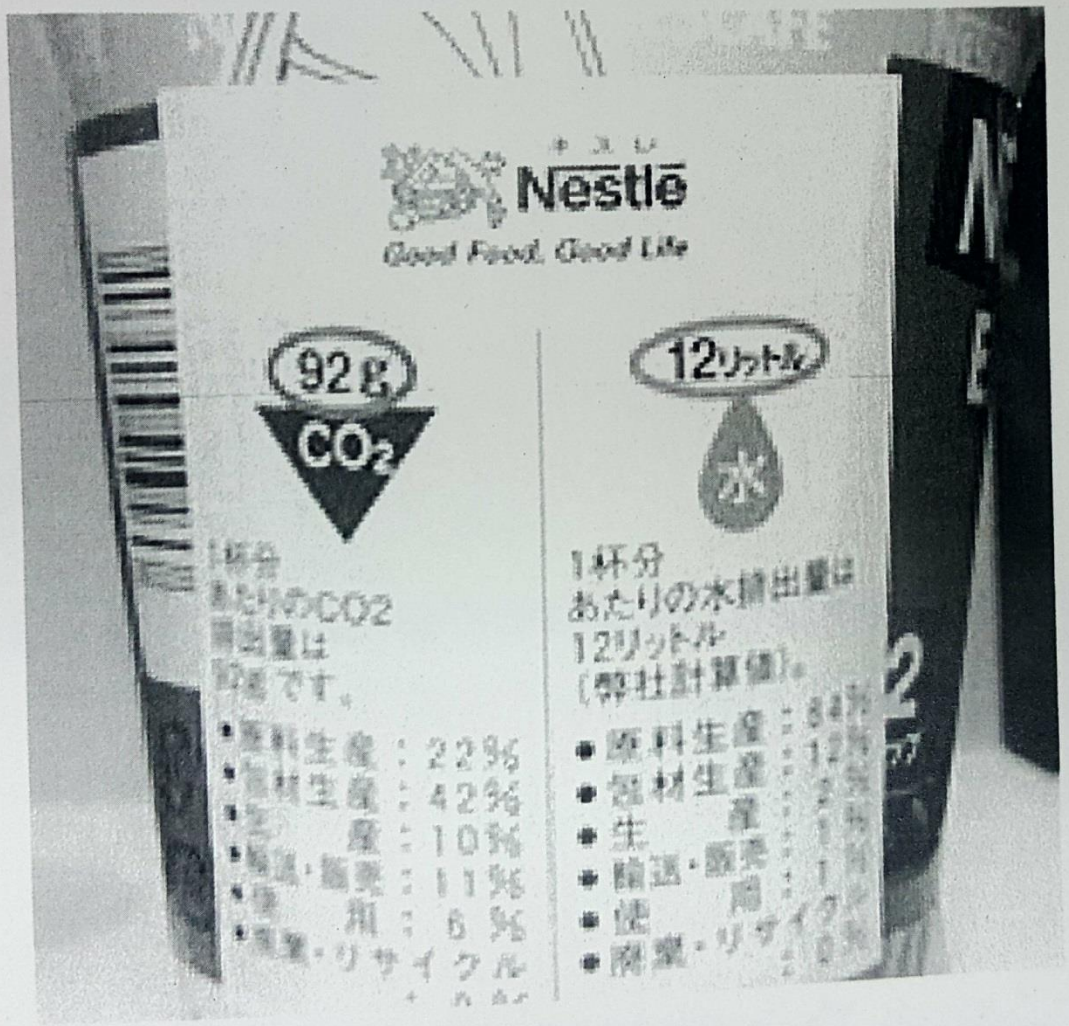

人工甘味料不使用
のさわやかな
飲み口
ボトル
PET
キャップ
ラベル
国産
キャップをはずし
リサイクル


●名称:紅茶飲料●原材料名:砂糖類(糖,ぶどう糖液糖,砂糖),紅茶(ヌワラエリア15%以上),レモン果汁,酸味料,香料,ビタミンC●内容量:500ml●賞味期限:キャップに記載●保存方法:直射日光をさけて保存してください。●製造者:東京都千代田区神田和泉町1番地 キリンビバレッジ株式会社
製造所固有記号は賞味期限の後に記載
4 909411 062712
●お問い合わせは、お客様相談室まで。
0120-595955
栄養成分表示(製品100ml当たり)
エネルギー28kcal,たんぱく質・脂質0g,炭水化物7g,ナトリウム8mg
PET
果汁0.1%


高級豆へのこだわり
GOLD QUALITY
詳しくはキャンペーンサイトにアクセスしてください!
ハズレ
****
****
eBook図書券
1,080円
当たる!
有効期間
12/25まで
OPEN
金の微糖
高級豆100%のコク


名称 みかんジャム
原材料名 還元麦芽糖水あめ、みかん、糖類(砂糖、ぶどう糖果糖液糖)、ゲル化剤(ペクチン)、酸味料、香料
内容量 15g
保存方法 直射日光を避け常温で保存して下さい
製造者 タカ食品工業株式会社
URL http://www.takafoods.co.jp/
※本製品は1食タイプですので開封後は使いきって下さい。
PE,PET

Carbon Footprint and Water Footprint Independently Released by Nestlé Japan Ltd.



Material Cycle Society

A sound Material-Cycle Society is a Sustainable Society which limits consumption of natural resources, thereby the environment load is reduced through:

- Curbing waste emissions;
- Recycling resources; and
- Disposing appropriately

Disposal of Plastics

The fundamental problem lies in “disposal” itself

- Plastics, which do not decompose in the natural environment, are said to be the main culprit behind environmental aggravation.
- However, “being decomposable” also means a “long life”, which is a excellent feature. With this feature, plastics are potentially a superior “earth-friendly material”.
- It should be acknowledged that plastics are problematic not because they do not decompose but because they are disposed off or being littered.

UK to tax packaging with less than 30% recycled material

Chancellor Philip Hammond said yesterday that the UK government would introduce a new tax penalizing plastic packaging containing less than 30% recycled plastic. He did not specify the amount of the tax nor a timetable of its implementation when he presented his budget in the House of Commons on Oct. 29.

NEWSLINE

Producers set to foot the bill for their waste

December 18, 2018

LATEST NEWS

DerGrünePunkt

ARE YOU A MANUFACTURER/IMPORTER OF PACKAGING OBLIGED TO PARTICIPATE IN A TAKE-BACK SYSTEM?

Do you have sales and secondary packaging that is filled with goods and typically ends up with the final consumer after use?*

YOUR OBLIGATIONS FOR THE FIRST REGISTRATION:

MANUFACTURER

Before putting on the market

1. **Online registration at** Central Registry Packaging Regulation at **www.verpackungsregister.org**

CENTRAL REGISTRY → Publishing of registered manufacturers online

Third parties are **not** authorized!

2. **Participation** in a take-back system **e.g. in Der Grüne Punkt**

SYSTEM

3. Immediate **reporting** to the Central Registry of the **data** transmitted to the take-back system

CENTRAL REGISTRY ↔ Review and data reconciliation ↔ SYSTEM

Regularly as of 01.01.2019

Immediate **transfer** of **information** given to the take-back system (data reporting)

Only if quantities are above the de minimis limit: Submission of the declaration of completeness by 15th May for the previous year

CENTRAL REGISTRY ↔ Review and data reconciliation ↔ SYSTEM

* Definition acc. to § 3 para. 8 Packaging Act

Further information
Current information about the new Packaging Act is available on our website **www.gruener-punkt.de/en/packagingact.** For further questions, please write an email to **customerservice@gruener-punkt.de.**

The content of this flyer is based on our present knowledge. Final definitions and specifications by the Central Registry are still being expected.

Impressum:
Der Grüne Punkt –
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www.gruener-punkt.de/en

Responsible for the content:
Helmut Schmitz

Status: January 2019

Countries taking the circular approach

The increased importance of reverse supply chain as a source of value has led companies to adopt a circular supply chain approach, which reduces waste, provides an alternative source of inputs, and takes advantage of the original forward supply chain investment.

The move towards circular supply chains by organizations is being pushed forward by important international regulations and new environmental approaches:

- **European Union Packaging Directive**: Initiated in 2001, this directive requires all countries in the E.U. to recycle 50 percent of their packaging waste or incinerate it to provide energy.
- **Japanese recycling laws**: In Japan, businesses are responsible for recycling packaging materials into reusable.
- **California recycled content laws**: California requires manufacturers to recycle 25 percent of all plastic containers.
- **UK Landfill Directive**: In 2007, an addition was made to this legislation that requires all UK-based companies to recycle or treat their waste products, regardless of their size and turnover.

The European Commission has adopted a Circular Economy Package with ambitious 2030 targets. It includes revised legislative proposals on waste to accelerate Europe’s transition towards a circular economy.

CSR vs CSV

- **CSR – Corporate Social Responsibility**

  - ‘Good conduct’ performed outside core business, such as donation, patronage of artists & culture, and philanthropy.

  - **Economy + Society + Environment = Maximizing corporate value**

- **CSV – Created Shared Value**

  - introduced by Michael E.Porter, Professor at Harvard Business School in 2011.

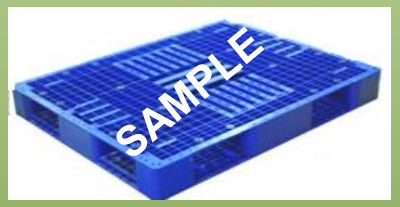
  - aims to simultaneously realize solutions to social issues and the improvement of corporate competitiveness.

  - **Social value X Economic value = Maximizing competitiveness**

Department of Agriculture Issues (Collection & Recycling)

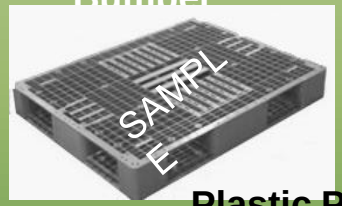
Resin:

Customer Products & etc:



...etc.

Resin:



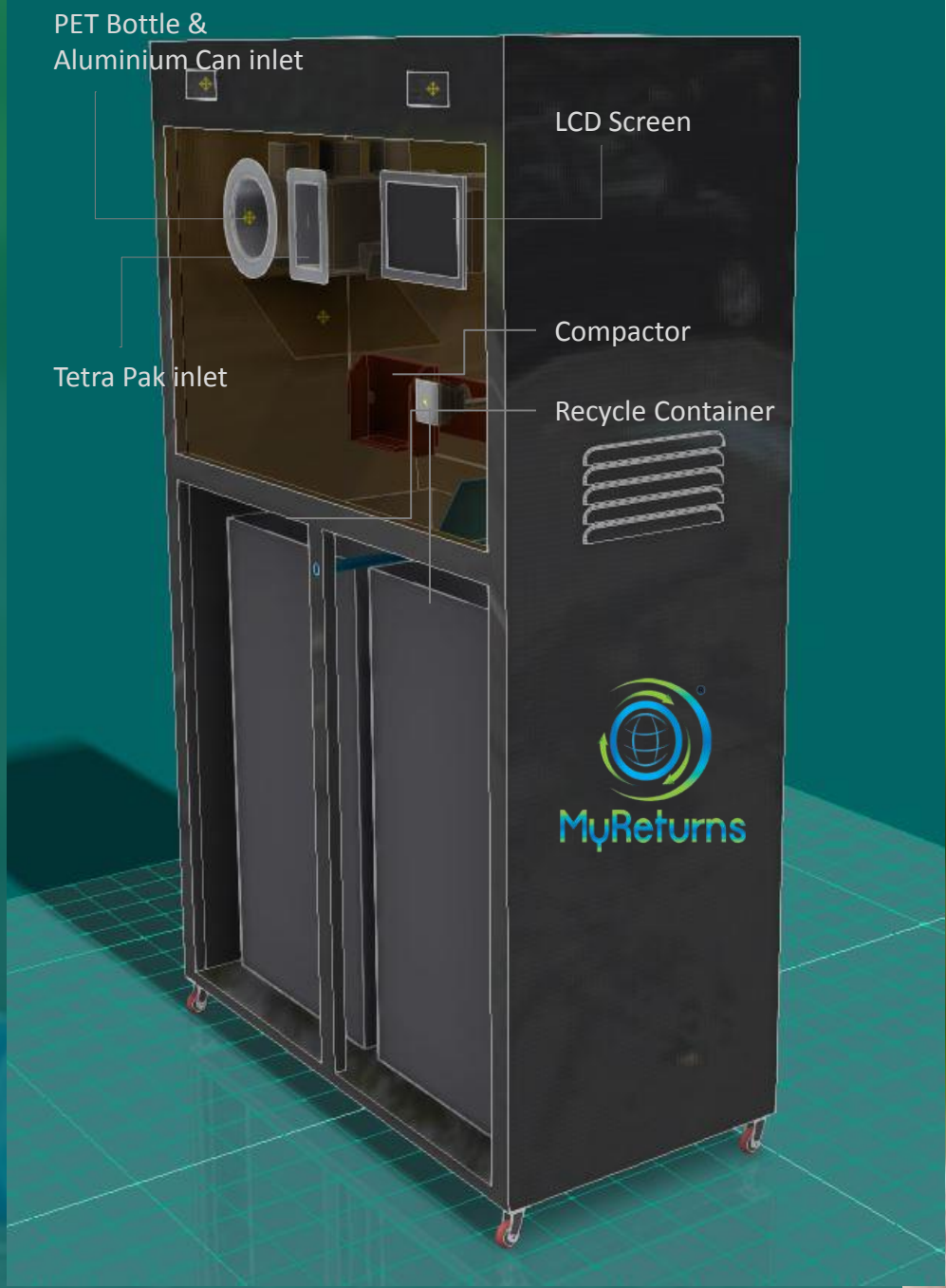
Plastic Pallet (Grade 1)

……. & etc.

Resin:

MyRVM

AN INNOVATIVE RECYCLING SOLUTIONS



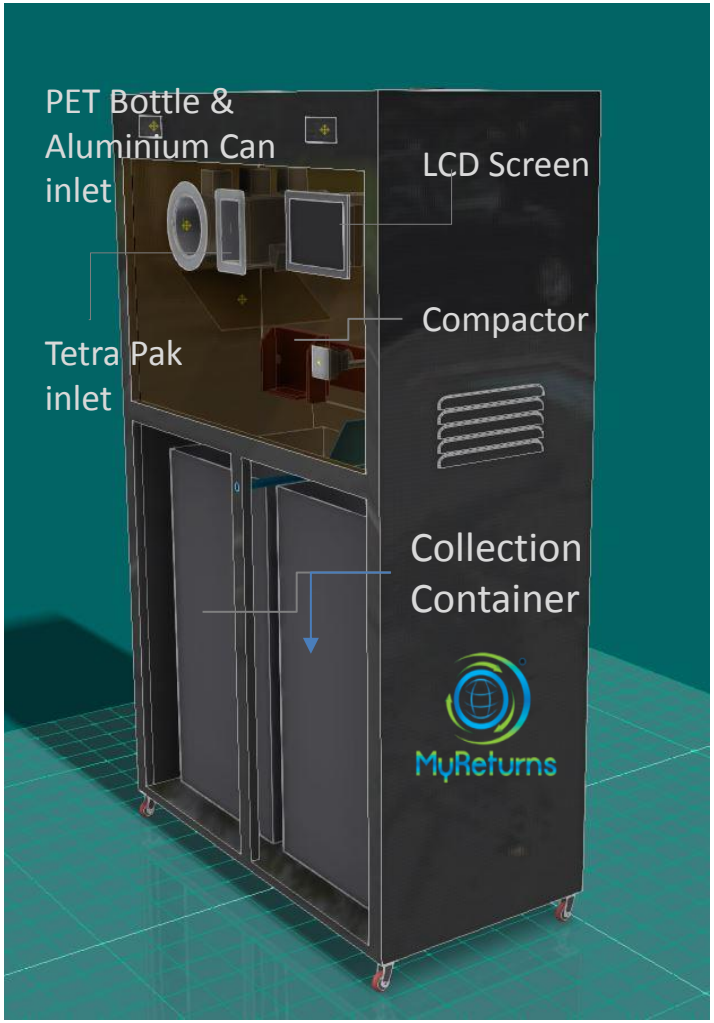
CIRCULAR ECONOMY EXPERTS

Prepared by:
Era Suria Ecopreneurs Sdn Bhd
February 2019
Version 2.0

Reverse Vending Machine (RVM)

CURRENT VERSION

NEW VERSION

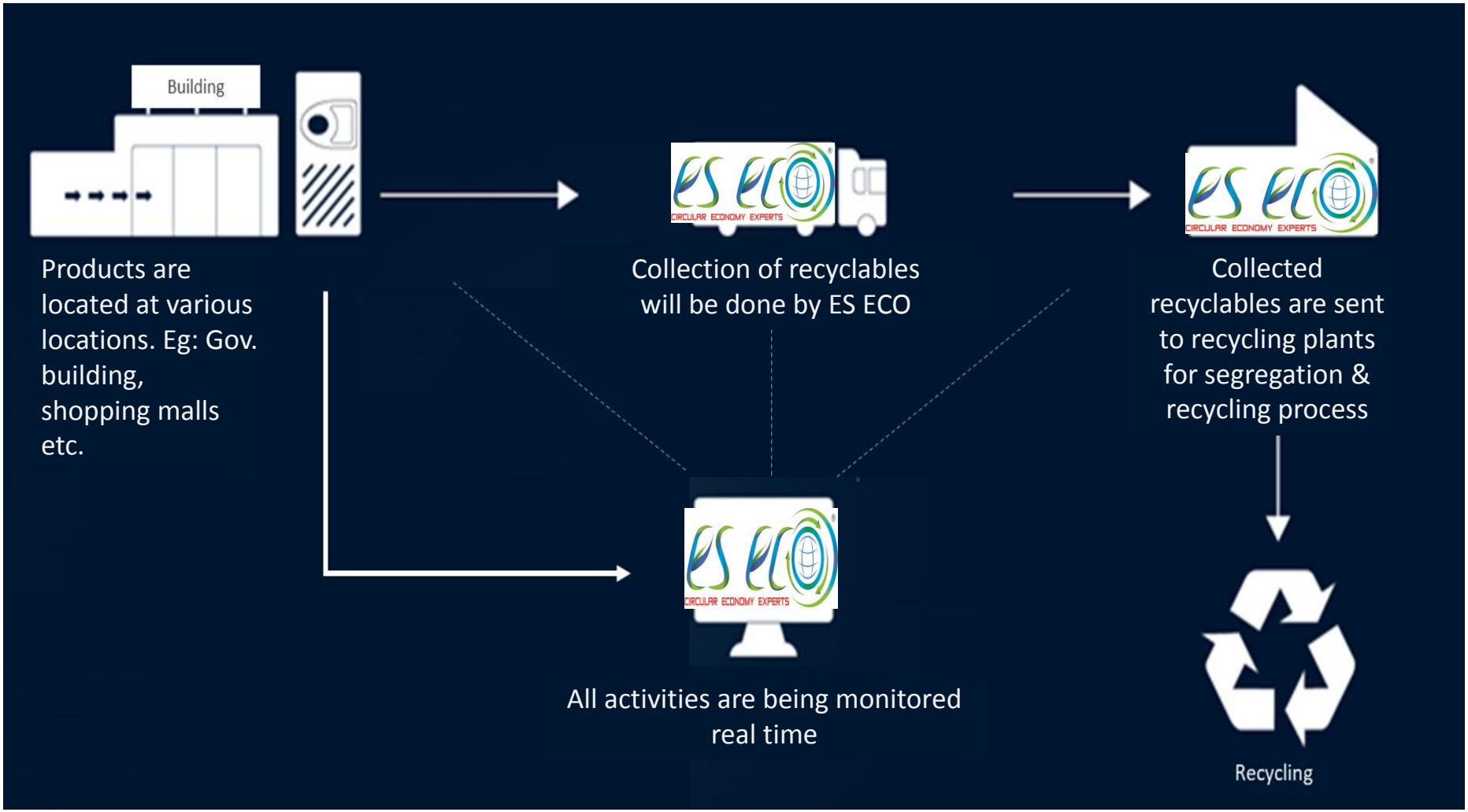


RVM prototype submitted to SW Corp on 4th January 2019.

- PET bottles
- Aluminium cans
- Tetra Pak

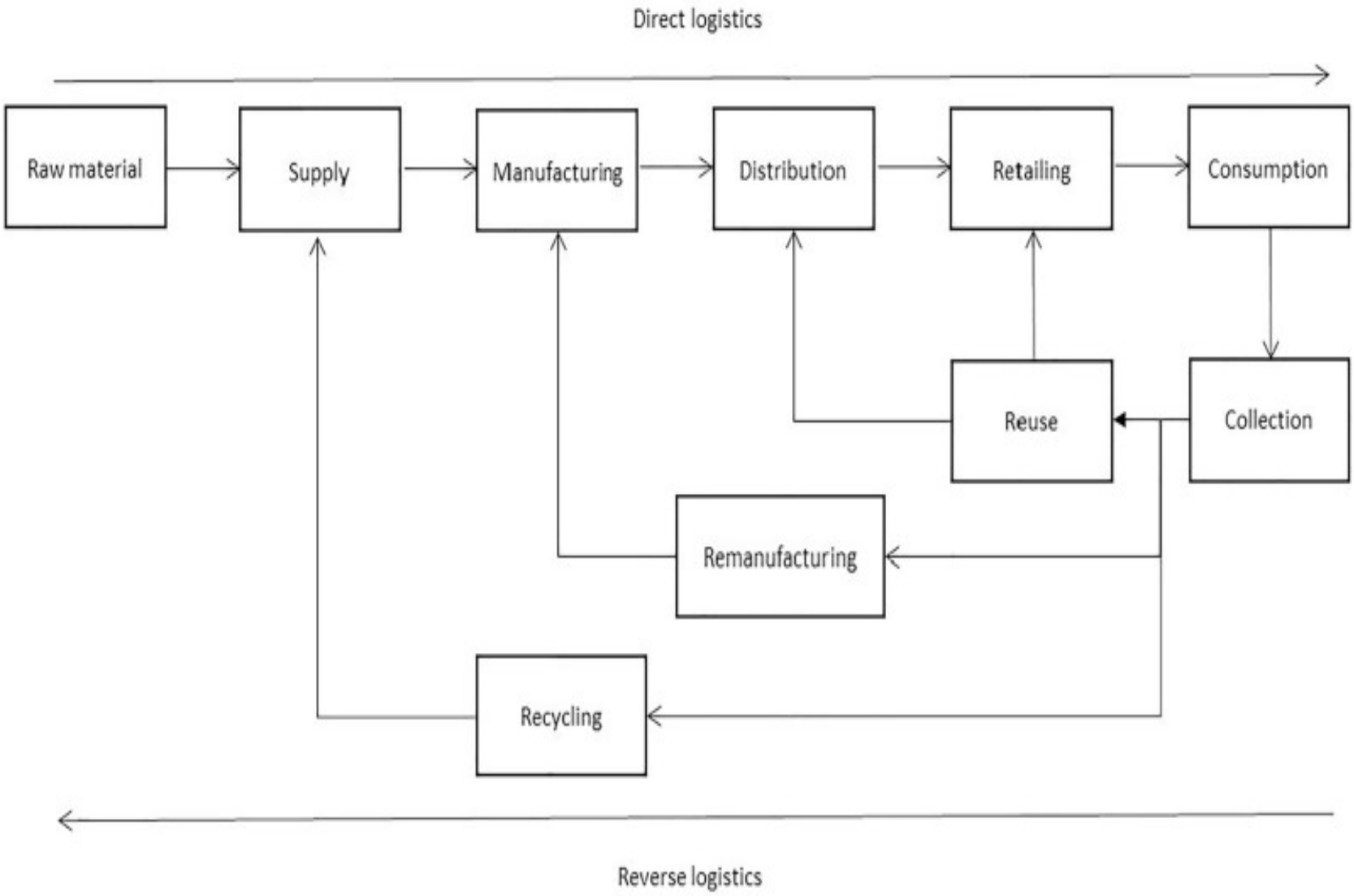
Integrated with MyReturns mobile app and a back-end support system.

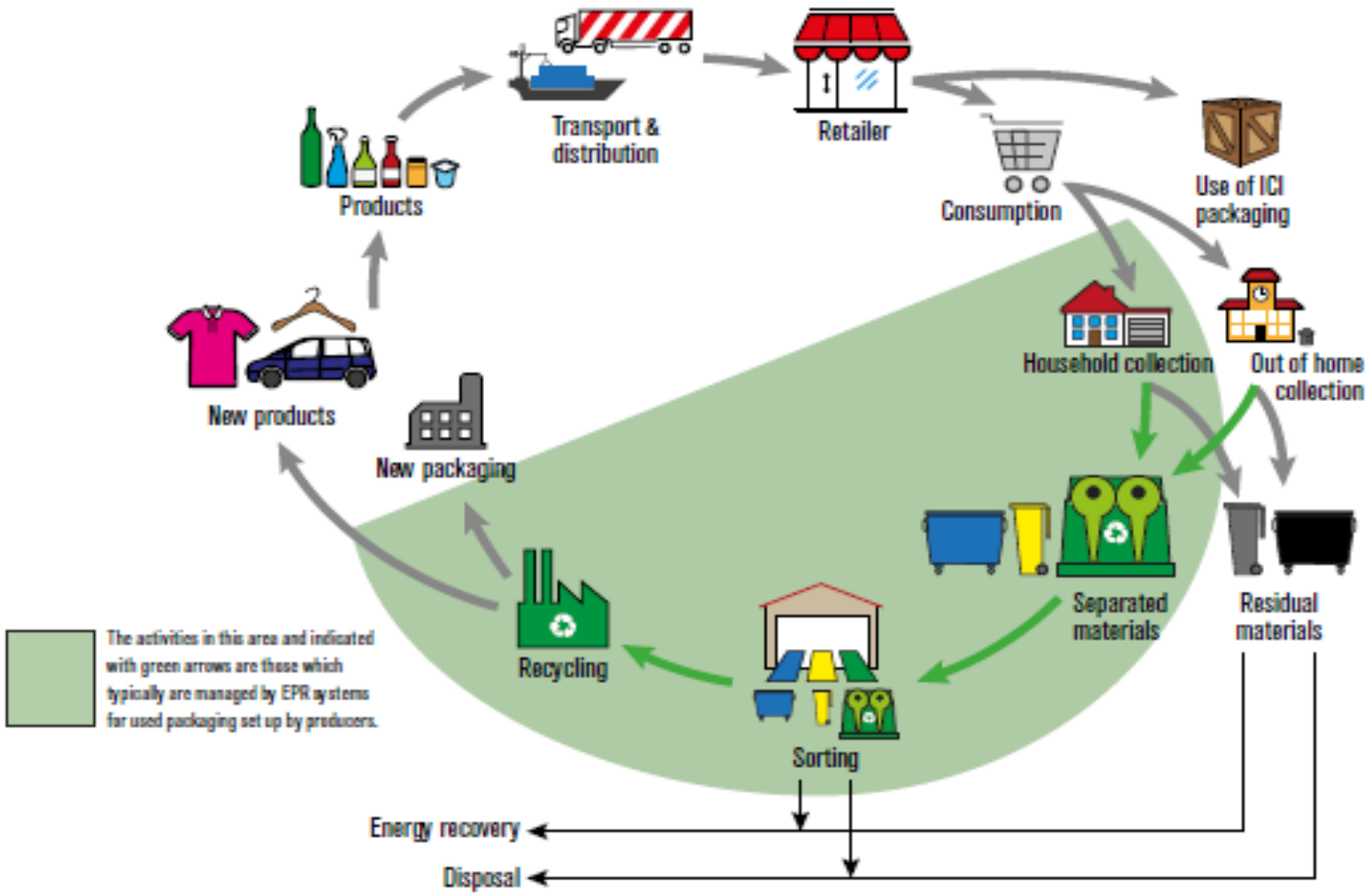
Our Collection Process



Towards Circular Economy

ES ECO is committed to the transition from a linear to a circular economy model, which consists of recycling resources in a loop from the design and production phases to later use and recovery stages.


Direct logistics
Raw material
Supply
Manufacturing
Distribution
Retailing
Consumption
Reuse
Collection
Remanufacturing
Recycling
Reverse logistics


Transport & distribution
Retailer
Products
Consumption
Use of ICI packaging
Household collection
Out of home collection
New products
New packaging
Separated materials
Residual materials
Recycling
Sorting
The activities in this area and indicated with green arrows are those which typically are managed by EPR systems for used packaging set up by producers.
Energy recovery
Disposal

Benefits for all

Producer

- Zero waste and reduce CO2 & GHG emission from products waste (reduce carbon footprint)
- Support Circular Economy – Waste as Resource
- Data support RRI (Recovery & Recycling Index)
- Enables R&D (Research & Development)
- Encourage producers to take accountability of their products throughout the supply chain
- Create brand loyalty
- Sustainable and traceable products
- Cost reduction

Consumer/ Citizen

- Eradicate and reduce waste at landfill
- Encourage the habit of recycling and change in mindset
- Increase national recycling rate
- Obtain financial incentive for recycling
- Reduce Carbon Footprint
- Education & Awareness

Nation

- Zero Waste – Reduce waste at the landfill
- Reduce energy – transporting waste
- Reduce CO2 & GHG emission at the landfill
- Enhance Recycling Industry
- Reduce importation of waste
- Provide data support (RRI)
- Provide enhancement to waste management stream
- Change in public mindset towards material recycling
- Increase national recycling rate

Recycler

- Source of clean post-consumer waste
- Reduce energy – transporting waste
- Enhance Recycling Industry
- Reduce importation of waste
- Provide data support (RRI)
- Provide enhancement to waste management stream
- Increase national recycling rate
- Opportunity for Up-cycling

Key Messages

- Accountability – brands/producers
- CSR to CSV
- Waste Management System (collection/recovery)
- Win-win situation
- Blue Ocean Strategy

Driving collection and recycling to create a world without waste.

A collaborative effort and system is required for an effective circular economy

THANK YOU