

Integration and Recycling of Energy and Resources in Taiwan



2017.06.27



Outline



Integration and Recycling of Energy and Resources

- Introduction
- Implementation and Achievement
- Future Prospects

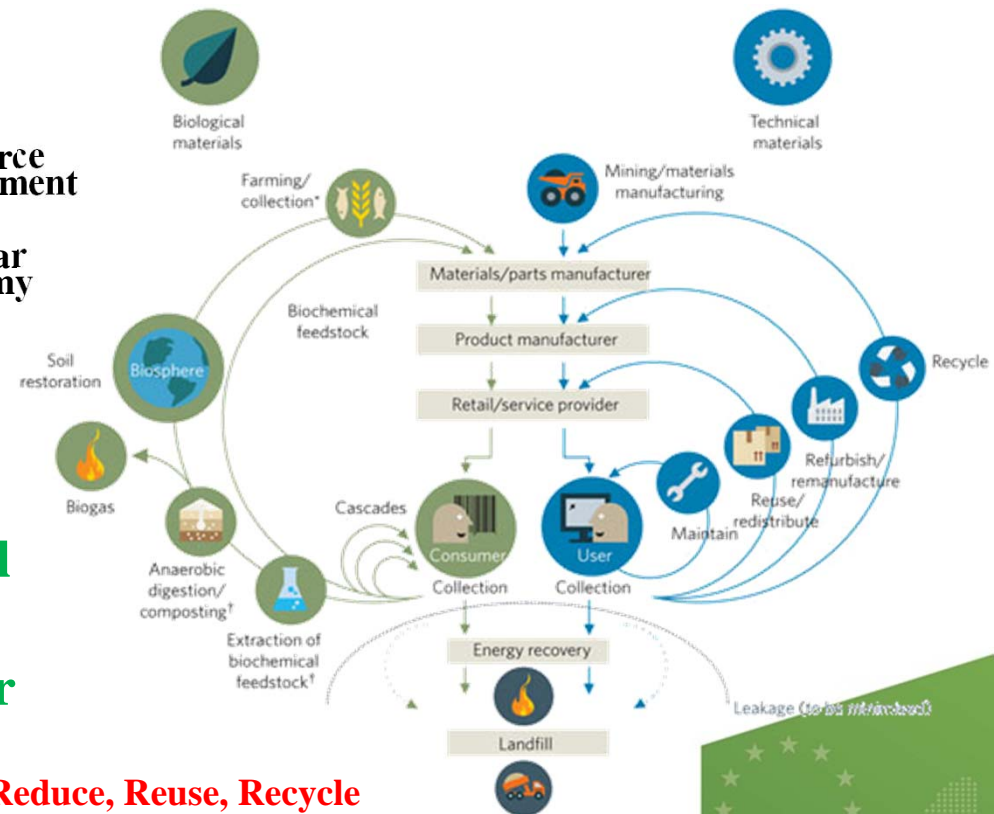
1. Introduction (1/2)

- **Optimal production with minimum resources, while creating the least waste**
- **Recycling of industrial waste and integration of industrial resources**



Waste management → **Resource management**
Linear economy → **Circular economy**


- **waste to material**
- **waste to energy**
- **waste to fertilizer**



Reduce, Reuse, Recycle

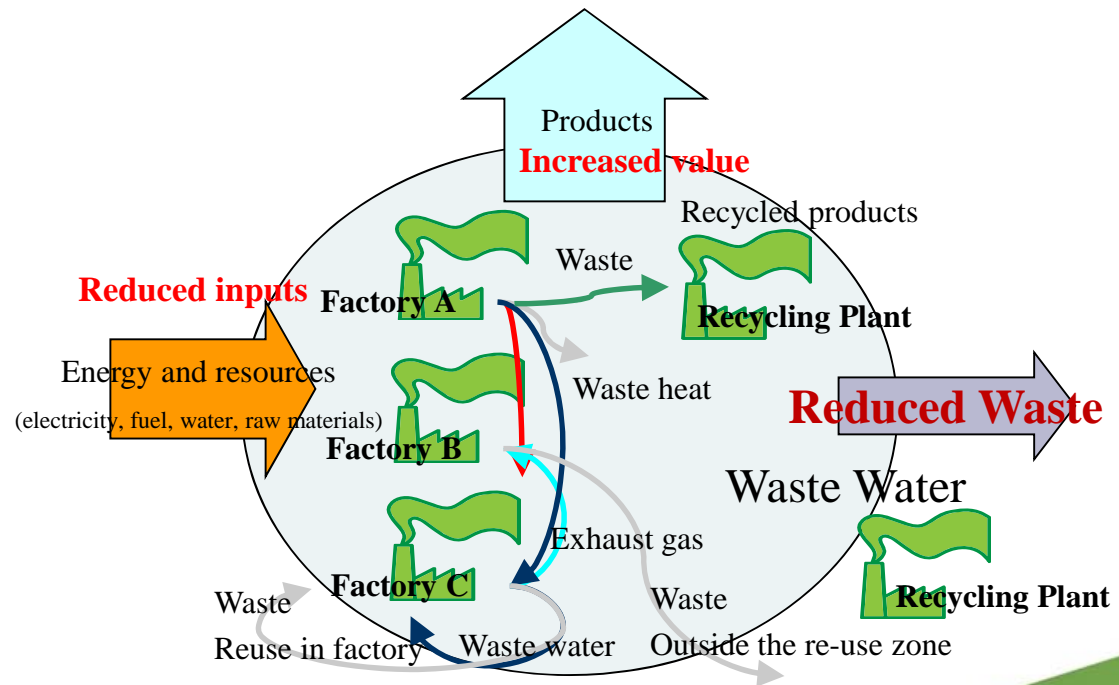
Source : UNEP, Global Waste Management Outlook, 2015.

1. Introduction (2/2)


Closing the loop: Use energy, materials, waste resources, water, and other elements in an integrated method, seeking to maximize economic benefit while minimizing environmental externalities


Development Scope

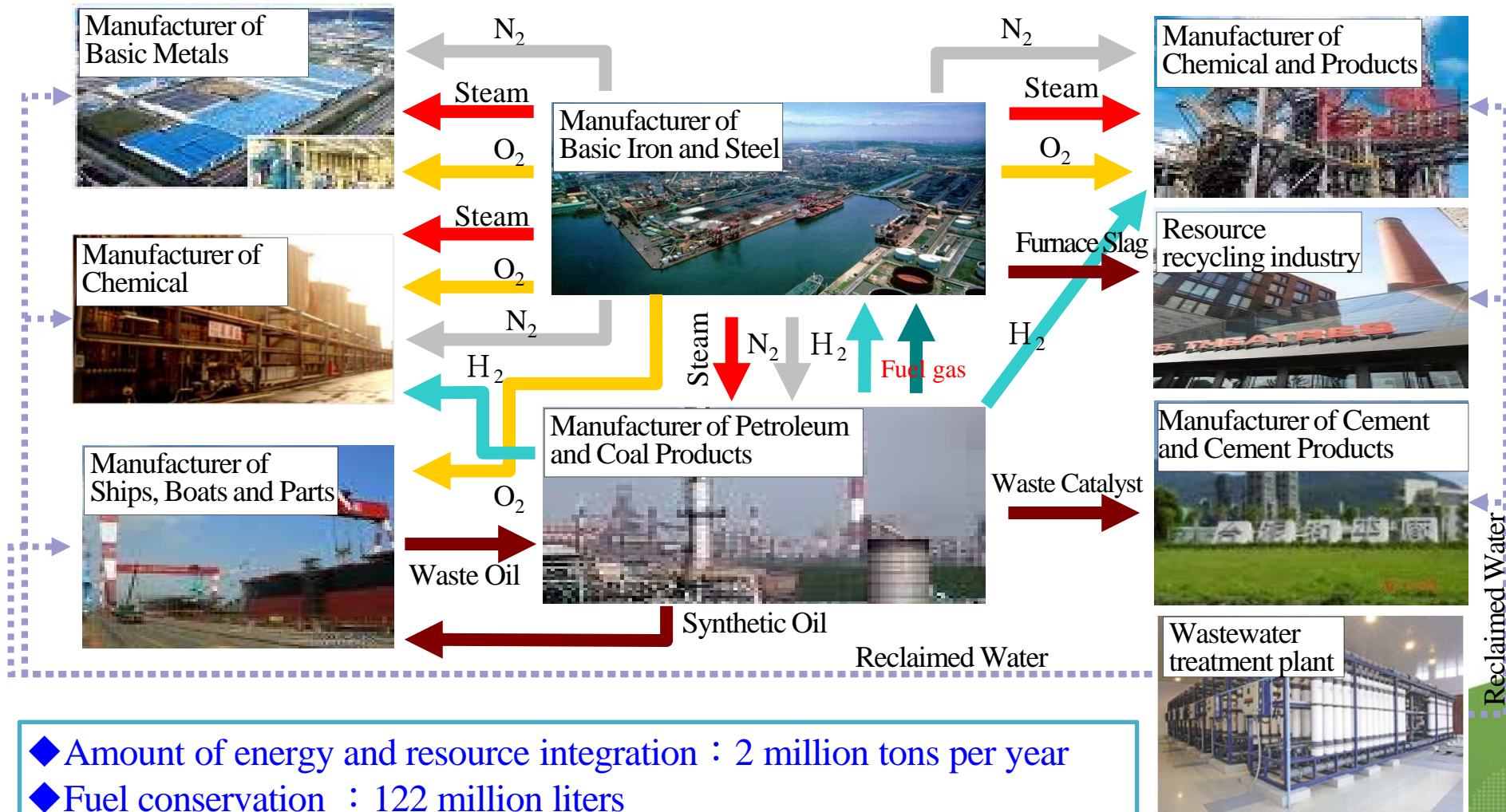
- **Industrial clusters**
- **Individual factories**
- **Industrial symbiosis**



Linking Environmental and Economic Benefits

2. Implementation and Achievement (1/3)

Industrial Cluster : Linhai Industrial Park in Kaohsiung



- ◆ Amount of energy and resource integration : 2 million tons per year
- ◆ Fuel conservation : 122 million liters
- ◆ CO_2 emission reduction : 378,000 tons

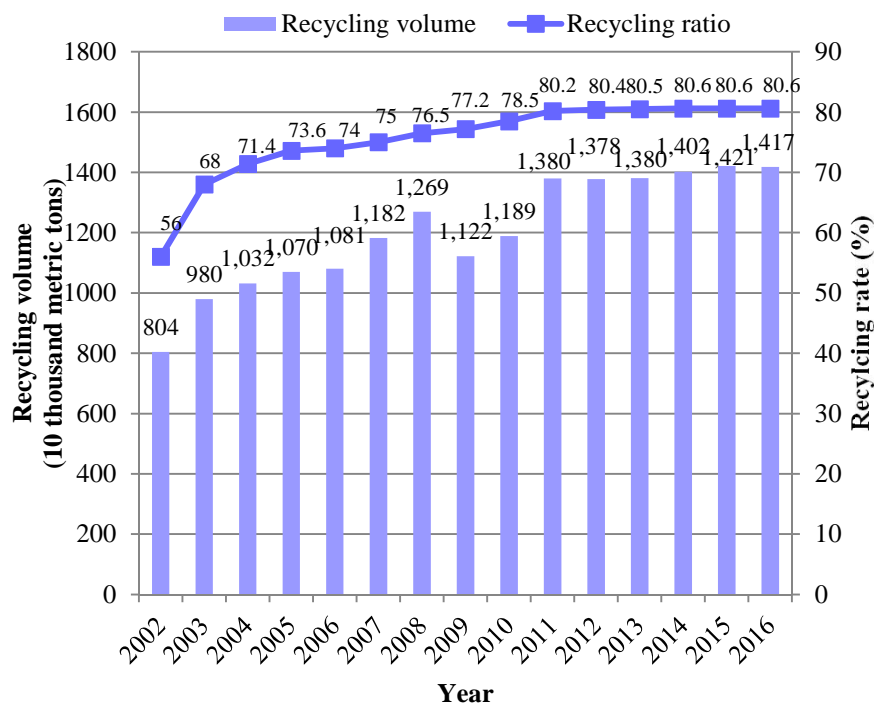
2. Implementation and Achievement (2/3)



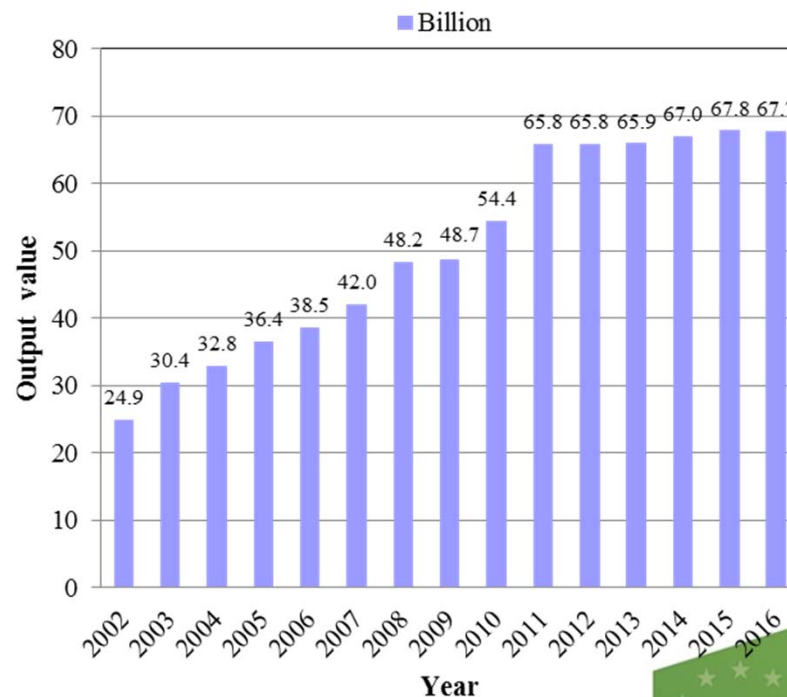
Individual factories

Waste recycling (Article 39 of the Waste Disposal Act)

- ◆ Number of recycling companies : **1,668**
- ◆ Amount and ratio of waste turned into resources (2016 : **14.17 million tons (80%)**)
- ◆ Output value of the recycling industry (2016 : **67.7 billion NTD**)



The amount and ratio of waste turned into resources



The growth trend of industry output values

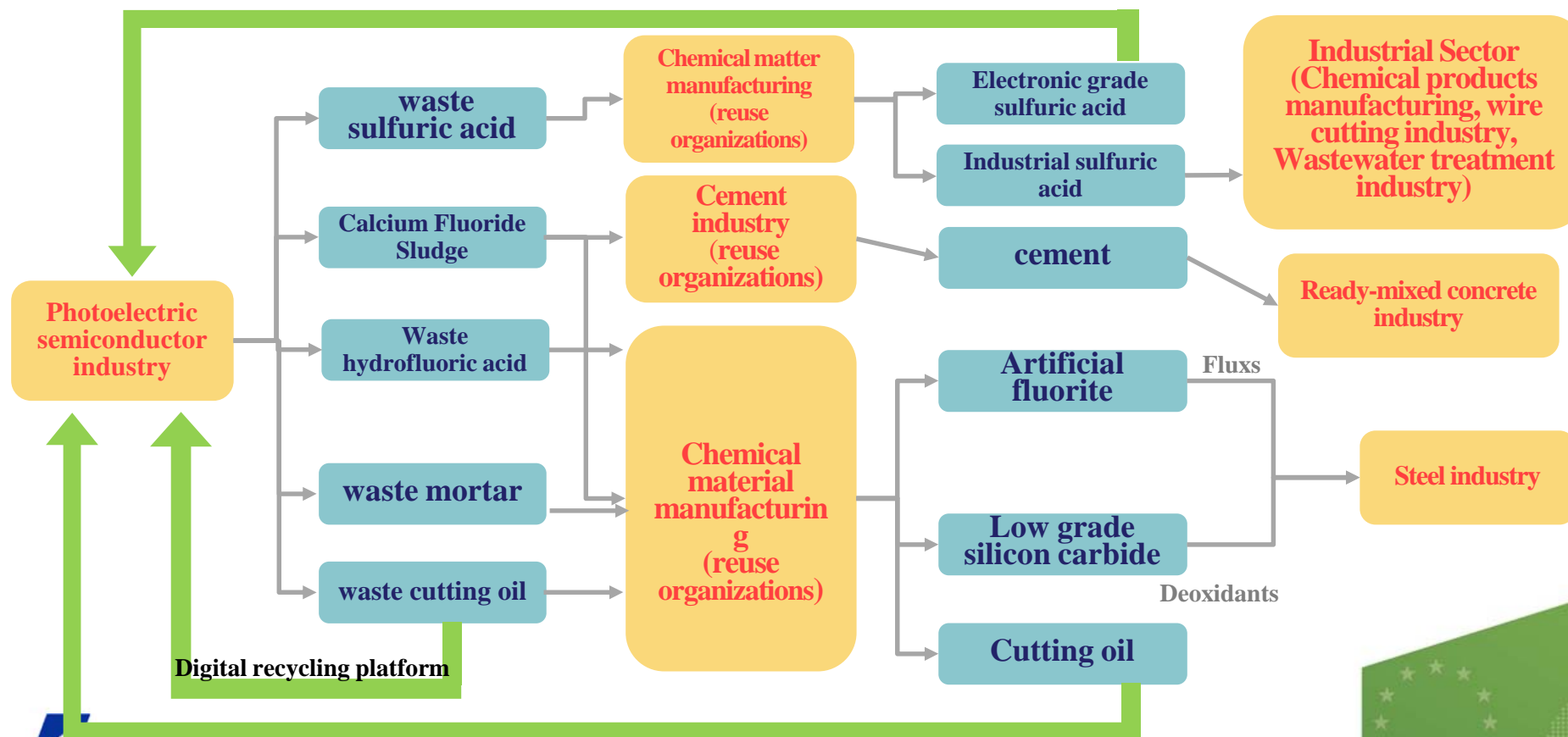
2. Implementation and Achievement (3/3)



Industrial Symbiosis



Waste from the photoelectric and semiconductor industry can be reused. Other parts may be recycled for alternative materials of cement, steel, chemicals and more.



3. Future Prospects

EU Action Plan for the Circular Economy



Challenge & Opportunity

EU & Taiwan Bilateral Cooperation



THANK YOU !

