

# Product-Related Environmental and Social Aspect in SCM



สถาบันไฟฟ้าและอิเล็กทรอนิกส์  
ELECTRICAL AND ELECTRONICS INSTITUTE

## Supplier's Perspective: Thailand Experience and Model

Mr. Charuek Hengrasmee  
President, Electrical and Electronics Institute

The Centers, Brussels, Belgium / 14 June 2006

## Outline :

- **E&E Industry Overview**
  - Exp/Imp. Trend
  - Industry Structure
- **EU-Envi. Requirements and Related Key Issues**
- **Adjustment and Capacity Building Activities**
  - National Activities / Project
  - International Activities / Project
- **Current Status and Adjustment Activities of Local Supply Chain** [Link](#)
- **Conclusion**



## Thailand : E&E Business Perspective

	Export to EU (B.bht.)						No. of Mfgs.		
	01	02	03	04	05	06/3	Size	R.Cap. M.bht.	No.
<b>Electrical</b>	51.6	48.3	63.5	99.2	84.4	27.7	S	<50	71
							M	50 to 200	71
<b>Electronics</b>	125.5	107.4	121.7	129.5	144.6	53.2	L	>200	115
<b>Total</b>	177.1	155.7	185.2	228.7	229	80.9			257
<b>Grand Total</b>	1050	1033	1065	1166	1331	1435			2259





# Supplier's Perspective: Thailand Experience and Model

## Thailand – E&E Business Perspective

### Key E&E Products to EU

Unit : B.bht.

Net Ex-Im

Electrical	Products	01	02	03	04	05	06/3	05	06/3
	A/C & Assessories	15.4	12.7	21.5	35.0	28.2	10.4	28.0	10.4
Motor Compressor	0.9	0.8	1.4	2.1	2.9	1.2	2.3	1.0	
Refrig.& Assessories	0.2	0.3	0.8	1.3	1.7	0.6	1.1	0.3	
AV & Assessories	13.8	14.9	16.9	25.7	21.3	7.6	18.2	6.8	
Eelctric Cable	2.1	1.5	1.5	2.2	2.2	0.8	0.5	0.3	
Switch/Circuit Break	5.2	4.7	8.0	10.2	7.8	1.6	(0.7)	(1.2)	
UPS	2.9	3.1	2.5	4.6	4.0	1.1	3.0	0.6	
Microwave Oven	0.2	0.8	1.2	4.5	5.0	1.1	4.9	1.1	
Small motor	2.1	1.2	1.5	2.1	1.8	0.6	1.1	0.4	
Others	8.8	8.3	8.2	11.5	9.5	2.7			





## Thailand – E&E Business Perspective

### Key E&E Products to EU

Unit : B.bht.

Net Ex-Im

Products	01	02	03	04	05	06/3	Net Ex-Im		
	05	06/3							
<b>Electronics</b>									
<b>Computer parts</b>	67.5	52.7	58.7	65.5	83.8	31.2	80.2	30.1	
<b>IC &amp; Printer Circuit</b>	38.7	34.1	41.5	37.0	35.1	13.9	12.3	6.4	
<b>IT equipment</b>	13.1	15.4	15.5	18.4	16.1	5.1	10.5	3.9	
<b>Mobile Phones</b>	1.1	0.9	1.2	1.1	1.0	0.1	(0.6)	(0.2)	
<b>Others</b>	5.1	4.3	4.8	7.6	8.55	2.9			

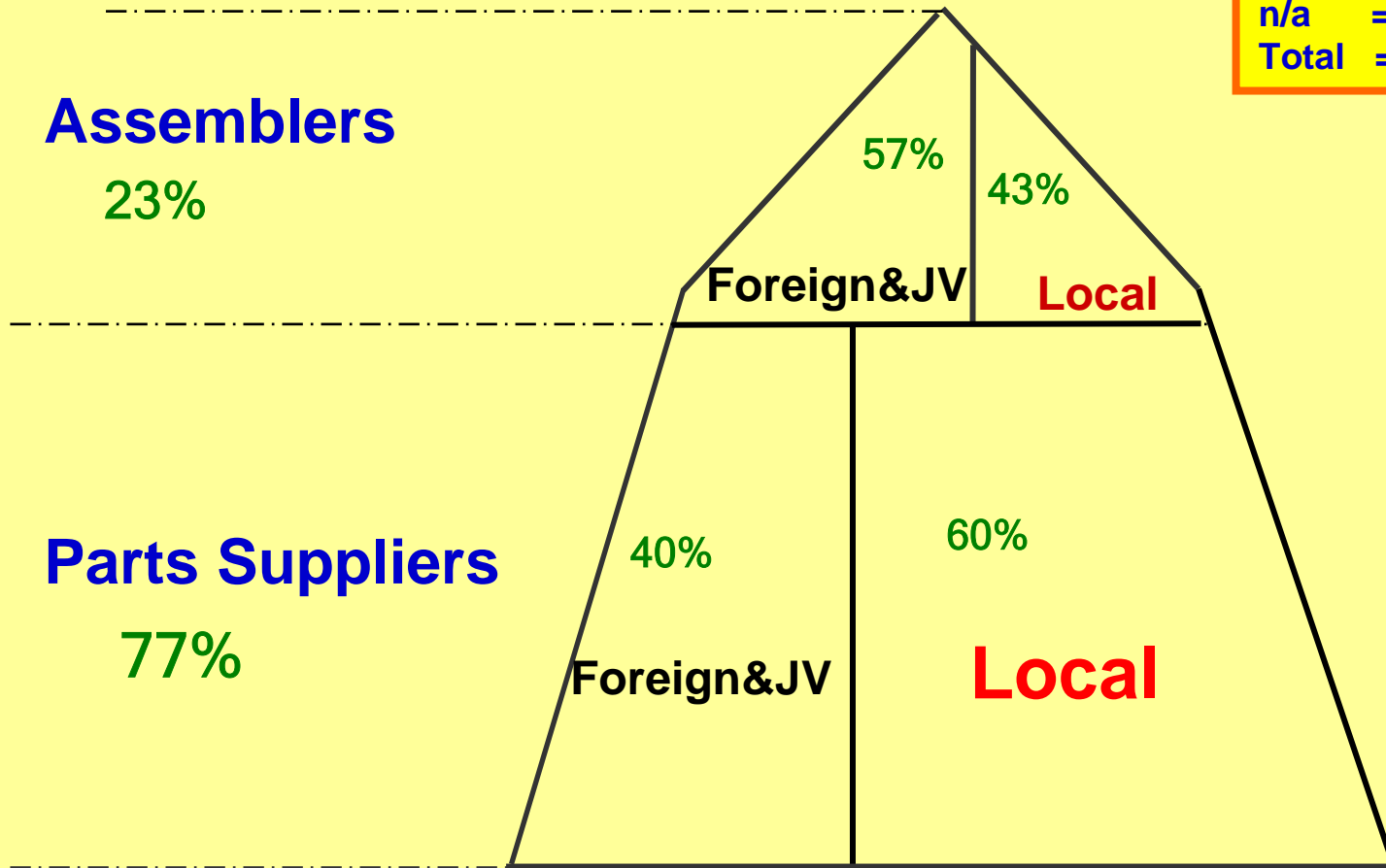




## E&E Industry Structure

### No. of Factories

S	=	1,576
M	=	322
L	=	240
n/a	=	121
Total	=	2,259



## EU-Environ. Reqr.and Related Key Issue

### WEEE

- **Cost and Availability of Recycle Plant in EU**
- **Appropriate Local WEEE Regulation & Management System, Product Stds. to leverage NTBs while build up local capacity**

### RoHS

- **Cost and availability of HS-Free parts/material and mfg. process**
- **Reporting system for self-declaration and cost of product liability**
- **Stds., test method, test cost, and Certification of Conformity / Compliance for market access**

## EU-Environ. Reqr.and Related Key Issue (cont.)

### EuP

- Eco Design Capability & Experience
- Development of Quality Management System, Energy Saving Stds., Environmental Product Labelling
- Availability of CCI Database
- Competency in LCA

### REACH

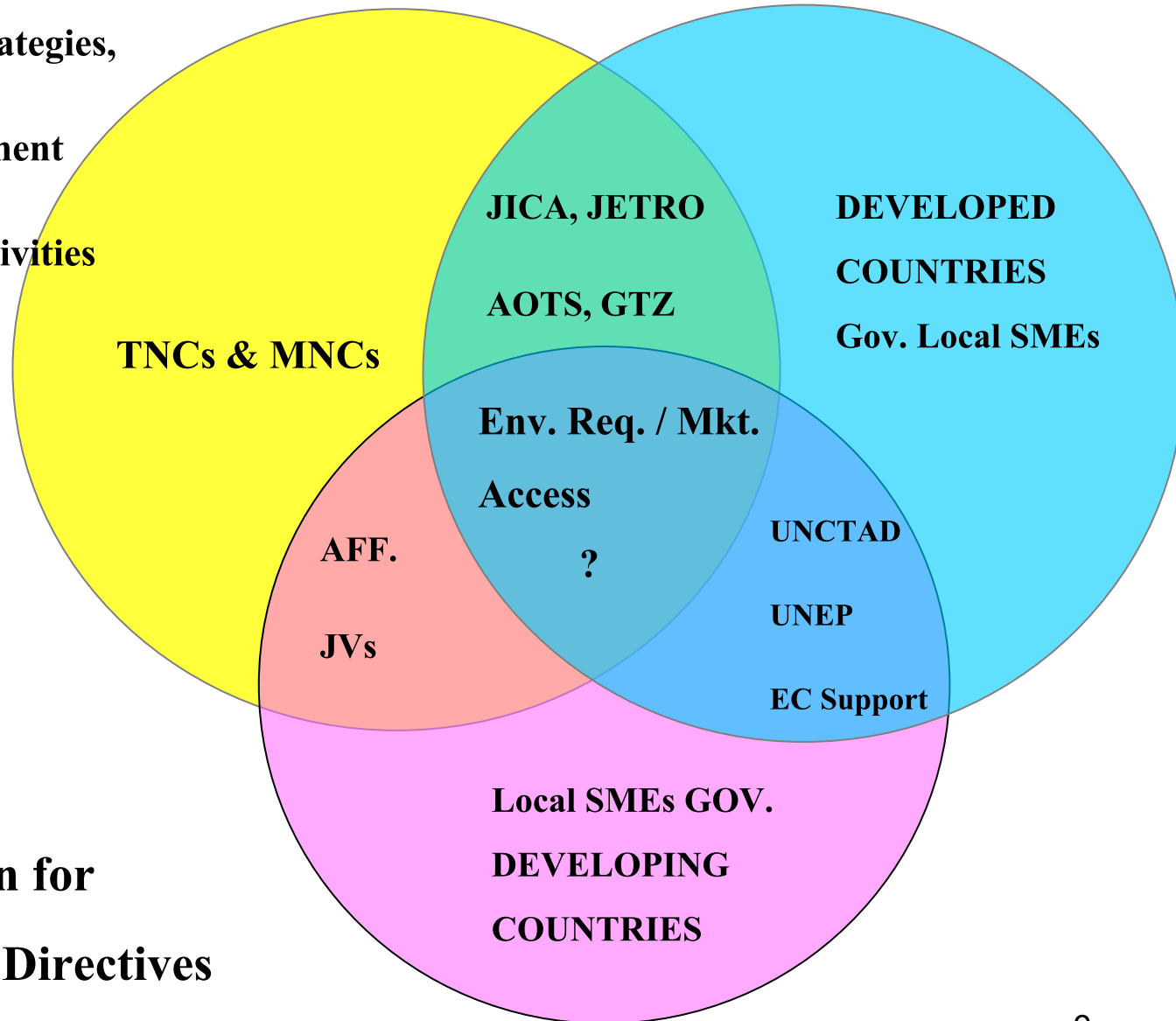
- Registration & Evaluation Cost Burden
- Availability & Cost of “AUTHORIZED” Chemicals
- Cost & Burden in Conformity / Compliance Assessment

**“Local SMEs not in “Branded” supply chain will be suffered”**



# Supplier's Perspective: Thailand Experience and Model

Conceptual Approach, Strategies,  
and Experience in Adjustment  
and Capacity Building Activities



Key players and  
expected cooperation for  
adjustment to Envi. Directives



# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive					Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH		NATIONAL ACTIVITIES/PROJECTS									
✓	✓		✓		National Subcommittee for impact follow up and policy determination to EU Directives on WEEE and RoHS	●									
			✓		Pilot project : LCA study (electricity grid mix) by TEI	●									
✓	✓				Establishment of Office of Import Policy Admin Committee : Import stewardship on used & waste EEE		●								
	✓				RoHS : impact survey by MTEC			●							
✓	✓				DIW feasibility study project on EE recycling plant			●							
✓	✓	✓	✓		National Subcommittee for EU-IPP			●							

● Complete    ◐ Incomplete    ○ No





# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive						Project/Key activities	00	01	02	03	04	05	06	07	08	09	
WEEE	RoHS	EuP	Eco-Design	REACH	NATIONAL ACTIVITIES/PROJECTS												
✓	✓		✓		EEI study project (DFT, MOC) - Study & research: legislative study, economic impact, LCA, eco-design, WEEE, RoHS, impacts and measures (ASEAN and EU), existing and suggested local e-waste mgmt.				●								
✓	✓				PM's special meeting on inter-ministerial env. legislative update				●								
✓	✓				DIW notification on import used EEE				●								
✓	✓				- Study trip : recycling plants, e-waste mgmt., research lab., RoHS reporting s/w (japan, korea and EU)				●								
✓	✓				- Guideline on develop't of envi. mgmt. via business partners and appropriate GSC process in Thai context (TEI)						●						





# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive					Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH		NATIONAL ACTIVITIES/PROJECTS									
	✓				Thailand sustainable production & consumption (TRF/ TEI/ TBCSD)					●	●	○			
✓	✓				Pilot project on EE recycling system (FTI / EEI / TISTR / MTEC)						●	●			
✓	✓	✓	✓		MOI established Committee (24 inter-ministerial members) to follow-up & handle EU environmental directives, will propose action plans for further Cabinet approval.						●	○			
				✓	Established REACH Committee (OIE/TRF)							○			
✓	✓	✓	✓		- Development of Government green procurement mechanism (TEI, TRF, MOF)						●	○			

● Complete    ○ Incomplete    ○ No





# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive					Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH											
					<b>NATIONAL ACTIVITIES/PROJECTS</b>										
✓	✓	✓	✓		- International meeting on IEC TC111/WG2 (FTI/EEI), Bangkok						○				
✓	✓		✓		EEE Green Camp project (NESDB/EEI/MTEC) <a href="#">Link</a>						●	●			
✓	✓		✓		OIE/MOI & PCD/MONRE: National Strategy on "Thai" WEEE							●			
				✓	Impact Assessment of REACH on the supply chain of export industry in Thailand (TRF/TEI)							●			
				✓	Development of Policy Framework in Response to REACH Enforcement: Preparedness of Laboratory Services for Thai Industries (TRF/DSS)							●			
			✓		International Conference on Green and Sustainable Innovation 2006 (CMU/EEI/MTEC) Chiangmai							○			

● Complete    ○ Incomplete    ○ No





# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive						Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH	NATIONAL ACTIVITIES/PROJECTS											
	✓				SPF: Capacity building up for the determination of levels of regulated substances in electrical, electronic and automotive parts (MTEC)								●			
				✓	SPF: EU-THAILAND small projects facility for REACH capacity building (TRF)								●			
✓	✓	✓	✓		National case study on environmental requirements, market access, and competitiveness in the electronics sector (UNCTAD/EEI)				●	●						
				✓	SPF: Cap. building on LCA/eco-design for EEI (EEI) <a href="#">Link</a>							●	●			
	✓				SPF: Cap. building on testing & compliance assessment related to WEEE & RoHS for EEI (EEI)							●	●			

● Complete    ● Incomplete    ○ No





# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive						Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH	INTERNATIONAL PROJECTS											
✓	✓	✓	✓		APE: Asia Eco-Design Electronics (AEDE) CfSD/ Linkoping/ TERI/ ELCINA/ RUC/ EEI/ Gandhi Foundation							●	●	○		
	✓	✓	✓		SPF: Guideline for RoHS/ELV compliance producers & preparation for EuP (MTEC/EEI/ISMED/FTI)								●			
✓	✓		✓		BASEL-MOE/JAPAN: Environmentally Sound Management of Electrical & Electronic Waste in Thailand , Phase1- Inv. Anal. (PCD/MTEC/EEI)								●	○	○	○
	✓	✓	✓		ASIA ProEcoII "Sustainable Production and Consumption as the Long-term Solution to Reduce Urban Environmental Degradation Developing a Reference Framework for Electrical and Electronic Products" (TEI, SIRIM, IZM Fraunhofer, CITQ)								●	○	○	



# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive					Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH		NATIONAL ACTIVITIES/PROJECTS									
	✓				<b>Thai-RoHS voluntary networking initiative (MTEC / EEI)</b> <a href="#">Link</a>						●	●			

● Complete    ● Incomplete    ○ No







# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive					Project/Key activities	00	01	02	03	04	05	06	07	08	09
WEEE	RoHS	EuP	Eco-Design	REACH		NATIONAL ACTIVITIES/PROJECTS									
✓	✓				E -waste mgmt.: TV, RF, WM, AC, PC, CRT wastes collection survey by PCD, METI				●						
✓	✓		✓		Training : LCA and eco-design by (GAP/METI/MTEC)				●	●		●			
✓	✓				EEE pilot project (mobile phone, battery, F/L) : PCD					●					
✓	✓				Recycling plant feasibility study F/L : PCD					●					
	✓				"Demo" project on central "JGPSSI" format/green supply chain S/W for SMEs by (EEI/METI-JETRO/Toshiba)- Green Procurement Management Model Demonstration <a href="#">Link</a>						●	●			

● Complete    ◐ Incomplete    ○ No





# Supplier's Perspective: Thailand Experience and Model

Related Envi. Issues/Directive						Project/Key activities	00	01	02	03	04	05	06	07	08	09	
WEEE	RoHS	EuP	Eco-Design	REACH	INTERNATIONAL PROJECTS												
✓	✓				Survey of the import and the environmentally sound management of the electronic wastes in Thailand (BCRC/PCD/EEI)					●	●						
✓					Promotion of advanced waste management based on 3R concept in the three countries (UNEP, PCD, TEI)							●					

● Complete    ● Incomplete    ○ No



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พฤษภาคม 2549

ลา	จ.	อ.	พ.	พฤ.	ศ.	ส.
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Newsflash

ผู้สนใจเอกสารประกอบการสัมมนา "RoHS/ELV: ทดสอบอย่างไรจึงพอเพียง?" วันที่ 18 เมษายน 2549

สามารถ Download เอกสารโดยค้นหาใน **Document Library** หรือ **คลิกที่นี่**

Polls

Seminar Registration  
**สัมมนา TREATI**  
22-23 มิ.ย. 49  
9.00-17.00น.

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ชื่อผู้ใช้  
รหัสผ่าน

จำข้อมูลการล็อกอิน

เข้าสู่ระบบ

แนวทางกำบังคับใช้ RoHS ในสหภาพยุโรป ออกแล้ว

**ด่วน!** EU ออกเอกสาร "แนวทางกำบังคับใช้ระเบียบ RoHS" Version 1 แล้วเมื่อวันที่ (24 พ.ค. 2549) หากท่านต้องการทราบว่ายี่ง จะจัดการกับสินค้าเครื่องใช้ไฟฟ้าและอิเล็กทรอนิกส์ที่นำเข้ามาตลาดหลังวันที่ 1 ก.ค. นี้อย่างไร เอกสารนี้อาจให้คำตอบท่านได้

สนใจดาวน์โหลด **คลิกที่นี่**  
แก้ไขล่าสุดเมื่อ ( พุธที่ 15 มิ.ย. 25 พฤษภาคม 2006 )  
**อ่านข้อมูลเพิ่มเติม...**

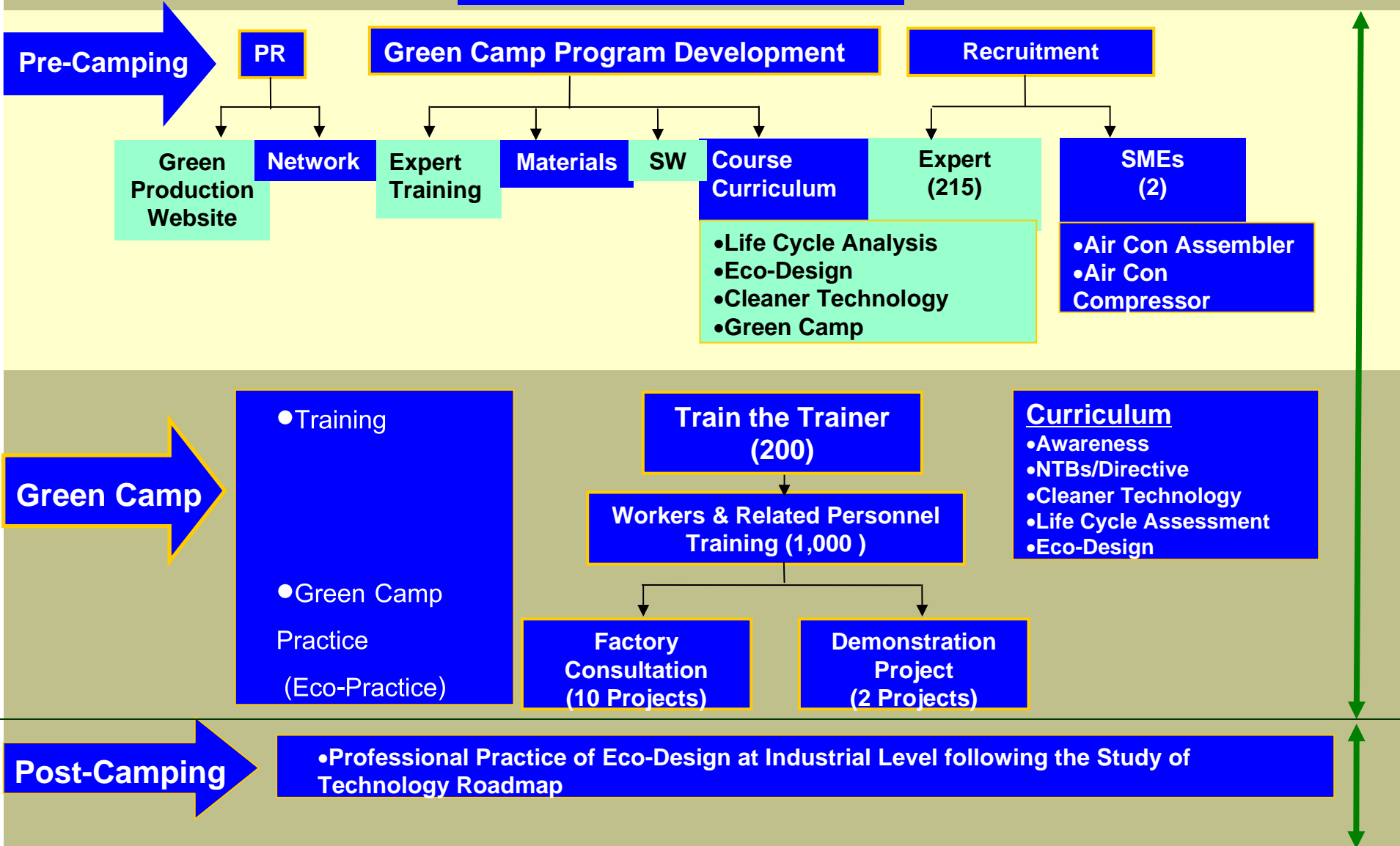
อียู-อาเซียน จับมือจัด Workshop 22-23 มิย นี้

งานสัมมนาเชิงปฏิบัติการเรื่อง "**Standards and technical regulations in the electrical and**"



# Supplier's Perspective: Thailand Experience and Model

## Green Camp Road Map





# Supplier's Perspective: Thailand Experience and Model

## Activities in Green Camp Project

Month	1	2	3	4	5	6	7	8	9	10	11	12
Pre-camping Green Camp Preparation	Website			Public Relation								
	Expert training											
	LCA & EcoDesign Databases/Software Development											
	Training Material / Manual Prep.											
	Train the Trainer in LCA & EcoDesign											
Green Camp Implementation					Manufacturing Training & Site Visit							
	Service Network for SMEs Development											
Green camp practice												
						Factory Consultation in CT						
					Demonstration Projects							



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## Green Camp Project

**Main Menu**

- Project Green Camp
- Law & Directive
- Tool for Green Safety
- Link of Environment.
- Apply Form
- Environment Knowledge
- FAQ
- Webboard
- Member
- Gallery





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:: Information ::



International Conference on  
Green and Sustainable Innovation

"Integrated approaches for sustainable society"

November 29<sup>th</sup> - December 1<sup>st</sup>, 2006, Chiang Mai, Thailand

International Conference on Green and Sustainable Innovation 2006

"Integrated approaches for sustainable society" November 29<sup>th</sup> - December 1<sup>st</sup>, 2006  
Click..

IEC 62321 เปิดให้ลงมติแล้ว

เมื่อวันที่ 5 พ.ค. ที่ผ่านมา IEC TC111 WG3 ได้พิจารณา IEC 62321 Ed.1 (111/54/CDV) ลงความเห็นไว้ใน IEC website เพื่อให้ประเทศสมาชิกลงมติแล้ว ติดตามข้อมูลเพิ่มเติมได้ที่ [tisi.go.th](http://tisi.go.th)



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Welcome to Thai LCA Network

### WHAT'S NEW

- [LCA Thai Manual Line by TEI](#)
- [Messages via our mailing group](#)

### EVENTS

- We are pleased to invite you to participate in the big event of Thai LCA Society, The International Conference on Green and Sustainable Innovation, ICGSI 2006 (November 29 - December 1, 2006) . We are waiting for your participation !!!  
For more information <http://eng.cmu.ac.th/icgsi>

BANNER & LINKS

สถาบันวิศวกรรมไฟฟ้าและอิเล็กทรอนิกส์  
Electrical and Electronics Institute

**MTEC**  
Material and Methods Technology Center

**Cradle to Grave**  
How Products Impact Natural Systems

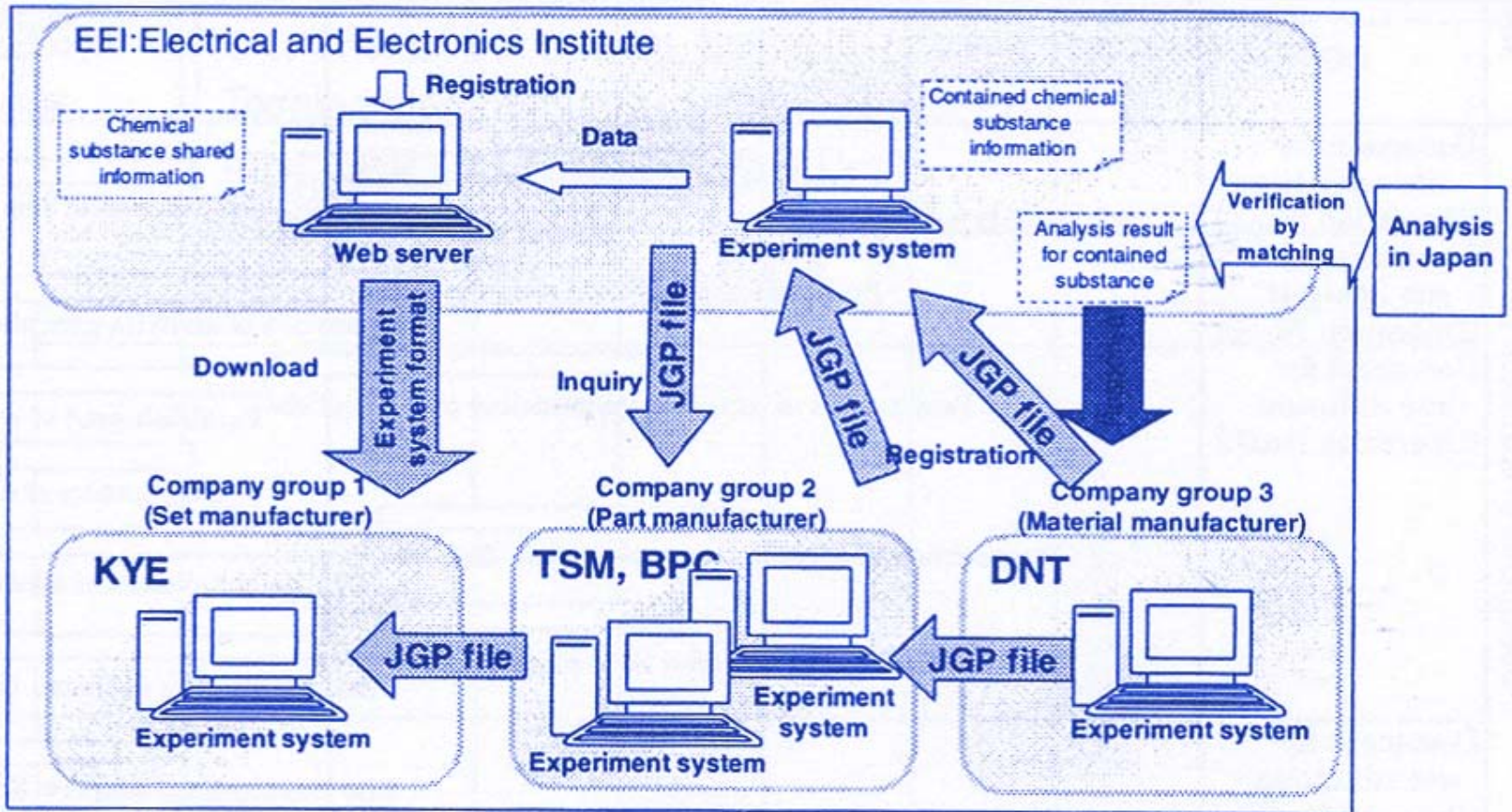
**TNEC**

**TEI**

**Thai LCA Network**



# Supplier's Perspective: Thailand Experience and Model



NOTE:



indicates the green procurement data conversion format established by Japan and agreed upon in Europe and the U.S.

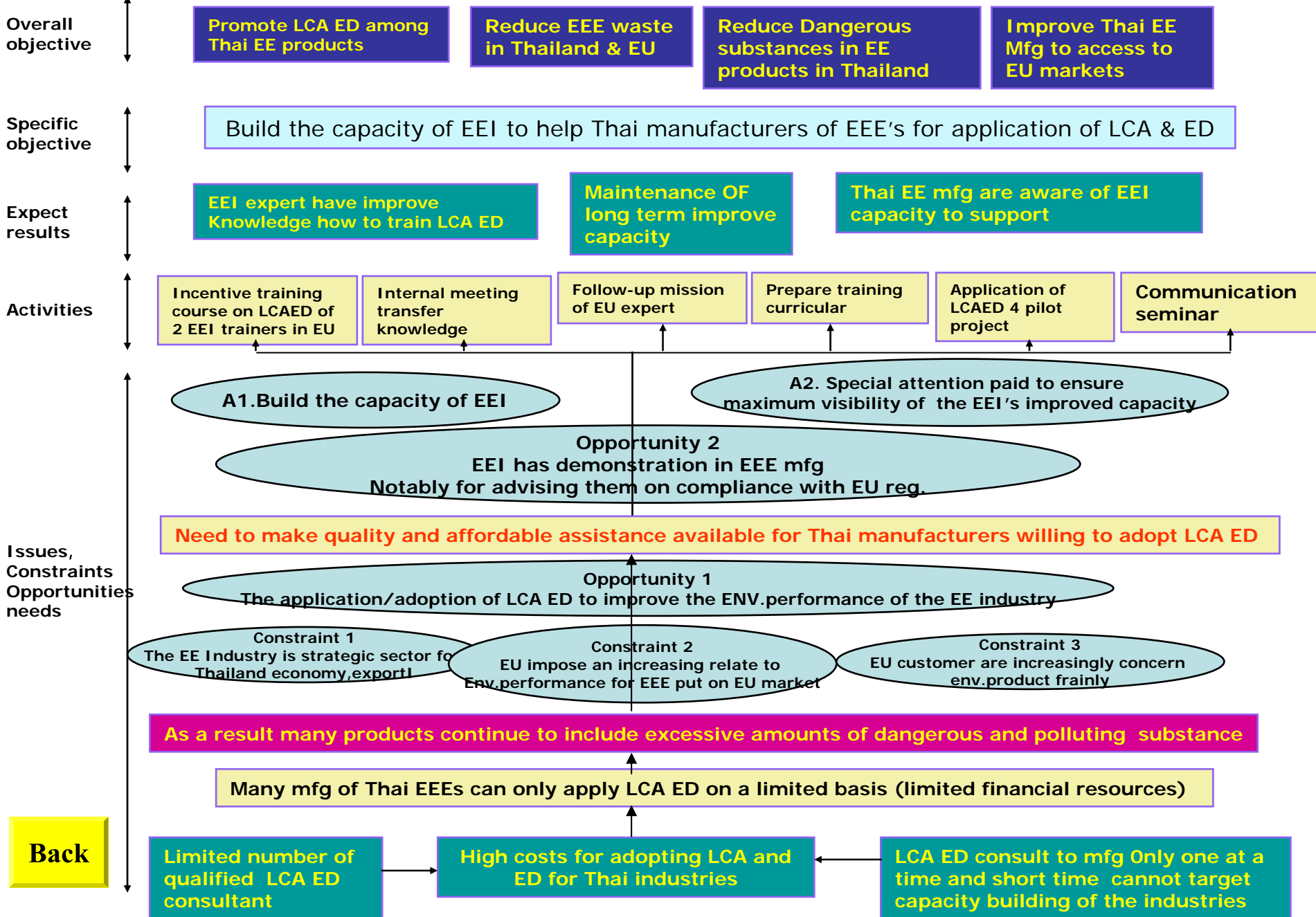
KYE: Kang Yong Electric Public Company  
BPC: Bangkok Plast Products Co.,Ltd

TSM: Thaisin Metal Industries Co.,Ltd  
DNT: Thai DNT Paint Mfg.Co.,Ltd

## Outline of the Experiment Green Procurement System



# Cap. building on LCA/eco-design for EEI (EEI) Roadmap



## Current Status and Adjustment Activities of Local Supply Chain

	Yes	No	Plan
• Do you have mgt sys to handle RoHS/ELV? .....	48%	13%	30%
• Are your product RoHS free? .....	55%	45%	?
• Are your suppliers' products RoHS free? .....	43%	57%	?
• Std. that your company has been certified (123/103 com)..			
• ISO 9001 .....	75%		
• 14001 .....	55%		
• QS 9000 .....	<10%		
• Energy Star .....	4-5%		
• Eco Label .....	1%		

Source: Survey results from Thai-RoHS group activities, April 2006

## Current Status and Adjustment Activities of Local Supply Chain

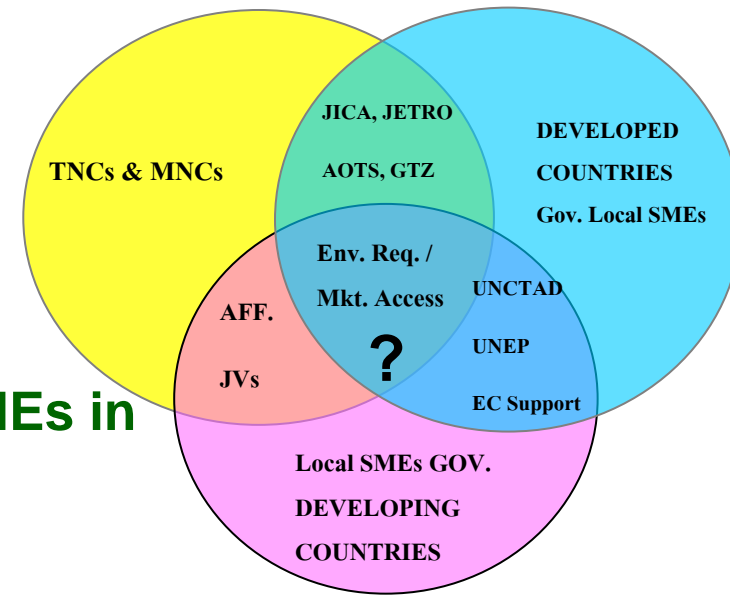
- Needs to help you & your supply chain improve the products
  - Financial support .....26%
  - Up-to-date information & knowledge .....83%
  - Training .....50%
  - Forum for exchanging information & knowledge .....44%

## Current Status and Adjustment Activities of Local Supply Chain

- **Issues in EuP that might affect your company**
  - Determination of environ. performance.....15-26%
  - Eco-design.....15-25%
  - Readiness of supply chain.....30-42%
  - Env mgt syst .....15-18%
  - Certification (CE, Eco Label) .....17-29%
  - Need to know more .....31%

## Conclusion

- More proactive adjustment activities/ cooperation/ support needed for local SMEs in supply chain
- Timely availability & dissemination of information on std., conformity assessment guideline, etc. related to EuP, REACH, ELV, other upcoming requirements
- Tech. assis. from big brands/JVs to outside own supply chain
- National strategies (Inter-ministerial integration) with proactive/ concrete action plans that clearly identify principle host, are required to maintain momentum of all capacities building activities



**Thank You**  
**Kob Khun Krub**





# Abbreviation

<b>APE</b>	<b>Asia Pro-Eco</b>	<b>MONRE</b>	<b>Ministry of Natural Resources and Environmental</b>
<b>AOTS</b>	<b>The Association for Overseas Technical Scholarship</b>	<b>MOST</b>	<b>Ministry of Science and Technology</b>
<b>CfSD</b>	<b>Center of Sustainable Design</b>	<b>MTEC</b>	<b>National Metals and Materials Technology Center</b>
<b>CITQ</b>	<b>Center d’Innovacio Tecnologia Quimica</b>	<b>NESDB</b>	<b>National Economic &amp; Social Development Board</b>
<b>CMU</b>	<b>Chiang Mai University</b>	<b>OIE</b>	<b>Office of Industrial Economics, MOI</b>
<b>DFT</b>	<b>Department of Foreign Trade</b>	<b>PCD</b>	<b>Pollution Control Department, MONRE</b>
<b>DIW</b>	<b>Department of Industrial Works</b>	<b>TBCSD</b>	<b>Thailand Business Council for Sustainable</b>
<b>DSS</b>	<b>Department of Science Service</b>		<b>Development</b>
<b>EEI</b>	<b>Electrical and Electronics Institute</b>	<b>TEI</b>	<b>Thailand Environment Institute</b>
<b>FTI</b>	<b>Federation of Thai Industries</b>	<b>TRF</b>	<b>Thailand Research Fund</b>
<b>GAP</b>	<b>Green Aid Plan</b>	<b>TISTR</b>	<b>Thailand Institute of Scientific and Technological</b>
<b>GSC</b>	<b>Green Supply Chain</b>		<b>Research</b>
<b>ISMED</b>	<b>Institute of Small and Medium Enterprises Development</b>		
<b>JETRO</b>	<b>The Japanese External Trade Organization</b>		
<b>JICA</b>	<b>Japan International Cooperation Agency</b>		
<b>METI</b>	<b>Ministry of Economics Trade and Industry</b>		
<b>MOC</b>	<b>Ministry of Commerce</b>		
<b>MOF</b>	<b>Ministry of Finance</b>		
<b>MOI</b>	<b>Ministry of Industry</b>		