

**Basic Survey on Thai Business Sector for
CEM research**

Yusuke Matsuo
Researcher, Institute for Global Environmental Strategies

Background Information
Environmental aspect of Thai industry

Overview Economic Structure in Thailand

- 3 important sectors: agriculture, industry, and service
- In the past, agriculture sector was predominant in terms of GDP
- Past few decades, industrial sector dominated agriculture sector

GDP, Energy consumption, and CO2 emission by industrial sub-sectors

rank	CO2	<i>t-CO2</i>		<i>K-toe</i>		<i>millions of Baht</i>	
		2004	energy	2004	GDP	2004	
1	non-metal	22,920,061	non-metal	6,557	fabricated metal	744,055	
2	others	13,636,879	food & beverage	6,376	food & beverage	436,732	
3	chemical	10,777,169	chemical	2,731	textile	360,274	
4	food & beverage	8,403,441	fabricated metal	1,531	chemical	233,206	
5	fabricated metal	7,816,149	others	1,459	non-metal	196,192	
6	textile	5,930,790	basic metal	1,213	others	148,820	
7	basic metal	5,820,731	textile	1,116	wood & furniture	51,123	
8	paper	3,284,617	paper	794	paper	40,269	
9	wood & furniture	996,179	wood & furniture	184	basic metal	27,551	

Summary of Basic Statistics for Manufacturing Establishments in 2002 by Category of Industry

Consist mainly of SMEs

	of men	Employees Number	Value of gross output	Value added (1000 Bt)
Food Products and Beverages	100,143	698,158	854,866,259.7	169,319,404.1
Wearing Apparel	70,527	302,757	110,078,125.7	42,464,661.4
Textiles	58,688	309,785	187,073,421.4	49,913,611.4
Fabricated Metal Products	25,549	175,143	251,255,116.6	69,280,265.6
Other Non-metallic Mineral Products	9,650	169,393	198,811,468.1	55,767,996.5
Machinery and Equipment	4,804	124,969	264,752,114.5	66,655,764.0
Rubber and Plastic Products	3,917	237,329	279,841,721.4	71,184,017.2
Chemicals and Chemical Products	2,241	119,056	565,723,534.5	81,680,357.5
Basic Metals	1,729	55,858	241,676,980.3	34,981,163.0
Motor Vehicles, Trailers and Semi-trailers	1,153	105,348	574,475,945.7	151,731,395.3
Radio, Television and Communication Equipment and Apparatus	670	275,253	1,064,362,344.5	166,763,128.3
Refined Petroleum Products, Coke and Nuclear Fuel	90	6,718	501,167,577.0	79,538,318.5
Office, Accounting and Computing Machinery	31	27,433	326,060,428.5	61,038,634.4

source: Report of the 2003 Manufacturing Industry Survey, Whole Kingdom (National Statistical Office, Ministry of Information and Communication Technology)

Is SMEs a important sector ?

- More than 99 % of enterprises in Thailand
- 2.19 millions in 2004 and 2.27 millions enterprises in 2006

Number of employee

- More than 66-76 % of employees work in SMEs
- 4.9 - 8.3 million employees

How about CEM adaptation??

Household Industry -hidden important sector-

Definition:

- The location of manufacturing is located at household
- The purpose of manufacturing is to reap benefits (incomes) for household using its own labors (members of household)
- labors in household industry are not more than 10 people

Household Industry

-some facts-

- 0.84 million companies

Number of employee

- Approximately, 2.4 million workers
 - 57 % female and 43% male

Incomes Generated by Household Industry

- Net income
 - Average approximately to 92,000 Baht/Year (276,000 Yens/year) in 2004

CEM in Thailand Industry

- CEM was started in the period of 1992-1995
- CEM has limited in large corporate and multinational corporate.
⇒ Not well adapted to SMEs.
- The implementation approach of CEM in Thailand is very broad, which include all initiatives and activities related to environmental issues, for examples
 - Environmental Management System (EMS)
 - Cleaner Production (CP)
 - Greening the Supply Chain (GSC)
 - Energy Efficiency

Statistical data related to EMS and CP

- ISO 14001 accredited companies: 1,457 companies.
 - 1st position for having the highest accredited companies in ASEAN
 - 6th position in Asia.
- CP: More than 2,000 companies

Initiatives Regarding SMEs and Household Industry

Government policy and regulation regarding CEM and SMEs

- Overall policy and regulation
 - National Economic and Social Development Plan
 - Enhancement and Conservation of the National Environmental Quality Policy and Plan (1997-2016)
 - Environmental Quality Management Plan
 - National Master Plan on Cleaner Production

Initiative of business sector regarding CEM and SMEs

□ Cleaner Production

- 1) Cooperation with governmental and non-governmental agencies to study and implement CP in each business sector by participating in pilot demonstration projects and
- 2) Initiative to study, develop and apply CP into business's operation.

Initiative of business sector regarding CEM and SMEs (Cont.)

□ Environmental Management System (EMS) and ISO 14001

- Solve environmental problem
- Provide Benefits
 - Finance
 - Environment
- Law and trade condition

Initiative of business sector regarding CEM and SMEs (Cont.)

□ Greening Supply Chain (GSC)

- GSC is implemented by mostly among multi-national corporation (MNC) and large corporate, which originally adopted environmental policy from parent companies. MNC and large corporate pursuing GSC use purchasing power to force their suppliers (mostly SMEs) to implement environmental management system.
 - provides knowledge, suggestion, and training

Survey on Overall of “EMS for SMEs”

- DIW (Department of industry works) designed the “EMS for SMEs” implementation guide to be compatible with international environmental standard- ISO 14001
- Project started in 2002
- Beginning: focus on factories situated in Southern and Central regions.
- Current: focus on factories situated in Northern and Central regions.
- Implementation status
 - 115 factories
 - 85 facilities of the first step certification
 - 30 facilities of the second step certification

Survey on Overall of CP in SMEs

- CP in the business sector was started in 1990
- CP expanded to other sectors, such as hotels, hospitals, and communities
- 2002, National Master Plan on Cleaner Production was developed
- Implementation status
More than 1,000 SMEs implementing CP

Driving Factors and Obstacles for SMEs to Adopt EMS and CP

Driving factors

□ Available information

- Various sources of information of EMS and CP for SMEs
- Handbooks and good practices

□ National plans and policies

- Governmental supporting policies and tools to promote EMS and CP

□ Environmental laws and regulations

- Stricter environmental laws (air pollution, wastewater and wastes) and regulation enforcing on SMEs

Driving factors (Cont.)

□ Supports from various sectors

- Supports: training programs, audits, awards, and other persuasive benefits from government, international organizations, and educational institutes

□ Trading conditions

- Integration of environmental concerns as a part of the trading conditions

□ Operation cost

- Much higher operation costs including skyrocketing price of oil

Driving factors (Cont.)

□ **Clean Development Mechanism (CDM)**

- Technical and capital assistance for countries listed in non-Annex I Parties
- Creating environmental concerns for entrepreneurs and helps entrepreneurs to establish environmental friendly technologies and practices

Obstacles

□ **Perspective on EMS and CP**

- misunderstanding that EMS and CP cause burdens causing more works and higher production and/or service costs

□ **Technical knowledge**

- small number of people working in the business and do not have skilled workers (related to EMS and CP)

□ **Unsystematic data**

- Lacking of detailed data on resource consumption, energy consumption, water consumption, wastewater, waste generations and other environmental data

Obstacles (Cont.)

- **Funding and technologies**
 - Limited funding
 - No green finance
- **Cooperation and linkage between related parties**
 - Cooperation is limited in small groups of stakeholders

Thank You for Your Attention