

ASEAN Energy Data and Statistics Management Training

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EC - ASEAN Energy Facility

EC-ASEAN Energy Facility (EAEF)  
ASEAN Energy Data and Statistics Management Training

## Evaluation and Main Results

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Final EC-ASEAN Energy Facility Dissemination Conference & Meeting:  
EAEF Sustainable Energy Partnership Opportunities between the EU and  
ASEAN  
Sultan Hotel 21- 22 Feb 2007  
Jakarta, Indonesia

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## Outlines

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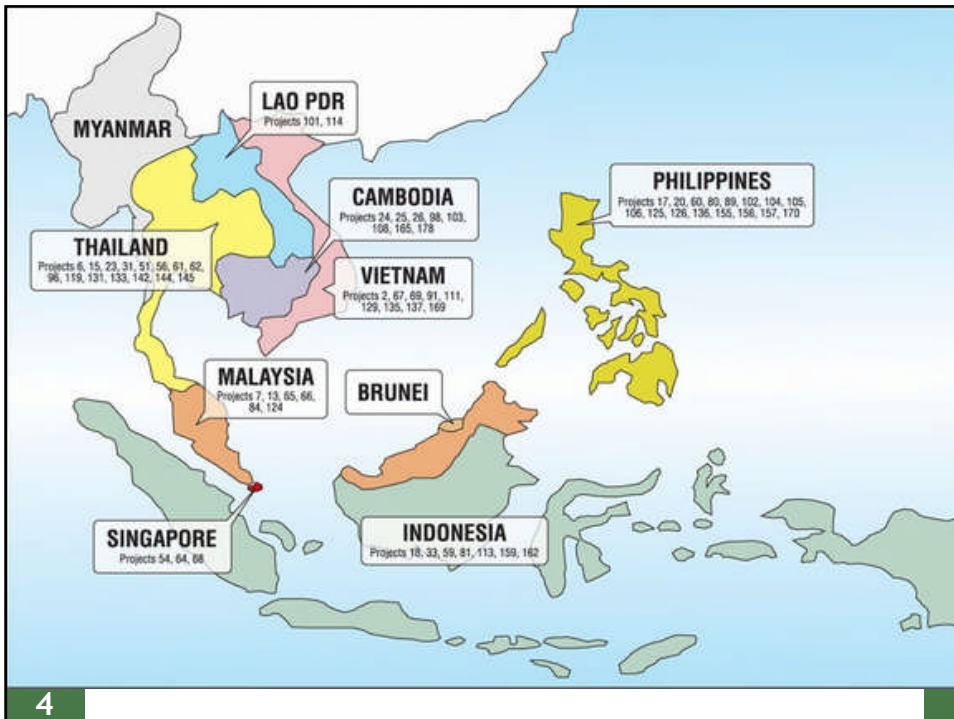


## Project Background

In April 2005, the European Commission, through the EC ASEAN Energy Facility has therefore agreed to finance the project on “ASEAN Energy Data Statistic Management Training” (Institutional Strengthening Project).

The PMU (Project Management Unit) of the EC-ASEAN Energy Facility (EAEF) is implementing this project in cooperation with the Centre for Energy Environment Resources Development (CEERD/FIHRD) of Thailand, and the International Energy Agency (IEA) based in Paris.

The project started on 1st June 2005 and completion is completed on 30 November 2006.





## Project Background

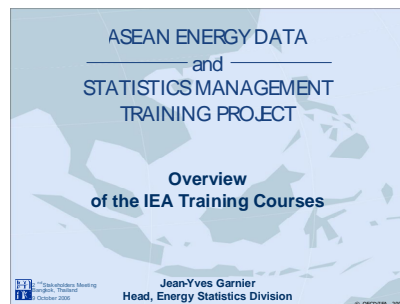
The project objectives are as follows:

- To develop, to strengthen, and to harmonize the national ASEAN energy databases and to foster the developing ASEAN regional energy database in ACE;
- To ensure wider regional harmonization with the database development in APERC and EDMC as references, and to develop ASEAN emergency oil database system under the auspices of ASCOPE;
- To harmonize the ASEAN energy data base with major regional organizations such as OLADE for Latin America and AFREC for Africa;
- To promote SE Asian Governments' understanding of the application of national, regional, and international energy statistics in drafting and reviewing energy policies and other related instruments for policy implementation;
- To encourage the incorporation of international energy statistical formats, definitions and tools in SE Asian national and regional statistical collections; and
- To familiarize principal ASEAN energy statisticians in the application of the IEA emergency oil data system as an input to the development of the ASEAN emergency oil data system.



## Activities implemented

- 1. 24 June 2005: Initial "Stakeholders' Meeting" (hosted by Pusat Tenaga Malaysia (PTM)), in Kuala Lumpur, Malaysia;
- 2. 19 September - 30 September 2005: First Training Workshop for ASEAN energy statisticians (organized by International Energy Agency (IEA)), Paris, France. 10 Participants from Cambodia, Indonesia, the Philippines, and the ASEAN Centre for Energy, and one Delegate from APEC/IEEJ;
- 3. 28 November - 09 December 2005: Second Training Workshop for ASEAN energy statisticians (organized by International Energy Agency (IEA)), Paris, France. 14 Participants from Lao PDR, Malaysia, Thailand, Vietnam, Singapore, and ACE, and 2 Delegates from APEC/IEEJ;
- 4. February 2006 - September 2006: Ex-Post Assessment of the Training Workshops, and Preparation of Technical Advisory and Supervisory Missions (TASMs): Conducted by CEERD/FIHRD through follow-up contacts with the participants;
- 5. 09 October 2006: Second "Stakeholders' Meeting" (hosted by the Energy Policy and Planning Office (EPPO) - Ministry of Energy of Thailand), in Bangkok, Thailand;



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## Training Agenda - Week 1

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>MORNING</b>	Opening	Electricity	Transport Gas	Energy Efficiency Policy	CO2 Emissions GHGs
<b>AFTERNOON</b>	IEA Energy Data Collection & views on ASEAN statistics APEC vs. IEA	Coal	Energy Indicators Efficiency	Renewables	How to fill in the questionnaires

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## Training Agenda - Week 2

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>MORNING</b>	MOS JODI OMR	A case study: France Checks	Renewable Role Modelling Forecast	Energy Balances	EPT Passing experience to colleagues
<b>AFTERNOON</b>	Oil	Checks and validation	R&D Non-OECD Database Structure	Energy Balances	Questions and Answers Summing up



## Results of the follow-up period

Replies to the questionnaire distributed by the Consultant (surveys):

	Cambodia	Indonesia	Lao PDR	Philippines	Thailand
General surveys on energy sector	Undertaken + planned	Undertaken	Undertaken + planned	-	-
Sectoral survey on energy demand	Undertaken + planned	Undertaken + planned	Planned	Undertaken + planned	Undertaken
Sectoral survey on energy efficiency	Undertaken + planned	-	-	-	-
Survey of oil companies	-	-	Undertaken + planned	-	-
Survey on transport sector and related CO2 emissions	-	-	-	-	-
Survey on production and consumption of new and renewable sources/forms of energy	Planned	-	Planned	-	Undertaken
Review of statistics situation to produce energy, environment, and economic indicators	Undertaken + planned	Undertaken + planned	-	Undertaken	-



## Results of the follow-up period

Replies to the questionnaire distributed by the Consultant (trainings):

	Cambodia	Indonesia	Lao PDR	Philippines	Thailand
Training on data management for oil and gas	Undertaken	Planned	-	Undertaken	-
Training on data collection, processing, analysis, and checking	Undertaken	Planned	-	Undertaken + planned	-
Training on energy efficiency indicators	Undertaken	-	-	-	-
Training on IPCC's methodology to calculate CO2/SOx/Nox... emissions	-	-	-	-	-
Training on model energy balance, forecast, emissions calculations	Undertaken	-	-	Planned	-
Conversion factors and methodology on data processing	-	-	-	-	Undertaken



## Results of the follow-up period

Replies to the questionnaire distributed by the Consultant:

	Cambodia	Indonesia	Lao PDR	Philippines	Thailand	Singapore
Multi-Stakeholders meetings/ workshops/seminars/ consultations on the importance of statistics and usage for energy planning and decision-making	Undertaken + planned	Planned	-	Undertaken + planned	Planned	Undertaken + planned
Creation of technical working group on energy statistics/ inter-agencies/ inter-ministerial dialogue	-	Undertaken	Planned	Undertaken	Planned	Undertaken + planned



## Results of the follow-up period

Replies to the questionnaire distributed by the Consultant:

	Cambodia	Indonesia	Lao PDR	Philippines	Thailand	Singapore
Preparation of training manuals/ materials	-	Planned	-	Planned	-	-
Preparation of national statistics (e.g. energy balances)	-	Undertaken + planned	Undertaken	Under-taken + planned	Undertaken	-
Publication of national statistics (e.g. energy balances)	-	Undertaken + planned	-	Under-taken + planned	Undertaken	-
Forward the information received during the training to colleagues	-	Planned	Undertaken	Under-taken	Undertaken	Undertaken + planned



## Link with other EAEF activities

CEERD/FIHRD (in cooperation with the Institute for Industrial Production of the University of Karlsruhe, Germany, and Enerdata, France) has also conducted a project called **“Regional Energy Policy and Planning in ASEAN for Sustainable Development”** (REPP-ASD) under the EAEF programme. In the framework of the REPP-ASD project, a very basic set of energy indicators for sustainable development has been developed by the project team through discussion and agreement with the ASEAN REPP-SSN focal points and other ASEAN Stakeholders present at the first regional workshop. ASEAN countries were then requested to provide the primary data for the construction of these indicators.

The results of activities of the REPP-ASD project are also relevant to illustrate the difficulties met in collecting energy data in the ASEAN region.



## Link with other EAEF activities

The following data were collected for 1990, and then from 2000 to 2005:

Accessibility	Affordability
1. Rate of electrification (total)	1. Energy expenditure
2. Rate of electrification (rural)	2. Total household expenditure
3. LPG consumption	3. % energy expenditures on total exp.
Energy Production ( indigenous)	Total Primary Energy Consumption
1. Oil	1. Oil
2. Gas	2. Coal
3. Coal	3. Gas
	4. Primary electricity (hydro, geothermal, wind)
	5. Net electricity imports
	6. Biomass & wastes
	7. Total energy consumption



## Link with other EAEF activities

Data collected for 1990, and then from 2000 to 2005 (continued):

Electricity Production and Consumption	Fuel Consumption for Public Thermal Power Production
Total public electricity production, of which	Diesel
Coal	Fuel oil
Gas	Gas
Oil	Coal
Hydro	Biomass & wastes
Geothermal	Total
Wind, solar	
Electricity sales	
T&D electricity losses	



## Link with other EAEF activities

Data collected for 1990, and then from 2000 to 2005 (continued):

Population, GDP	Capacity and Reserves
Population	Electricity capacity
GDP at constant national price	Peak electricity demand
GDP at constant dollar at exchange rate	Oil reserves
GDP at constant dollar at purchasing power parities	Oil reserves
	gas reserves
	gas reserves
CO2 Emissions from Energy Use	Land Area
CO2 emissions from energy use	Forest area
	Total land area

## Link with other EAEF activities

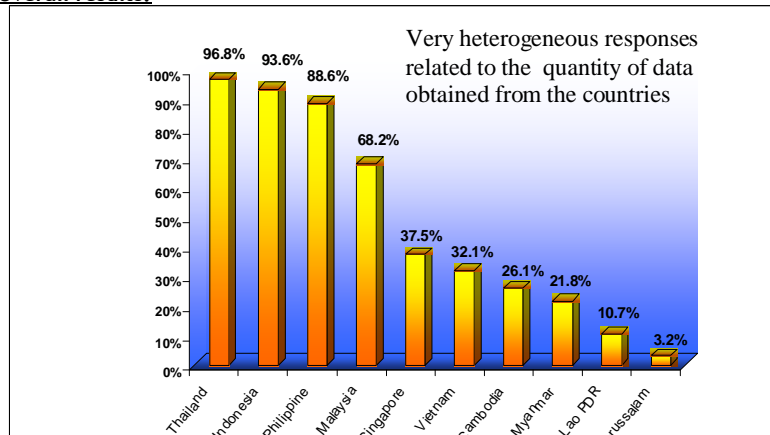
Indicators (calculated for 1990, and then from 2000 to 2005):

Social	Economic
<b>Accessibility</b>	<b>Energy efficiency</b>
Rate of electrification (total)	<b>Energy supply</b>
Rate of electrification (rural)	Rate of T&D electricity losses
LPG consumption per capita	Efficiency of thermal power production
<b>Affordability</b>	<b>Security of supply</b>
% of energy expenditures	<b>Rate of energy imports dependency</b>
<b>Environment</b>	<b>Diversity of supply</b>
<b>Climate change</b>	Share of oil in total consumption
CO2 emissions per capita	Share of oil in total electricity production
CO2 emissions per unit of GDP	Share of "new" renewables in total energy consumption
yearly variation of CO2 intensity	Share of "new" renewables in electricity production
CO2 emissions per unit of GDP	<b>Spare electricity capacity (rate of reserve)</b>
CO2 emissions per unit of GDP	<b>Energy efficiency</b>
<b>Deforestation</b>	<b>End-use efficiency</b>
% of forest area	Total energy intensity to the GDP
Rate of deforestation	Yearly variation of energy intensity
	Total energy intensity to the GDP
	Total energy intensity to the GDP
	<b>Resource availability</b>
	Ratio reserve production for oil
	Ratio reserve production for gas



## Link with other EAEF activities

Overall results:



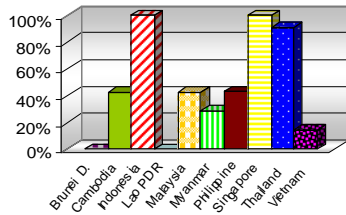
Very heterogeneous responses related to the quantity of data obtained from the countries

**Quantity of data obtained from National Sources (as % of data requested)**



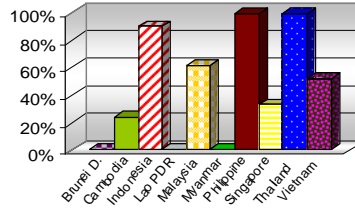
## Link with other EAEF activities

**Accessibility (% of data requested)**



- Data obtained for 8 countries of which 3 countries with very high data accessibility ( Indonesia, Singapore, Thailand)
- Data not accessible for 2 countries (Brunei D. and Lao PDR)

**Affordability (% of data requested)**

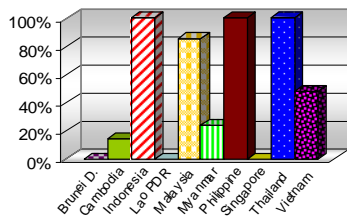


- Data obtained for 7 countries of which 3 countries with very high data accessibility (Indonesia, Philippines, Thailand)
- Data not accessible for 3 countries (Brunei D, Lao PDR, Myanmar)



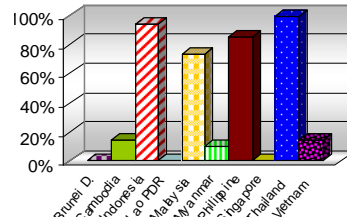
## Link with other EAEF activities

**Energy production (% of data requested)**



- Data obtained for 7 countries of which 4 countries with very high data accessibility (Indonesia, Malaysia, Philippines, Thailand)
- Data not accessible for 3 countries (Brunei D, Lao PDR, Singapore)

**Total energy consumption (% of data requested)**

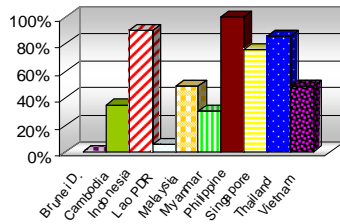


- Data obtained for 7 countries of which 4 countries with high accessibility (Indonesia, Malaysia, Philippines, Thailand) and 3 countries with low data accessibility ( Cambodia, Myanmar, Vietnam)
- Data not accessible for 3 countries (Brunei D, Lao PDR, Singapore)



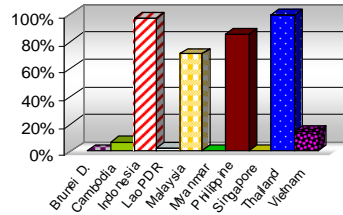
## Link with other EAEF activities

**Energy production and consumption (% of data requested)**



- Data obtained for 9 countries of which 4 countries with very high data accessibility (Indonesia, Philippines, Singapore, Thailand)
- Data not accessible for Brunei D.

**Fuel consumption for public thermal production (% of data requested)**

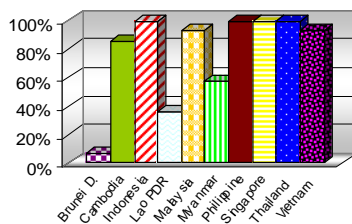


- Data obtained for 7 countries of which 4 countries with very high data accessibility (Indonesia, Malaysia, Philippines, Thailand) and 3 countries with low data accessibility (Cambodia, Lao PDR, Vietnam)
- Data not accessible for 3 countries (Brunei D., Myanmar and Singapore)



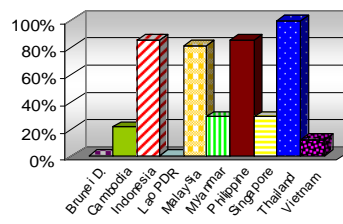
## Link with other EAEF activities

**Population (% of data requested)**



- Data obtained for the 10 ASEAN countries of which 7 countries with very high data accessibility (Indonesia, Cambodia, Malaysia, Philippines, Singapore, Thailand, Vietnam)
- Data accessibility low for Brunei D.

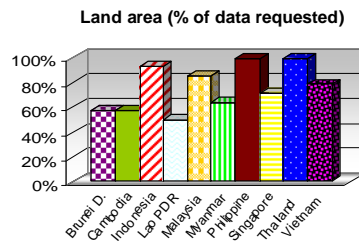
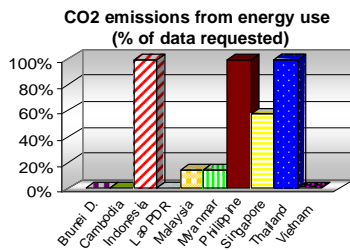
**Capacity and reserves (% of data requested)**



- Data obtained for 8 countries of which 4 countries with very high data accessibility (Indonesia, Malaysia, Philippines, Thailand)
- Data not accessible for 2 countries (Brunei D. and Lao PDR.)



## Link with other EAEF activities



- Data obtained for 6 countries of which 3 countries with very high data accessibility (Indonesia, Philippines, Thailand)
- Data not accessible for 4 countries (Brunei D., Cambodia, Lao PDR and Vietnam)
- Data obtained for the 10 ASEAN countries of which 4 countries with very high data accessibility ( Indonesia, Malaysia, Philippines, Thailand) and 6 with high data accessibility (Brunei D., Cambodia, Lao PDR, Myanmar, Singapore, Vietnam)



## Conclusions: direct impacts

1. Progress remains limited with regards to the initial objective of establishing harmonized databases between ASEAN countries on the one hand, and between these countries and Non-ASEAN regional formats (APEREC, OLADE, AFREC, etc.);
2. However, there are positive indications that the project has enhanced understanding of the importance of energy statistics for energy policy and planning;
3. The two trainings organized at IEA in Paris have moreover allowed to build the capacity of 24 ASEAN statisticians;
4. Synergies between the project and other initiatives have been used, in order to facilitate further awareness improvement within ASEAN. Problems with data availability, slow response from the countries, data inconsistency have thus been further highlighted;
5. Actual development and maintenance of energy databases in ASEAN is still to be really undertaken. Significant resources and commitment from the ASEAN countries will be required to achieve this.




## Recommendations

6. Foster awareness of decision-makers;
7. Initiate / foster reforms of institutional and legal frameworks;
8. Continue capacity building for ASEAN energy statisticians; but may be not for enhancing their capacity in filling the International Agencies Formats, but in training them in gathering primary data (through surveys and other data gathering methods);
9. Establish sustainable mechanisms for funding of ASEAN energy statistics and information systems;
10. Future role of international organizations;
11. Foster exchanges among ASEAN countries.

## Performance of ASEAN Energy Statistics Trainings

Bangkok, Thailand  
9 October 2006  
EDMC/IEEJ

## Performance of ASEAN Countries

	Number of Countries	Rate to Population
Training in Tokyo	To attend the lecture: 6	6/7=86%
Trainings in Paris	To attend the lecture: 8	8/10=80%
Submission of 2004 data	To use the joint format: 3	3/8=38% <div style="text-align: center;">   <b>Too Low</b> </div>

## Analysis on the Low Performance

- Classification of the reasons
  - Selection of trainee
    - ASEAN sent trainees who were not directly involved in the preparation of the questionnaires due to a policy of even chance to go abroad
  - Low capacity of trainee
    - The trainees don't understand energy data themselves as well as international energy data questionnaires
  - Less preparation of national energy statistics
    - The trainee understands the questionnaires but there are no national energy data
  - Less opportunity to share the capacity that the trainee mastered through the trainings
    - The trainee did not transfer the capacity through the trainings to their colleagues
  - Contents of the trainings
    - For Tokyo, the trainees should have used national data in the hands-on exercise
    - For Paris, the training should have been limited to teaching on how to accomplish the questionnaires

## Suggestion

- High level officials should understand importance of transparent energy statistics and use them for planning national energy policy
- They should also allocate adequate resources, such as manpower and funding to energy statistics divisions
- Under this situation, trainings organized by international organizations could be more effective



Thank You