



Eco-design and other Electronics, Environmental Requirements : Overview of the Thai Developments

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Electrical and Electronics Industry Allies

The Federation of Thai Industries



Green Concept in Thailand

- ◆ 1990 CT Concept in Thai Industry
- ◆ 1996 CT Concept expanding in Education & Research
- ◆ 1997 LCA concept
- ◆ 1997 CT Concept in Other Sectors
- ◆ 1999 Eco Design Concept



Involved Organization

- ◆ Research Centre : CTAP/MTEC , NSTDA
- ◆ Universities : KU/CU/CMU/KBU/...
- ◆ Government: NESDB/PCD/DIW/.....
- ◆ Industrial Related Organization :
 - Thailand Environment Institute (TEI)
 - Thailand Electrical and Electronics Institute (EEI)
 - Federal of Thai Industries (FTI)
- ◆ Etc.



LCA/Eco Design Projects

Organization		Amount of Papers/ Projects
Government	MTEC	6
	TRF / NRCT	3
	NESDB	>2
	DIW	>3
	PCD	>3
NGO	TEI	>6
	EEI	>3
	FTI	>3



LCA/Eco Design Projects (2)

Organization		Amount of Papers/ Projects
Universities	CU	>5
	KU	>13
	AIT	>3
	KMITT	>3
	CMU	>4
	MU	>2
	KBU	>3



LCA Activities in TEI

- ◆ LCI data for Electricity Grid Mix in Thailand
- ◆ LCI Data for Steel Production in Thailand
- ◆ LCA for Audio Cassette Tapes for Green Productivity
- ◆ LCA for Electrical and Electronics Equipment
 - TV and Air-Condition
- ◆ LCA for Cement production in Thailand



LCA Activities at Universities

- ◆ LCA of Power Generation Systems Using NETS method (KU)
- ◆ LCA of Rotary Compressor (KU)
- ◆ Comparison of LCIA of Rotary Compressor between SimaPro 5.1 and Kabi 4.0 Program (KU)
- ◆ LCA of Domestic Refrigerator (KU, CMU)
- ◆ LCA of Paperboard Packaging (AIT)
- ◆ Comparison of Central and Individual Air condition System in a Life Cycle Perspective (AIT)
- ◆ LCA of Paper Production (CU)



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LCA and Eco Design Activities at MTEC

- ◆ GMTAP (Green Manufacturing Technical Assistance Program) Supported by Japanese Government under Green Aid Plan (GAP)
- ◆ Database Preparation for Eco Design : Life Cycle Database for Rotary Compressor
- ◆ LCA Roadmap
- ◆ Eco Design for Electrical and Electronics Equipment Effected by WEEE Directives : Case study of Room air-conditioner (EEI/TEI/CTAP-NSTDA/KU/CU)
- ◆ Eco-compressor : Design Development for Replacing Casting Materials with Sintering

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Other LCA & Eco Design Activates

- ◆ Green Camp Project (EEI/MTEC/NESDB)
 - Expert Training (15)
 - Train the Trainer (200)
 - Training for the Industries (1000)
 - Pilot Project
 - ◆ CT (10)
 - ◆ LCA & Eco Design (2)

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Other LCA & Eco Design Activates (2)

- ◆ Clean Technology and Waste Management Technology Roadmap (TIC-KBU – Funded by NRCT)
 - Source Reduction
 - Recovery
 - Waste Treatment
 - End User Management



Other LCA & Eco Design Activates (3)

- ◆ Industrial Awareness and Capacity building
 - Seminar and Training
 - Consultancy
 - Project Demonstration
 - Methodology and Algorithm Research Project
 - Magazines, Books, and other printed media



Other LCA & Eco Design Activates

(4)

Forum and Network

- ◆ Thai LCA Network
 - <http://doi.eng.cmu.ac.th/Thailca>
- ◆ Thai RoHS Forum
 - <http://thairohs.org>
- ◆ Thai Green Design Network
 - <http://www.thaigdn.com> (Coming soon)



Asia-Eco-Design Electronics Conference

Joining the IEC/TC111 WG2

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Asia-Eco-Design Electronics Conference

IEC TC111 1st Meeting at Milan (2005.3.23-24)



Picture taken by Chairman, Mr. Koich Mori

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1st Meeting of WG2 at Tokyo (2005.06.28-29)



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Asia-Eco-Design Electronics Conference

2nd Meeting of WG2 at Milan (2005.10.13-14)



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- ◆ Thailand (FTI, EEI and other industrial companies) host the 3rd Meeting of IEC/TC111 in Bangkok during January 25-27th , 2006



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2005 EU_SPF Projects

- ◆ EEI
 - Capability Building for Electrical and Electronics industries in LCA and Eco Design
- ◆ MTEC/FTI/EEI/ISMED
 - TREE Green : Thai RoHS/ELV/EuP Green Guideline
- ◆ MTEC/FTI
 - Pro TREE : Producers preparation Thai RoHS/ELV/EuP Directive
- ◆ CTAP/MTEC
 - Eco Textile



Conclusion



Current Situation

- ◆ Eco Design is new in Thailand. Most of the activities arrange by government sector; however, a few activities is also conduct by private sector and universities



Current Situation

- ◆ A few university's professors are currently doing research in Eco Design and LCA
- ◆ Some Universities update their curricular to support LCA and Eco Design Activities
- ◆ University staff also help in promote Eco design concept by providing seminar to industries and written article about Eco design in several industrial magazines regularly



- ◆ FTI (Federal of Thai Industries) support activities for participating in IEC/TC 111 WG2
- ◆ FTI also cooperate as a partner in EU-SPF project to promote and help industries to compliance for EuP and RoHS
- ◆ Some private companies is setup to help industries in LCA, Eco Design, Energy Conservation and complying for Eup RoHs and WEEE



- ◆ Some university's research unit is set to emphasis in CT LCA and Eco design activities by provide seminar and training consultancy research and product testing
- ◆ Several books in the field has been written and translated by Thai's expert



Future Plan

- ◆ Government Sector, industrial sector, universities, and private consultant have to continue cooperating in conducting further projects to enhance competitiveness of the overall Thai industries
- ◆ Basic fund are from national budget and EU_SPF grant