



# 2020 Taiwan - Czech Republic Economic, Trade, and Investment Forum

Post COVID-19 Industry Cooperation Opportunities

## Green Economy

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Taiwan Alliance for Sustainable Supply (TASS)

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Taipei, Taiwan



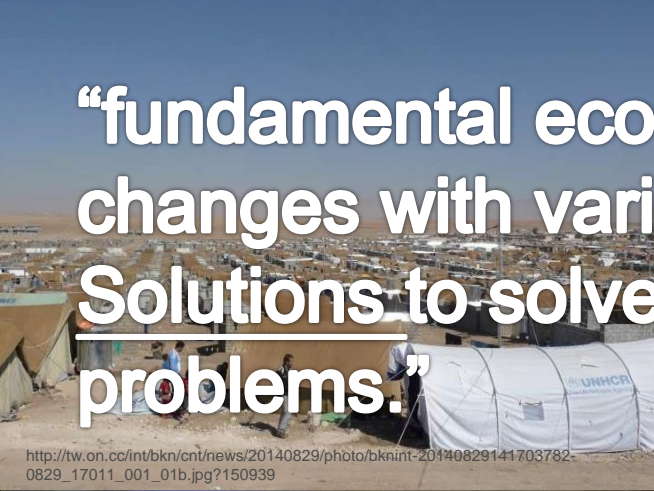
## Shu-Shin (Steve) LAI

- **Chairman, Taiwan Alliance for Sustainable Supply (TASS)**
- **Board Member, International Federation of Purchasing and Supply Management (IFPSM)**
- **Honorary Chairman, Supply Management Institute, Taiwan (SMIT)**
- **Executive Director, Center for Purchasing and Supply Studies (CPSS)**
- **Associate Research Fellow, “Taiwan Purchasing Managers’ Index” Program, Chung-Hua Institution for Economic Research (CIER)**
  
- **Master of Business Administration, Tulane University, U.S.A.**
- **Research Areas: Supply Chain Management, Macro Economics, Forecasting and Strategic Planning**

A 3D digital rendering of the Earth, showing continents, oceans, and a sky with clouds. The image is heavily stylized with numerous green trees of various sizes scattered across the landmasses. Several white waterfalls are depicted cascading down the sides of the continents. The overall aesthetic is clean and vibrant, emphasizing natural beauty and environmental health.

# Our Earth





# Green Economy



UNEP

ΠΙΕΒ



**“To be green, an economy must not only be efficient, but also fair.”**

**“an economy that is low-carbon, resource efficient, and socially inclusive.”**

# Circular Economy

**“an economy that is producing NO WASTE and POLLUTION.”**

**Biological Nutrients: to reenter the biosphere safely**

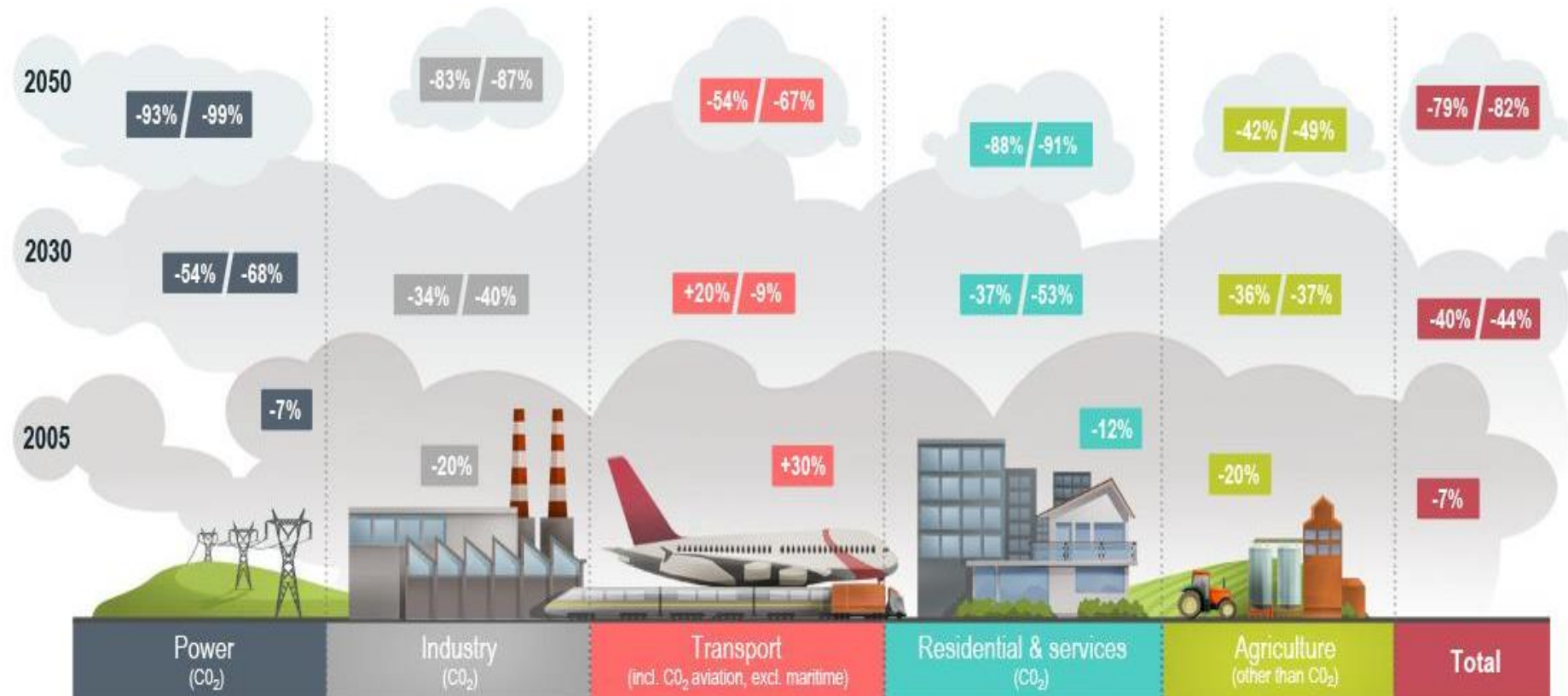
**Technical Nutrients: to circulate in the production system without entering the biosphere**



**cradle to cradle**

# Low-Carbon Economy

“an economy based on **low carbon power sources**, therefore has a minimal output of **GHG emissions**.”





# Blue Economy

An underwater photograph showing a large school of small, dark fish swimming in clear blue water. In the lower-left corner, the top of a diver's helmet and a portion of a scuba tank are visible, suggesting the scene is from a scuba diving perspective.

**“To incorporate the real value of the natural (blue) capital into all economic activities.”**

**“Nature provides room for entrepreneurs who do more with less.”**

## Contents

- **Why Circular Economy in Taiwan**
- **Experiences and Opportunities of Circular Economy in Taiwan**
- **Market Innovations and Successful Stories**

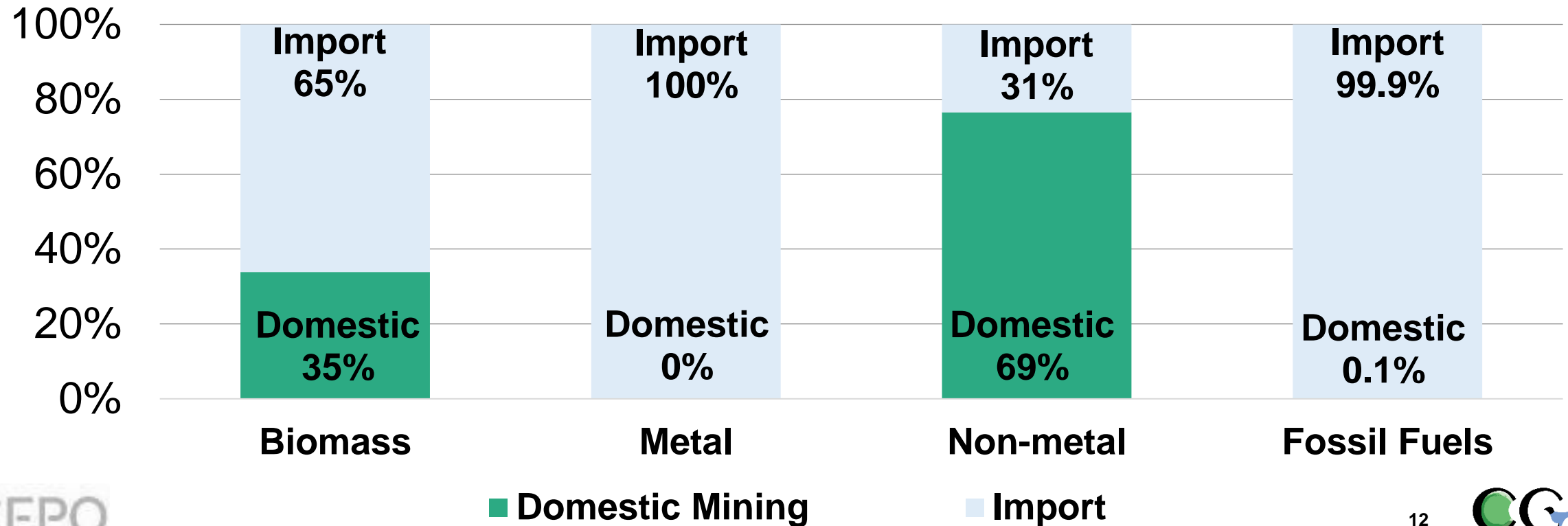


# Why Circular Economy in Taiwan?

## Natural Resources are indeed Scarce in Taiwan

➤ **76%** of materials are imported

- **Metals - 100%**
- **Biomass - 65%**
- **Fossil Fuels - 99.9%**
- **Non-metals - 31%**

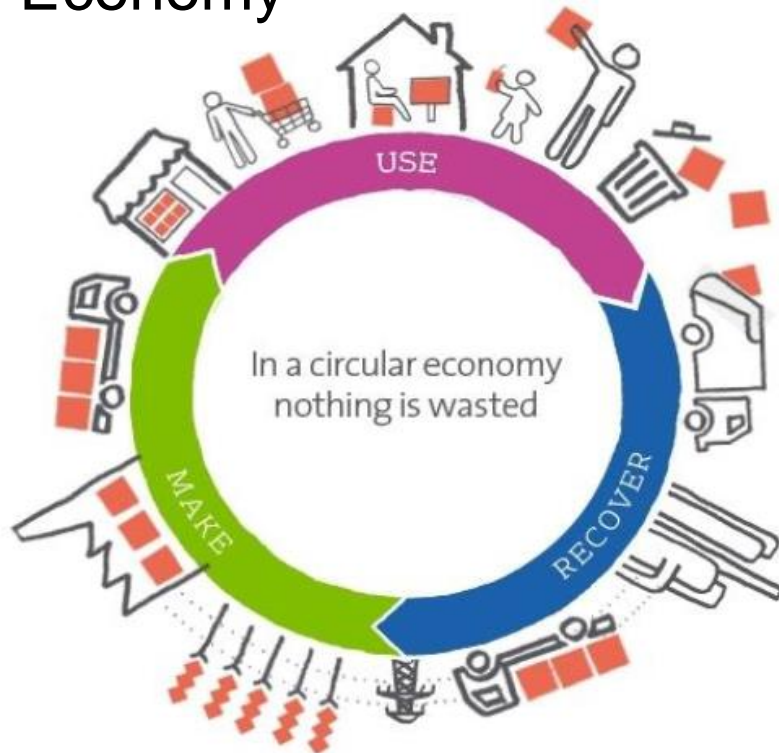


# From Linear to Circular Thinking & Mindset

Linear  
Economy

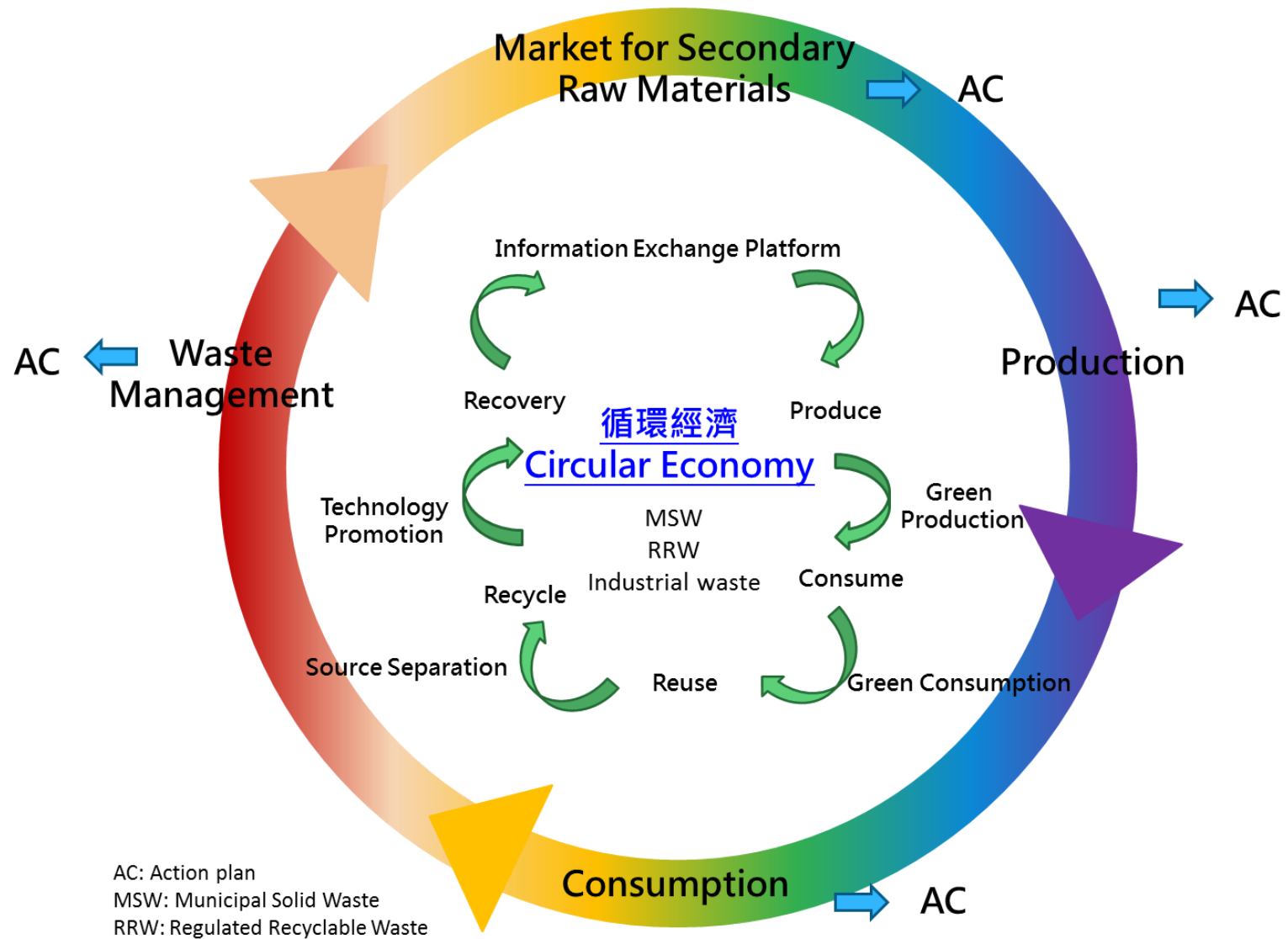


Circular  
Economy

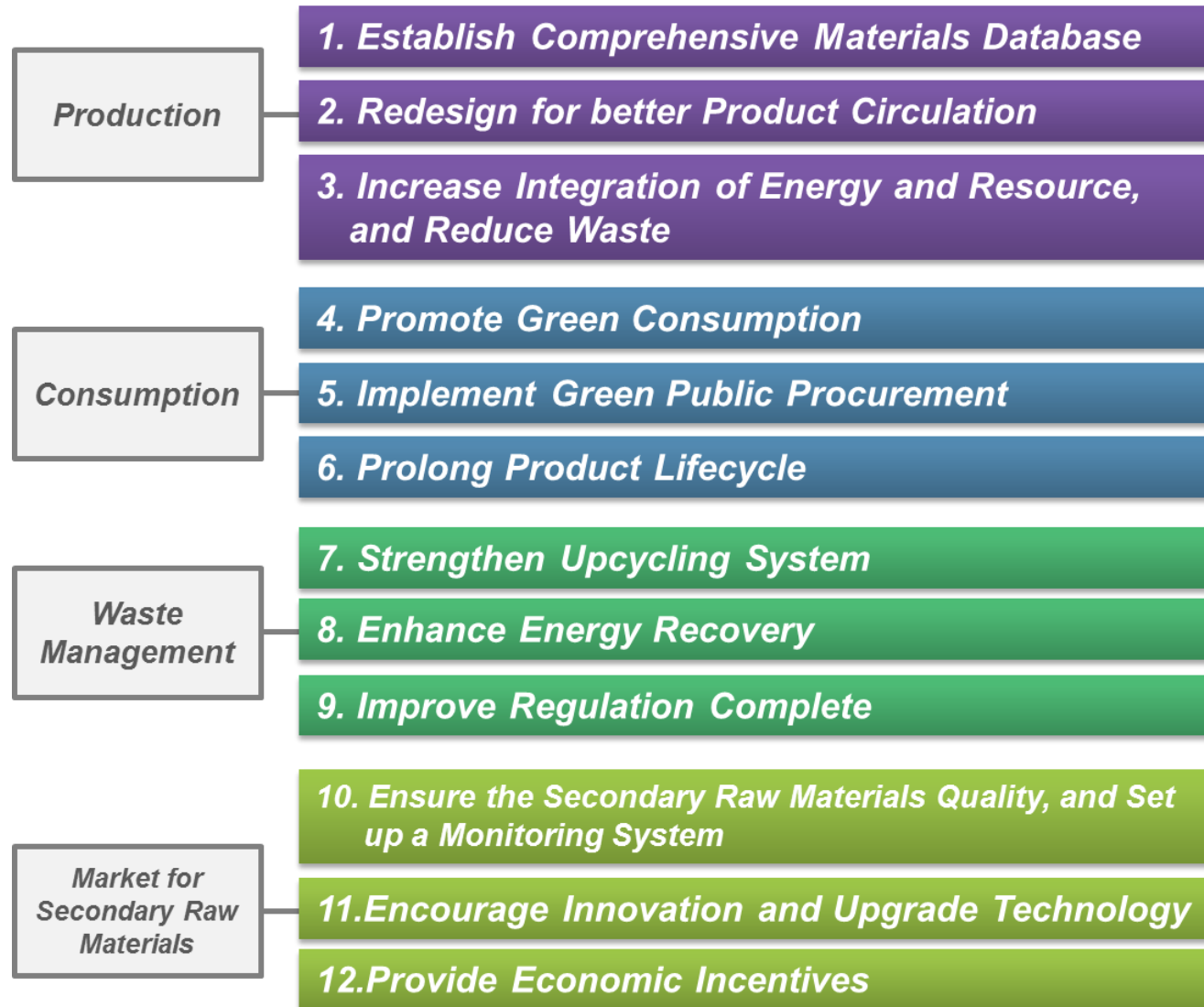


- ◆ **Efficient use** of raw materials
- ◆ **Use sustainable, renewable and generally available** raw materials
- ◆ Sustainable **production**
- ◆ Sustainable **consumption**

# Action Plans on Circular Economy



# Road Map - Strategies

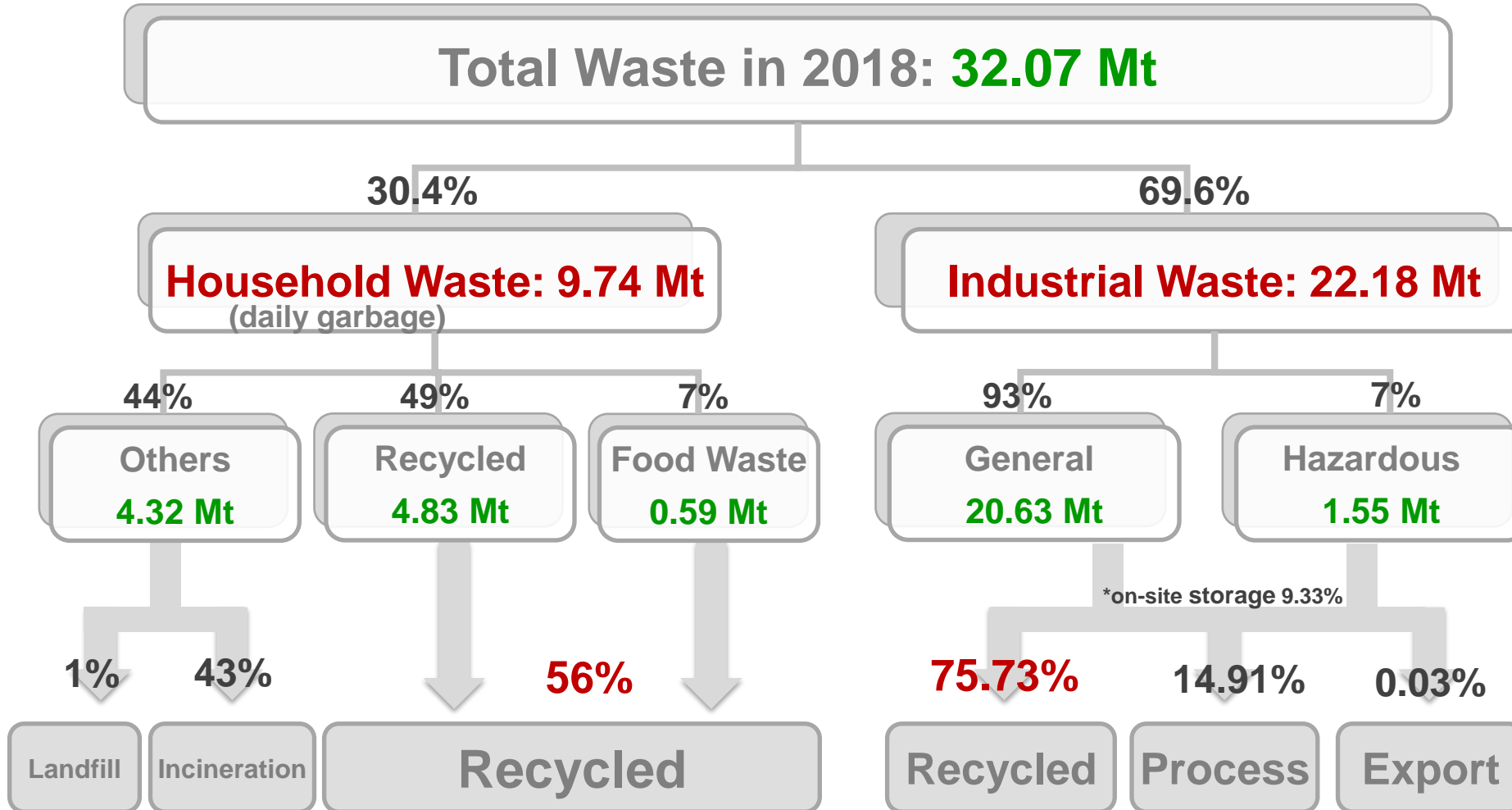




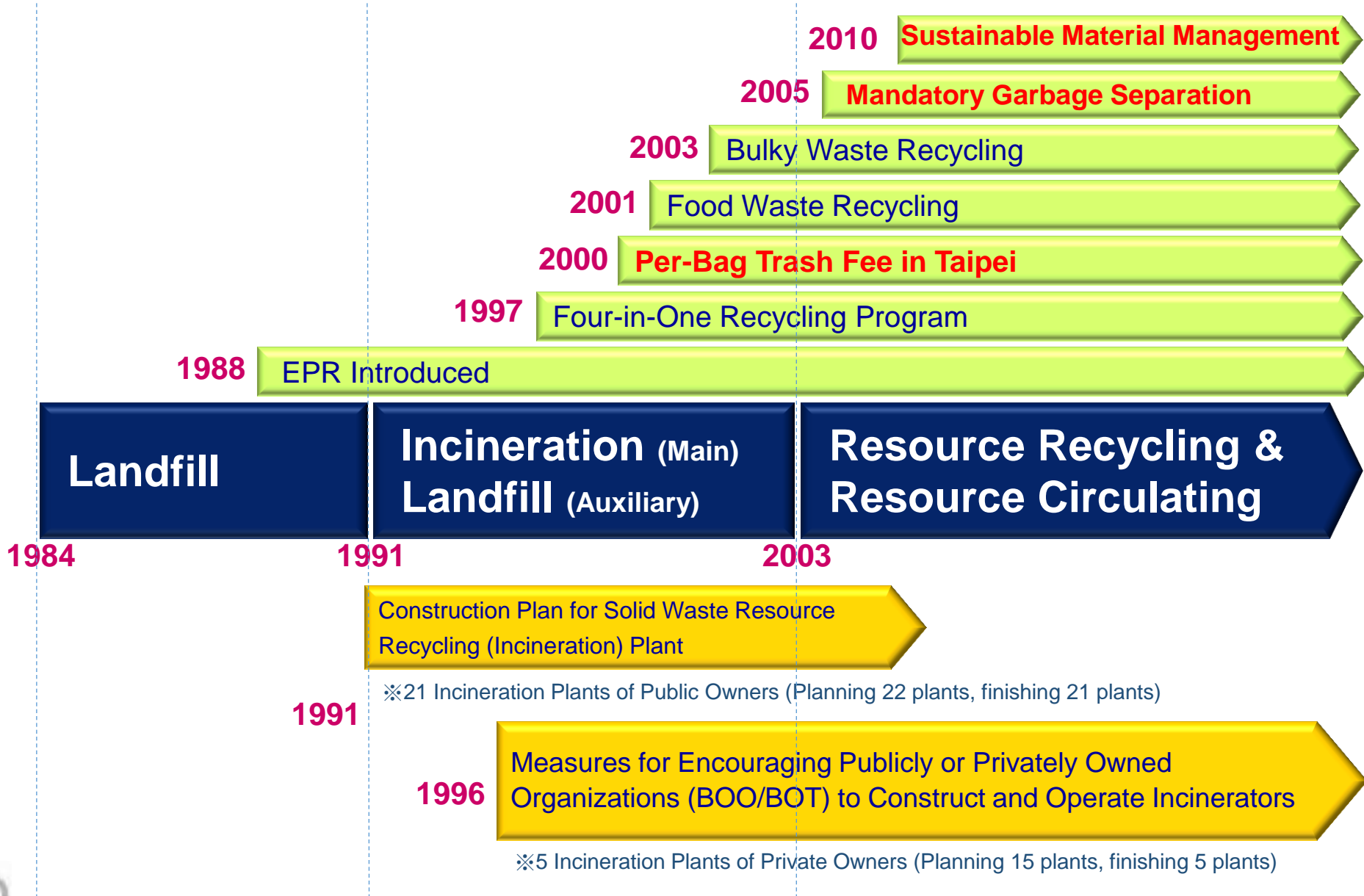
# Experience and Opportunities of Circular Economy in Taiwan

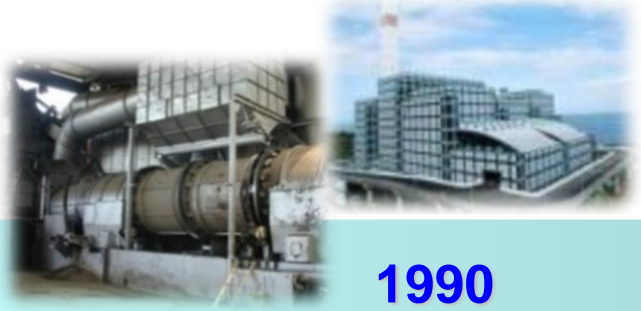
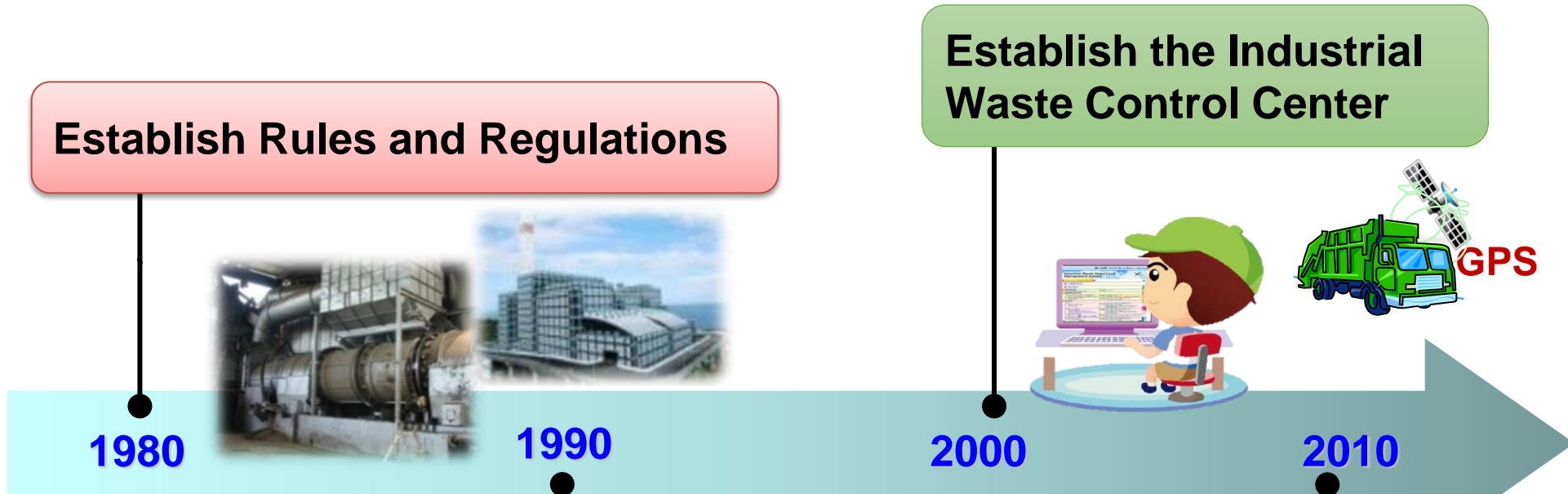


# Waste Statistics in Taiwan

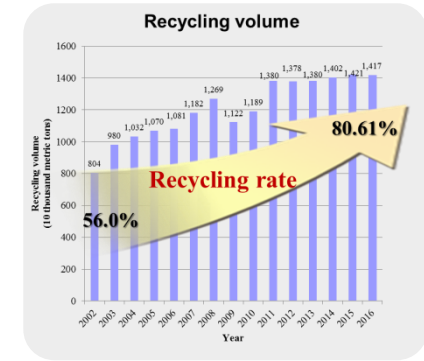


**Unit: Mt (Million tones)**





Supervised:



# 4-in-1 Recycling Program

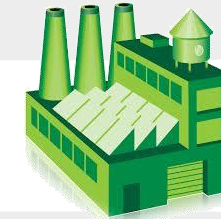
## Community Residents

- ◆ To form Community-based Recycling organization
- ◆ To Promote separation of waste and recyclable



## Recycling Industries

- ◆ To purchase waste resources from the public, communities and local government



## Recycling Fund

- ◆ To be paid by responsible enterprises
- ◆ To subsidize the recycling and disposal system



## Recycling Fund














## Local Government

## Local Government

- ◆ To transport resources and waste separately
- ◆ Part of the revenues feed back to general public



# Regulated Recyclable Wastes

|   |   |   |
|---|---|---|
| <p>1</p>  <p>1.1. Iron Containers:<br/>Such as beverage cans, milk cans and home-use insecticides.</p>   | <p>6</p>  <p>14. Pesticide Containers:<br/>such as containers for weed killer and insecticide.</p> | <p>11</p>  <p><b>IT Equipments</b><br/>20. Notebooks;<br/>21. Hard-disks;<br/>22. PC casings;<br/>23. Motherboards;<br/>24. Monitors;<br/>25. Printers;<br/>26. Power supplies;<br/>27. Keyboards</p>      |
| <p>2</p>  <p>2. Aluminum Containers:<br/>Such as carbonated drinks, sports drinks etc.</p>   | <p>7</p>  <p>15. General Batteries:<br/>All types of dry batteries.</p>                            | <p>12</p>  <p><b>Electronic and Electric Appliances</b><br/>28. Television sets;<br/>29. Washing machines;<br/>30. Air-conditioners and heaters;<br/>31. Electric refrigerators;<br/>32. Electric fans</p> |
| <p>3</p>  <p>3. Glass Containers:<br/>Such as bottles for beers, rice wines and carbonated drinks.</p>   | <p>8</p>  <p><b>Motor Vehicles,</b><br/>including<br/>16. Automobiles;<br/>17. Motorcycles.</p>    | <p>13</p>  <p>33. Light Sources:<br/>Such as fluorescent tubes, circular fluorescent lamps, compact fluorescent lamps, incandescent lamps and HID lamps.</p>   |
| <p>4</p>  <p><b>Paper Containers,</b><br/>including<br/>4. Aluminum foil packages;<br/>5. Paper containers.</p>   | <p>9</p>  <p>18. Tires</p>  |   |
| <p>5</p>  <p><b>Plastic Containers</b><br/>6. PET; 7. PVE; 8. PP;<br/>9. PE; 10. PS foam;<br/>11. PS non-foam;<br/>12. Other plastics;<br/>13. Biomass Plastics.</p> | <p>10</p>  <p>19. Lead Batteries<br/>(Lead-Acid Batteries)</p>                                   |   |



# Market Innovations and Successful Stories

## Create something new Clothes and blankets are made of wasted + recycled plastic fiber ...



# Green Building Materials



**A multi-billion market cap company with polyester and textile business, now reinventing itself in green economy.**



### Product Characteristics

- Recycled/recyclable polyester products, such as food-grade recycled PET resin
- Recycled fiber, which is made from used PET bottles

- The 1<sup>st</sup> Taiwan Green Classics Award Winner
- Far Eastern EcoARK, the world first building with exterior walls made entirely by discarded PET bottles
- Football jersey made by recycled fabrics, used by Nike in the FIFA World Cup of 2014 and 2018





# Pave Taipei city roads with recycled glasses ...



- **Green Design Products**



The shampoo bottle material is **100%** made from recycled milk bottles



The first recycled **dispenser head** in the world



# Greenest Shampoo with Sustainable Packaging



**Da Fon *hand-in-hand* with O'right**

**The First 100% PCR HDPE  
Shampoo Bottle in Asia**



## Electric Smart Scooter to combat pollutions in mega-cities?



**Gogoro**

- The so-called "Tesla of scooters"
- A network of battery-swapping stations, cells to be changed in just 6 seconds

# Plastics Reduction Acts of Taiwan

## Reduce

**2002 -**  
limit use of **plastic bags**; policy is continuously reviewed with more limitations



**2011 -**  
vendors to offer discount to customers bring **reusable cups**

| 店家                | 優惠內容                   |
|-------------------|------------------------|
| STARBUCKS<br>星巴克  | 折價10元                  |
| Cold Stone<br>酷聖石 | 折價10元                  |
| 伯朗咖啡              | 折價5元                   |
| 金礦咖啡              | 折價5元                   |
| City cafe         | 折價3元                   |
| 全家                | 折價3元                   |
| 伯朗咖啡館             | 折價3元                   |
| 85度C              | 折價3元                   |
| 50嵐               | 大杯折價2元，<br>中杯折價1元      |
| 清心福全              | 850ml以上折價2<br>元，以下折價1元 |
| 摩斯漢堡              | 每杯1點，集5點<br>可兌換30元商品   |



**2018 -**

- prohibiting selling of products that contain **microbeads**
- second stage of limiting use of **plastic bags**

# Restrict the Use of Beverage Plastic Straws

## Reduce

- Annual usage amount - about 3 billion straws  
Too light and too small to be recycled
- Four places are prohibited to provide single-use plastic straws for in-store use since 1<sup>st</sup> of July 2019.

### Regulated



### Not regulated yet

- ◆ **PLA straws**  
(Green mark needed)
- ◆ **Products with straws**

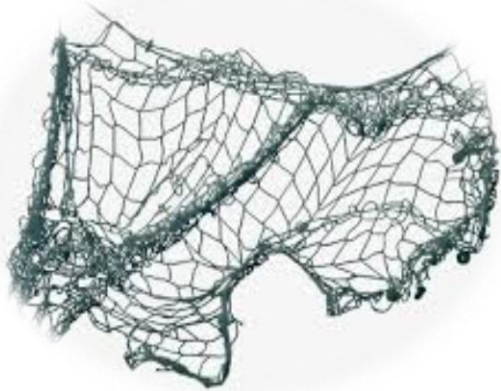
### Alternatives



...

## Recycle . Fishing Tackle

- Promote the recycling of fishing net or industrial Styrofoam



## 3. Agricultural cover films

- Encourage recycling or using alternative material



**Better Way**





# Concluding Remarks



- **Taiwan has knowledge, experience, products and services for Circular Economy solutions.**
- **Taiwan wishes to work and share with anyone from the world for providing advice who is attempting to pursue Circular Economy disciplines.**
- **Taiwan and Czech Republic should work collaboratively and aggressively to promote Circular Economy under the UNEP (United Nations Environmental Programme).**

**More Information!**

# Green Economy

## Developing a circular Taiwan

**Circular Economy Promotion Office**



**TASS**  
2020

# 亞洲永續供應+循環經濟會展

Asia's Sustainable Supply & Circular Economy  
**Conference and Exhibition**

**December 2-4, 2020**

**Kaohsiung Exhibition Center**



A 3D rendering of the Earth, showing continents and oceans. The image is heavily stylized with numerous lush green trees of various sizes scattered across the landmasses. The oceans are a deep blue, and the sky is a light blue with soft, white clouds. The overall aesthetic is clean and vibrant, emphasizing the beauty and health of the planet.

**Keep Our Earth  
Blue and Green**

## Special Thanks to...

- **Dr. Lih-Chyi Wen, Research Fellow & Director  
The Center for Green Economy,  
Chung-Hua Institution for Economic Research**
- **Sustainable Development Division,  
Industrial Development Bureau (IDB),  
Ministry of Economic Affairs (MOEA)**
- **General Program Division,  
Circular Economy Promotion Office (CEPO)**

# Thanks and Welcome to Taiwan

## Staying Safe and Healthy

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