

CTCI Forum on Material Flow Analysis

**Experiences on Total Material Requirement
and Prospective on Corporate Applications**

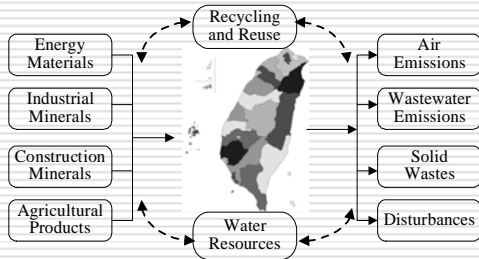
Yuh-Ming Lee, Ph.D.

Professor

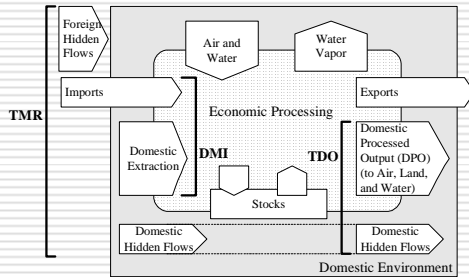
**Institute of Natural Resource Management
National Taipei University**

January 18, 2007

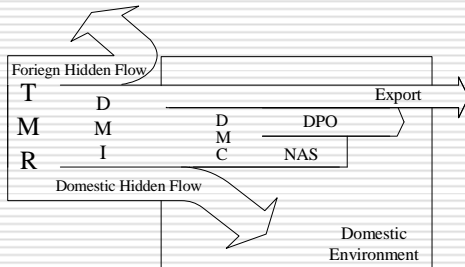
Transition of the Analysis Framework



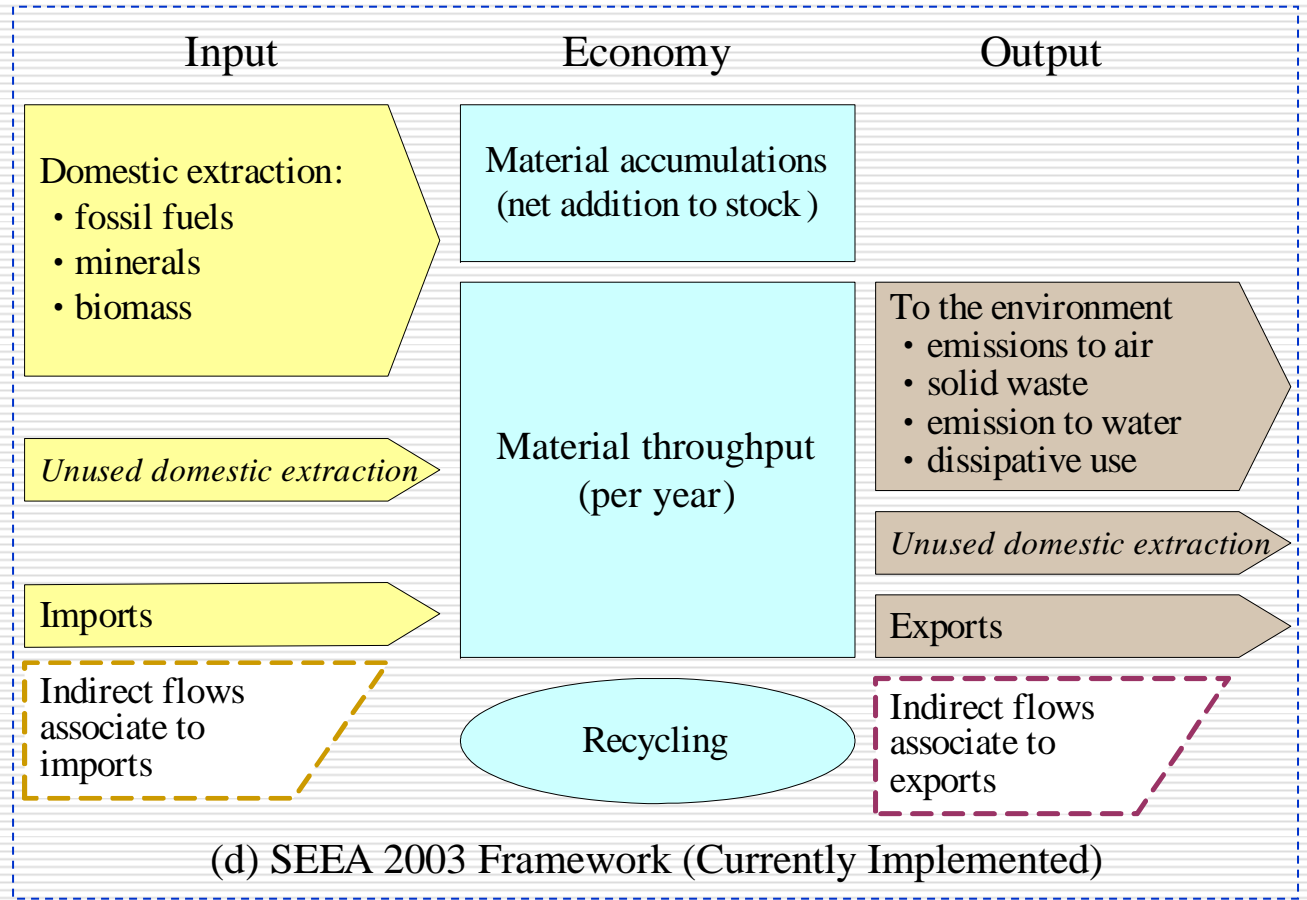
(a) EIOLCA MFA framework



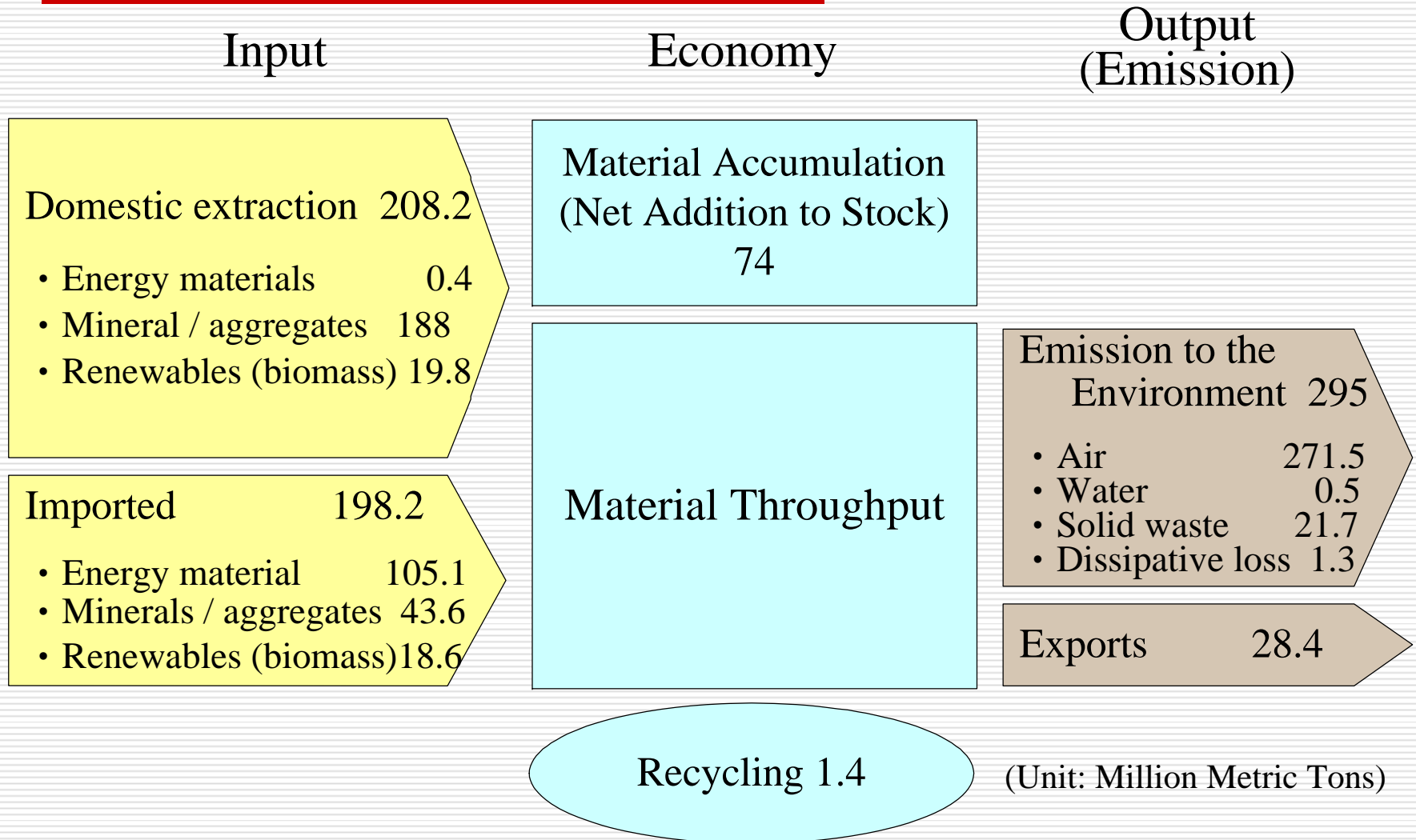
(b) WRI MFA framework



(c) EU-2000 framework

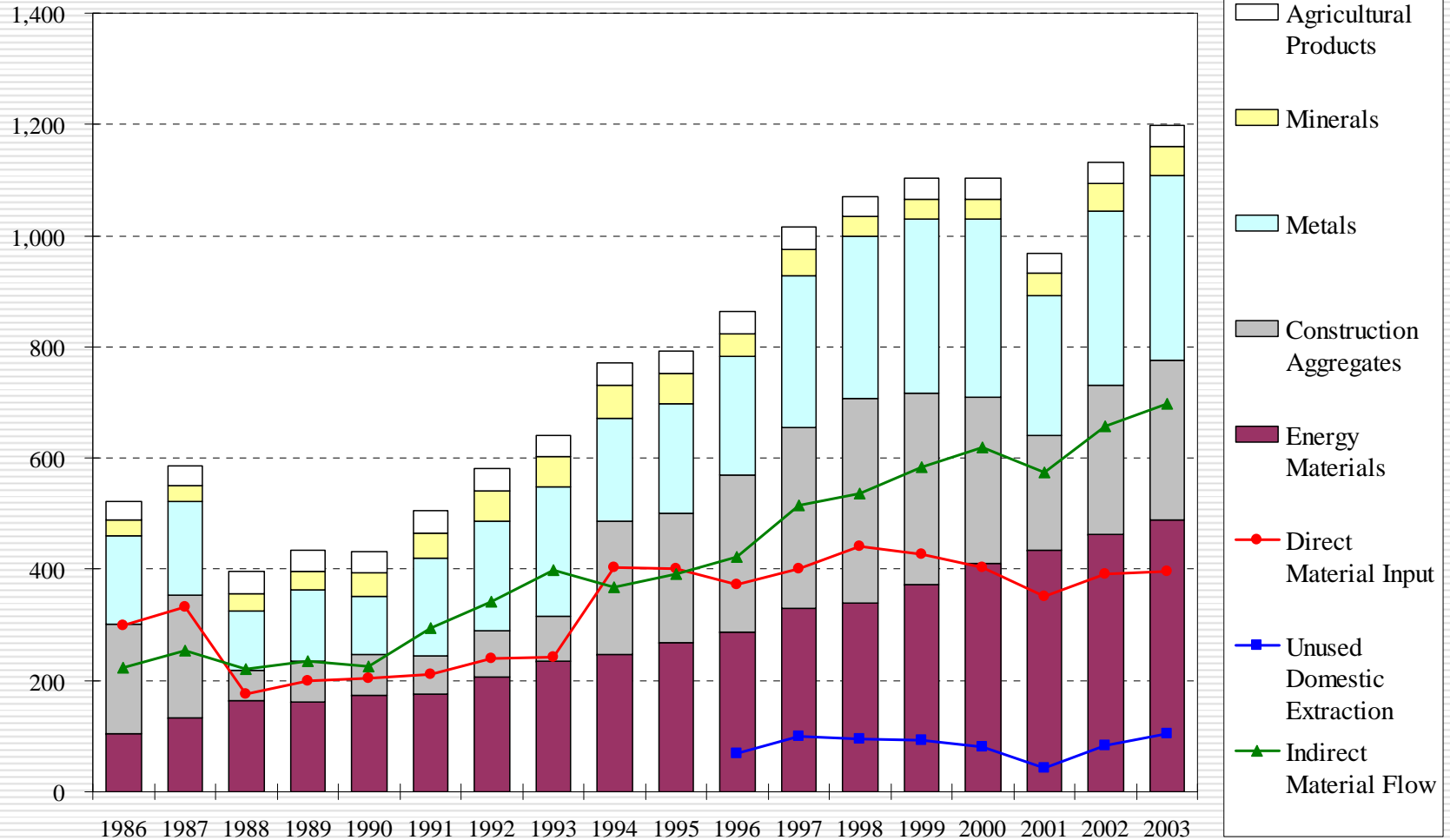


Result of TMR Analysis in 2003

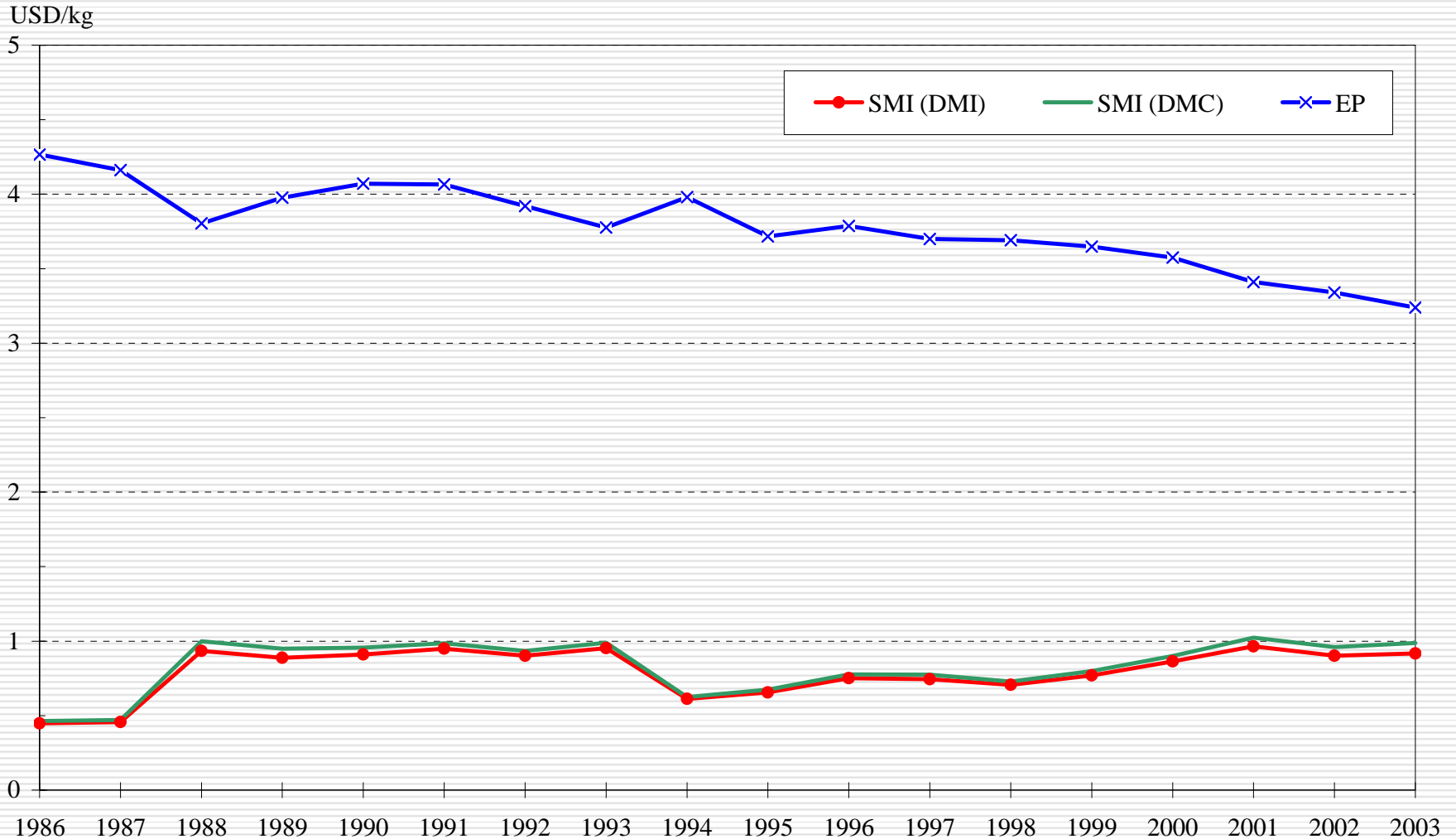


Indicators of TMR

Million Metric Tons



Resource Productivity



Prospective of MFA

- Industrial Metabolism**
 - **Corporate Scale**
 - **Material Flow and Energy Flow**
 - **Exergy Analysis**
 - Material Flow Cost Accounting (MFCA)**
 - **“Positive Products” vs. “Negative Products”**
 - **Environmental Management Accounting**
 - **Co-Products instead of By-Products**
 - **Applications in Utility and Service Sectors**
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Comparison of P/L (Tentative but Original)

Period: from November 01 to 30, 2000

Material Flow P/L (Unit: Yen)		Conventional P/L (Unit: Yen)	
Sales*	15,000,000	Sales*	15,000,000
Cost of Positive Product	3,037,498	Cost of Sales	4,521,968
Cost of Negative Product	1,484,470	N/A	N/A
Gross Profit	10,478,032	Gross Profit	10,478,032
Selling, General and Administrative Expenses*	8,000,000	Selling, General and Administrative Expenses*	8,000,000
Operating Profit	2,478,032	Operating Profit	2,478,032

*Provisional Figure

Improvement and Target

Cost	2001	2003	2006 (Target)
Positive Product	68%	78%	90%
Negative Product	32%	22%	10%
Total	100%	100%	100%

