### Minutes of

## The 1/2017 Joint Meeting of Council and Associates of Thailand Business Council for Sustainable Development (TBCSD) Date: April 4, 2017; 09:30 – 12:00 hrs Venue: at PTTGC, ENCO A, Fl.14, Vibhavadi Rangsit Road, Chatuchak, Bangkok

#### The meeting began at 09.30 hrs.

#### 1. Chairman's Remark

Mr. Prasert Bunsumpun, the Chairman of TBCSD, expressed his gratitude to the audience to participate the meeting on that day and introduce the new President of Thailand Environment Institute, Professor Dr. Padermsak Jarayabhand.

For the TBCSD's letter, the position of Professor Dr. Padermsak Jarayabhand has been changed from the President of Thailand Environment Institute to Executive Director of TBCSD. and other positions of Council and Associates of members have been changed as follow:

- PTT Exploration and Production Public Company Limited, the Council position is Mr. Somporn Vongvuthipornchai, President and Chief Executive Officer.

- Sahaviriya Steel Industries Public Company Limited, the Associate position is Mr. Yongyuth Malithong, Vice President – Group Sustainable Development.

- The Siam Commercial Bank Public Company Limited, the Council position is Mr. Arak Sutivong, Chief Strategy Officer and the Associate position is Mrs. Siribunchong Uthayophas, EVP, Head of Corporate Office.

- Vinythai Public Company Limited, the Council position is Mr.Hiroaki Sano, Managing Director.

**Resolution:** All members acknowledged.

#### 2. Business Session

#### 2.1 Adoption of the Agenda

Mr. Prasert Bunsumpun/ Chairman provided the overview of agenda and all members approved it.

# 2.2 Approval of the Minutes of the 2/2016 Joint Meeting of Council and Associates of TBCSD

- Ms.Pinyada/TEI asked for the approval of the Minutes of the 2/2016 Joint Meeting of Council and Associates of TBCSD held on 7 November 2016.

**Resolution:** All members acknowledge and approved the Minutes of the 2/2016 Joint Meeting of Council and Associates of TBCSD.

#### 3. Issues for Acknowledgement

#### 3.1 Members Information

Mr. Prasert Bunsumpun/ Chairman presented TBCSD members in 2017 which are 36 high profile business leaders from 36 companies, covering all business sectors in Thailand.

**Resolution:** All members acknowledged the members information.

#### **3.2 Progress of Activities/Projects**

Ms.Pinyada/TEI presented the progress that there are three programs as follows:

#### **<u>Programme 1</u>**: Sustainable Movement

#### (1) Green Label

 Certified Products for Green label - 591 products (25 models) from 60 companies as of February 2017

• After the signing of MoU between Green Label and Eco mark, there are entrepreneurs, who import photocopiers from Japan, applied and certified by Green Label.

15 - 17 November 2016 - Thai Green Label's delegates were presented at the event 'Measuring Carbon Emission of Non-electrical Products and Life Cycle Costing for Construction Works (Energy Consumed and Material Application) at the Corus Paradise Resort, Port Dickson, Malaysia, to learn about Carbon Emission evaluation which can be adopted in developing Green Label criteria.

• 29 November 2016 - Thai Green Label organized Green Label policy and management committee meeting 2/2016 to consider Green Label criteria at Thailand Environment Institute.

• 08 December 2016 - Thai Green Label joined the meeting with the Pollution Control Department to develop Green Label criteria for computers and UPS devices. The criteria has passed public hearing on January 19, 2017 and are currently being revised for adoption.

• TBCSD published an article 'Thai Green Label Scheme with International Cooperation' both in Thai and English in Green Society magazine of TBCSD, Volume 8, Issue 3 (September - December 2016) so as to disseminate and promote the work of Thai Green Label scheme to be acknowledged by TBCSD members.

• 20 January 2017 - Thai Green Label submitted an application for Re-audit GENICES for the accreditation of work system under GEN members group. It is now under the process of document check and onsite visiting at Thailand Environment Institute on 5 April 2017.

• 26 January 2017 - Thai Green Label participated in the seminar 'Registration of Environmentally Friendly Products and Services (Green Basket): Automotive, Fuel and Office Equipment.

• 01 February 2017 - 6 Green Label criteria have been announced as follows.

1) Electric and Communication Cables

2) Fitting

3) Unplasticized Polyvinylchoride Pipes not used for Drinking Water

4) Wood-like Plastic

5) Disposable Diapers

6) Transformer

• The development of Green Label website.

#### (2) Carbon Reduction Label

13 October 2016 – TEI organized the meeting on the renewal of Carbon Reduction Label as follows:

1. Bathroom faucets and accessories under COTTO trademark of The Siam Sanitary Fittings Co.,LTD.

1.1 Faucets

1.2 Faucet for Sinks

1.3 Stop Valve

1.4 Flush Valves

2. Expanded Polystyrene (EPS) under POLIMAXX trademark of IRPC Public Company Limited.

2.1 STD TYPE (STANDARD TYPE)

2.2 SE TYPE (SELF EXTINGUISHING TYPE)

3. Portland Cement Product, Type 1 under Chang trademark of SCG Cement Co., Ltd.

4. Floor and wall tiles under SGI Tiles trademark of The Siam Ceramic Group Industries Co., Ltd.

5. Refine and rock sugar products under Mitr Phol Trademarks from Mitr Phol Group

• Currently, there are 139 products from 38 companies that are in the process of applying (13 October 2016).

Participated in exhibitions to promote GHG emissions reduction certification.

#### (3) Carbon Reduction Certification for Buildings

• Currently, there are 8 buildings from 5 organizations that have been Carbon Reduction Certification for Buildings as follows.

1) The Bangchak Petroleum Public Company Limited. (1 building)

2) Energy Complex (EnCo) (3 buildings)

3) National Electronics and Computer Technology Center (NECTEC)

(1 building)

4) Office building No.100, Electricity Generating Authority of Thailand

5) Main Building and Operation Building, Bangkok Aviation Fuel Services Public Company Limited.

#### (4) Alternative Energy Certification

• 13 October 2016 - TEI organized the meeting on the renewal of Alternative Energy Certification for TPI Polene Public Company Limited.

• At present, there are 5 organizations that have been Alternative Energy Certification as follows.

1) Chaiyaphum Plant Products Co.,Ltd.

2) TPI Polene Public Company Limited.

3) Kanha Solar Power Co., Ltd.

4) Asia Cement Public Company Limited.

5) Solar Go Green Co.,Ltd.

#### (5) Green Meetings

Green Meetings Plus

14 organizations have already monitored the Green Meetings Plus.
 <u>Green Meetings</u>

19 organizations have already monitored the Green Meetings.
 After the validity period of 3 years

• A organization has already renewed the Green Meetings Certification. – PTT Global Chemical Public Company Limited.

#### **<u>Programme 2</u>**: Raising Awareness of Environmental Issue

#### (1) Global Warming and Health Fund

• The meeting of the Global Warming and Health Fund Committee was organized to consider for funding research projects (year 2016) and announce the awards for outstanding research excellence as follows:

Excellent research award: (An educational fund worth 50,000 baht)

- Sichonkunathanyittaya School, Nakhon Si Thammarat Province

<u>4 Honorable mention research award:</u>(An educational fund worth 20,000 baht)

- 1) Pasang School, Lamphun Province (2 Research Project)
- 2) Princess Chulabhorn's College, Pathum Thani Province
- 3) Wang Muang Chon Prasit Wittayakhom School, Nakhon Sawan

#### Province

• Activities related to provide of young generation with local research on "Effects of Global Warming on Ecosystem, Environment and Health"

1) 10 March 2017 – Nonthaburi Province

2) 20 March 2017 – Buriram Province

3) 07 April 2017 – Sa Kaeo Province

- 4) 24 April 2017 Phitsanulok Province
- 5) 08 May 2017 Chumphon Province

• The research fund on "Effects of Global Warming on Ecosystem, Environment and Health" has requested for proposal until 17 May 2017.

## (2) Driving Behavior Change toward Sustainable Consumption (Finish it all)

• The Meeting to consider the prizes for the 1st place, 2nd place, 3rd place and honorable mentions (in each level) for the Best Concept Award as follows:

#### Pre-elementary School

1<sup>st</sup> place award: Ban Pang Poei School, Nan Province, awarded an educational fund worth 30,000 baht.

 $2^{nd}$  place award: Kokrangnoi School, Phetchabun Province, awarded an educational fund worth 20,000 baht.

Primary School

 $1^{\rm st}$  place award: Bannabong School, Lampang Province, awarded an educational fund worth 30,000 baht.

2<sup>nd</sup> place award: PramochWithyaRamxinthra School, Bangkok, awarded an educational fund worth 20,000 baht.

3<sup>rd</sup> place award: Phraharuthai Nonthaburi School, Nonthaburi Province, awarded an educational fund worth 10,000 baht.

Honorable mentions award:

- Petchara School, Tak Province, awarded an educational fund worth 5,000

baht.

- Ban Mae Tia School, Mae Hong Son Province, awarded an educational fund worth 5,000 baht.

Secondary School

1<sup>st</sup> place award: Assumption College, Bangkok, awarded an educational fund worth 30,000 baht.

2<sup>nd</sup> place award: Mae Tuen Wittaya School, Chiang Mai Province, awarded an educational fund worth 20,000 baht.

3<sup>rd</sup> place award: Tha Pla Pracha Uthit Schooll, Uttaradit Province, awarded an educational fund worth 10,000 baht.

Honorable mentions award:

- Chomchonbanpaco School, Nong Khai Province, awarded an educational fund worth 5,000 baht.

- Mutthayom Phrarachatan Chaloemphrakiat School School, Nan Province, awarded an educational fund worth 5,000 baht.

#### (3) The Young Creative Environment Artist

• Promoted and encouraged youth at primary, secondary and higher education nationwide to submit their creative media content under the concept "GREEN TREND FOR NEW GENERATION" to the Young Creative Environment Artist (Season 2) project (Deadline on 15 March 2017). There are currently 93 entries submitted which will be considered in the next round.

#### (4) Environmental Education

• 16 - 27 January 2017 - The course focuses on the experiment to compare climate change in greenhouse conditions and outside the greenhouse, measurement of carbon dioxide in the air, tracking carbon footprints in the school and the effects of climate change on soil and water, by allowing students to conduct in-school ground survey. In addition, the project has created a thinking process for students to work together to find ways to reduce greenhouse gas emissions that are causing climate change at Mechai Pattana School, Lam Plai Mat district, Buriram province, with 40 students and teachers participated.

• 23 January 2017 - Organized GHG emissions reduction workshop on such as household products made from natural materials, school waste composting and the experiment to use various species of worms to reduce school waste.

• 06 February 2017 Organized an off-campus study tour on at Non Din Daeng municipality, Non Din Daeng District, Buriram province, that was awarded as free waste community of waste, to study waste management for school adoption.

• Having the approach to disseminate the course by choosing Mechai Pattana school, Lam Plai Mat District, Buriram Province, as a trial school before extending to 120 schools across the country in the network of Mechai Pattana school called 'School Bird (School Base Integrated Rural Development)' program. Students of Mechai Pattana school who participate in the program will have an opportunity to be a lecturer to disseminate knowledge about waste sorting technique and worm raising for waste disposal to students in other schools.

#### (5) Producing Media

• The publication of Green Society magazine, 8<sup>th</sup> year, issue No. 3 (September - December 2016)

The preparation of Green Society magazine, 9<sup>th</sup> year, issue No. 1 (January – April 2016)

# <u>Programme 3</u>: Capacity Building on Environmental Management and Good Practices (1) Learning Together (Seminar/ Trip)

• 09 - 10 February 2017 – In collaboration with TEI organised TBCSD Trip 1/2017 to study manufacturing and environmental management process of Siam City Cement Public Company Limited and learn about good practices while staying in Khao Yai National Park from Mr. Pattarapol Manmanee, veterinarian. The group also joined bush walking activity and animal watching at night to study about nature and wildlife. Furthermore, the group had an opportunity to visit the largest thin film solar cell power plant in ASEAN at Natural Energy Development Co., Ltd. owned by EGCO group. This trip was an opportunity for building strong relationship and exchange knowledge and experience among TBCSD members. The detail of activities will be published in the TBCSD Green Society magazine, 9th year, issue No. 1 (January – April 2016) which has 6 TBCSD member organizations such as CarpetsInter/EGAT/ EGCO/KBANK/ Krungthai and TEI. participating in the event.

#### (2) Miscellaneous (i.e. Social Activities)

I2 January 2017 - TBCSD together with TEI, Carpets International Thailand Public Company Limited and Ratchaburi Electricity Generating Holding Public Company Limited held the ceremony to deliver rice to the President of Southern Association under the Royal Patronage at the Southern Association under the Royal Patronage. The ceremony is under the activity 'TBCSD's joint forces to help flood victims'. The purpose of this activity is to help flood victims in the south by donating 5.2 tons of rice to relief the suffering of the flood victims and build good relationship among TBCSD members for social and environmental benefits. The activity was supported by TBCSD members such as Ratchaburi Electricity Generating Holding Public Company Limited (5 tons of rice) and Carpet International Thailand Public Company Limited (200 kg of rice).

• 28 January 2017 - In collaboration with TEI organized the activity "Elder Brother Bring Younger Brother to Learn ... Follow Dad's Footsteps" at The Golden jubilee Museum of Agriculture Office (Public Organization), Khlong Luang district, Pathum Thani province. which has 2 TBCSD member organizations such as RATCH and TEI. participating in the event.

#### **TBCSD Secretariat**

#### (1) Public Relation

- TBCSD has published the scoop news of the events.
- TBSCD newsletters (through e-mail)
- In the process update the information in TBCSD website.

#### (2) Annual Conference

• In the process of planning the annual conference 2017

#### (3) Associates & PR Meeting

22 February 2017 - The TBCSD Secretariat arranged the Associate & PR Working Group Meeting 1/2017 at TEI.

#### (4) Council & Associates Meeting

• 04 April 2017 - The TBCSD Secretariat arranged the Council & Associates Meeting 1/2017 at PTTGC, ENCO A, Fl.14, Vibhavadi Rangsit Road, Chatuchak, Bangkok.

#### (5) Establish Relationship between Members

• In the process update the information TBCSD members (Council, Associate and PR) for baseline data.

#### (6) Eco - Products International Fair 2016 (EPIF 2016)

• TBCSD Secretary will advertise the exhibition 'Eco Innovation for Sustainable Environment' by presenting information of 14 member organizations participating in the exhibition in order to be widely known in the society (government agencies, state enterprises, private organizations, educational institutions, industrial estates and environmental entrepreneurs). This will be done by advertising in the technological development and creative environmental product book of the Faculty of Environment and Resource Studies Mahidol University. The book contains academic papers, research papers, journal articles, etc.

**Resolution:** All members acknowledged the progress reports.

#### **3.3 Progress of Special Projects**

#### Low Carbon Society

#### (1) Development of the Community Energy System in Mae Hong Son Province

• 22-24 December 2016 - TBCSD secretariat surveyed the area and discussed with the leader at Ban Pa Yoi, Khun Yuam District, Mae Hong Son Province to collect data for preparing the result report of the project for submitting to the Electricity Generating Authority of Thailand which is the project funder.

• At Ban Huay Pou Ling, Mae Hong Son Province, PTT Public Company Limited by Sustainable Energy Foundation has installed photovoltaic solar power system for Ban Huay Pou Ling community in December 2015. The investigation found that the system can operate efficiently.

#### Water Resource Management

#### (1) Potable Water for Drought-Prone Villages

23 December 2016 - TBCSD Secretariat visited and discussed with the Director of the Bureau of Groundwater Resources Region 4, Khon Kaen province about the implementation of Water Resource Management project for providing water for agriculture and household consumption. This will help people to have sufficiently and thoroughly access to clean and good quality water. The gathered information will be used for discussion with the president of Water Resource Management project for consideration to provide further support.

**Resolution:** All members acknowledged the progress reports.

#### 3.4 Summary of Budget in 2016

Ms.Pinyada/TEI presented the summary of Budget in 2016 (December 2016) as follows:

1. Income

Members 31 Organizations	7,750,000	baht	
(31 Organizations x 250,000 Baht)			
Remaining Funds from 2015	2,263,697	baht	
Summary	10,013,697	baht	
2. Operating Expenses			
Summary	8,526,429	baht	
Special projects			
<ul> <li>Income</li> </ul>	3,310,242	Baht	
<ul> <li>Expenditure</li> </ul>	2,351,923	Baht	
<ul> <li>Remaining Budget</li> </ul>	958,319	Baht	
Green SIEP: The Sirindhorn International Environmental Park			
<ul> <li>Budget</li> </ul>	303,278	Baht	
<ul> <li>Expenditure</li> </ul>	217,018	Baht	
Remaining Budget	86,260	Baht	

<u>Remark</u> The budget was audited by Price Waters House Coopers.

Resolution: All members acknowledged the summary of Budget in 2016.

#### 4. Issues for Consideration

#### 4.1 Thailand Research Expo 2017

Ms. Pinyada/TEI said that the Thailand Research Expo 2017 is a national platform that offers quality technological and innovative research to link and integrate knowledge towards the application for country development in terms of academic, policy social/community and commercial/industrial dimensions. The event has been held every year since 2006 with the cooperation of research agencies in the network nationwide, relevant sector And the National Research Council of Thailand (NRCT).

#### **Objectives**

1. To create, drive, develop knowledge, productivity, technology, and innovation from research to application so as to solve country problems

2. To be a national forum to present the potential research for application. It is also an important mechanism for linking Thai research to potential users at national and international by integrating the cooperation between organizations and research system network nationwide.

**<u>Date</u>**: Wednesday, 23<sup>rd</sup> – Sunday, 27<sup>th</sup> August 2017 (5 days)

Venue : at Centara Grand & Bangkok Convention Centre at Central World, Bangkok.

#### **Expected Outputs**

Research, technology and innovation of the country have been forwarded to the users for country development.

Activities 1. Meeting/Seminar 2. Exhibition

<u>Main Theme</u> "Research for Country Development towards Stability, Prosperity and Sustainability"

TBCSD Theme "Research for Natural Resources and Environment"

- Cover research on technology development in assessment/treatment/recover/management of waste and environmental quality which is appropriated for the domestic manufacturing sector and internationally recognized; the development of knowledge, technology and innovation that is appropriated to cope with climate change; the development of knowledge in solving the problem of resources and environment such as research to share the burden of environmental management or hazardous waste that creates pollution; research to address the issue of responsibility for the use of natural resources for fairness and efficiency; and development of integrated natural resources and environmental information to be the infrastructure for surveillance, alarming and effective management.

### **Booth Size** : 5x5 metres

In addition, the event will feature many exhibit booths, including with TBCSD booths in the theme of Research for Natural Resources and Environment and the 4 member organizations (Double A, DOW, Interface and PTTGC) will participate in this event.

**Resolution:** All members acknowledge the Thailand Research Expo 2017.

#### 4.2 Annual Conference 2017

Ms. Pinyada/TEI presented that draft agenda of Annual Conference 2017.

Date : Wednesday, 21<sup>st</sup> June 2017

Venue : at Centara Grand & Bangkok Convention Centre at Central World, Bangkok. Schedule :

1) Press Conference (14.00 - 15.30 hrs.)

	Detail	
Schedule		
14.00 – 15.30 hrs.	A press conference and "Green Meetings Certification", "Carbon	
	Reduction Label Certificate for Products and Building", "Alternative	
	Energy Certification" and Green Label	
16.30 – 21.00 hrs.	Gala Dinner	
	* Specialty Show	
	* Speech by Mr.Peter Bakker, President and CEO, WBCSD/Mr. Luc	
	Stevens, United Nations Thailand and Dr.Porametee Vimolsiri, Secretary-	
	General National Economic and Social Development Board	
	* Award Ceremony	
	* Photo Session	

2) Gala Dinner (16.30 – 21.00 hrs.)

**Resolution:** All members acknowledged and approved the Gala Dinner 2016.

#### 5. Others (if any)

5.1 Ms. Pinyada/ TEI reported SDG Compass Guide by WBCSD which was allowed to be TBCSD translated into Thai. The SDG Compass has been translated into 11 languages and can be used as a guide for business action to advance SDGs. and Executive Summary and CEO Guide by WBCSD which were allowed to be TBCSD translated into Thai.

5.2 Ms. Pinyada/ TEI reported the Thai Forest Ecological Research Network, T-FERN under the concept "Forest Ecosystem Services: Importance and Role for Future Earth" by Dr.Songkiert Tansamrit, Representative of TBCSD on 19 January 2017 at Mahidol University.

5.3 Ms. Pinyada/TEI invited TBCSD member organizations to attend a seminar on the topic of " Brainstorming meeting of Private sector for driving sustainable development" on 18 April 2017 at 09:00 to 12:00 hrs. at Banquet Room, ENCO C, Fl.5, Vibhavadi Rangsit Road, Chatuchak, Bangkok.

5.4 Ms.Wipada /TEI invited TBCSD member organizations to attend an International Study Trip on 9-17 September 2017 (9 days), United States of America.

Resolution: All members acknowledged.

#### **Comments and Suggestions**

Mr. Prasert Bunsumpun/ Chairman said that an International Study Trip is very interesting because TBCSD's members will get knowledge that can be developed in further and build on their work in Thailand. However the cost is quite high and the number of participant may be lower than expectation. For increasing the number of participant, the secretariat should be reduce the cost.

**<u>Resolution</u>**: The Secretariat would response to each suggestion.

## <u>The meeting was adjourned at 12.00 hrs.</u> Prepared by

Wipada Moonkambil

Ms. Wipada Moonkambil Asst.Program Officer Thailand Environment Institute **Approved by** 

Pinyada Cm.

Ms. Pinyada Charoensin Project Manager Thailand Environment Institute

## List of Participants

## Council Members, Associate Members and Representative Advisors:

1.	Mr. Prasert Bunsumpun	Chairman
2.	Professor Dr. Padermsak Jarayabhand	Thailand Environment Institute
3.	Ms.Natnarin Isariyameta	Advanced Info Service Public Company Limited
4.	Ms. Supada Chalidabhongse	Asia Cement Public Company Limited
5.	Mr.Thana Mongkolruttanagran	The Bangchak Petroleum Public Company Limited
6.	Ms.Kulkanya Kosolkul	The Bangchak Petroleum Public Company Limited
7.	Mr.Tanai Srisawat	Chevron Thailand Exploration and Production,Ltd.
8.	Ms.Poranee Kongamornpinyo	Dow Chemical Thailand Ltd.
9.	Mrs.Yuwadee Thongsuwan	Electricity Generating Authority of Thailand
10.	Ms. Sirilak Srimontol	Electricity Generating Authority of Thailand
11.	Mr. Payont Ampornareekul	Global Power Synergy Public Company Limited
12.	Ms.Penrawee Suerattanasiri	Kasikorn Bank Public Company Limited
13.	Mr.Kitisak Nualchanchai	PTT Exploration and Production Public Company Limited
14.	Mr.Surasak Chunchirdsin	PTT Exploration and Production Public Company Limited
15.	Mr. Phumphong Prakthong	PTT Exploration and Production Public Company Limited
16.	Ms.Apinya Synsatayakul	PTT Global Chemical Public Company Limited
17.	Ms.Pattarawan Panitcha	PTT Global Chemical Public Company Limited
18.	Mr. Sompornsiri Sermrum	PTT Public Company Limited
19.	Mrs.Nalinmanee Paaopanchon	PTT Public Company Limited
20.	Ms.Sarawan Kaewkriengkrai	PTT Public Company Limited
21.	Ms. Supaporn Worrapornpan	PTT Public Company Limited
22.	Ms. Boontiva Dansamasatid	Ratchaburi Electricity Generating Holding PCL

23.	Mr.Suparchai Pojpanich	Ratchaburi Electricity Generating Holding PCL
24.	Ms.Tanachaporn Tanvanichakul	Ratchaburi Electricity Generating Holding PCL
25.	Mr.Yongyuth Malithong	Sahaviriya Steel Industries Public Company Limited
26.	Ms. Penlada Pisapanit	The Siam Cement Public Company Limited
27.	Mr. Krisda Chaikul	Star Petroleum Refining Public Company Limited
28.	Mr.Teera Puxsupachat	Tetra Pak (Thailand) Limited
29.	Ms.Suthira Surinspanont	ThaiNamthip Limited
30.	Mr.Santi Wasanasiri	Thai Oil Public Company Limited
31.	Ms. Viraya Khunprom	Vinythai Public Company Limited

# Honorary Advisor, Advisors and Committee:

1.	Dr.Songkiert Tansamrit	Advisor
2.	Mr.Narong Boonyasaquan	Advisor

# Secretariat Office:

1.	Ms.Pinyada Charoensin	Thailand Environment Institute
2.	Ms.Waranchana Thairat	Thailand Environment Institute
3.	Ms.Arveekorn Pokpong	Thailand Environment Institute
4.	Ms.Wipada Moonkambil	Thailand Environment Institute